

**ROBUSTNESS AND POWER OF THE STUDENT t , WELCH-ASPIN, YUEN, TUKEY
QUICK, AND HAGA TESTS**

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DEDICATION

This dissertation is dedicated to my parents who gave all their bests to my growth. They are very, very great parents, and the nicest people in the world. Without their selfless love and whole-hearted support, I will not be what I am today.

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TABLE OF CONTENTS

Dedication.....	ii
Acknowledgments.....	iii
List of Tables.....	vii
List of Figures.....	cix
Chapter 1 – Introduction.....	1
Parametric and Nonparametric Statistics	1
Monte Carlo Simulation Methods.....	8
Tests and Impacts of Treatment Effects.....	9
Robustness and Power Analysis.....	11
Purpose of the Study.....	14
Scope and Limitations.....	14
Chapter 2 – Review of Related Literature.....	16
Student’s t test.....	16
Welch-Aspin’s t test.....	22
Yuen’s test.....	25

The Wilcoxon–Mann–Whitney Test.....	29
Tukey’s Quick Test.....	37
Haga’s Test.....	41
Chapter 3 – Research Methodology.....	44
Sample Size and Nominal alpha.....	46
Documenting Type I and Type II Errors and Statistical Power.....	49
Chapter 4 – Results.....	50
Chapter 5 – Conclusion and Discussion.....	1564
Type I Error Rates Under The Normal Distribution.....	1565
Robustness of the Tests.....	1567
Comparative Power, Scale 1:1.....	1569
Impact of a Slight Variance Increment.....	1584
Comparative Power, Scale 1:4.....	1599
Comparative Power, Scale 1:16.....	1613
Closing Statement.....	1628
Recommendation for Further Study.....	1631

References.....	1633
Abstract.....	1640
Autobiographical Statement.....	1642

LIST OF TABLES

Table 1: Student's T Test Example Data.....	23
Table 2: Student's T Test Example Statistics.....	24
Table 3: Welch-Aspin's t Test Example Data.....	28
Table 4: Welch-Aspin's t Test Example Statistics.....	29
Table 5: Yuen's Test Example (Original Sample Data).....	31
Table 6: Yuen's Test Example (Trimmed Sample Data).....	32
Table 7: The Wilcoxon-Mann-Whitney Test Example (Original Sample Data).....	36
Table 8: The Wilcoxon-Mann-Whitney Test Example (Ranked Sample Data).....	36
Table 9: The Wilcoxon-Mann-Whitney Test Example (Small-Sample Original Data).....	38
Table 10: The Wilcoxon-Mann-Whitney Test Example (Small-Sample Ranked Data).....	39
Table 11: The Wilcoxon-Mann-Whitney Test Example (Large-Sample Original Data).....	41
Table 12: The Wilcoxon-Mann-Whitney Test Example (Large-Sample Ranked Data).....	42
Table 13: Tukey's Quick Test Example (Original Data).....	45
Table 14: Tukey's Quick Test Example (Ranked Data).....	46
Table 15: Haga's Test Example Data.....	49

Table 16: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:1.....	60
Table 17: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	61
Table 18: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	62
Table 19: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	63
Table 20: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	64
Table 21: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	65
Table 22: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.....	66
Table 23: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	67
Table 24: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	68
Table 25: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	69
Table 26: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	70
Table 27: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	71
Table 28: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.....	72
Table 29: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	73
Table 30: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	74
Table 31: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	75

Table 32: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	76
Table 33: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	77
Table 34: Normal Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:1.....	78
Table 35: Normal Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:1.....	79
Table 36: Normal Distribution, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	80
Table 37: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.....	81
Table 38: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	82
Table 39: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	83
Table 40: Normal Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:1.....	84
Table 41: Normal Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	85
Table 42: Normal Distribution, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	86
Table 43: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	87
Table 44: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	88
Table 45: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	89
Table 46: Normal Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.....	90
Table 47: Normal Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	91

Table 48: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	92
Table 49: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.....	93
Table 50: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	94
Table 51: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	95
Table 52: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.1.....	96
Table 53: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	97
Table 54: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	98
Table 55: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	99
Table 56: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	100
Table 57: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	101
Table 58: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.1.....	102
Table 59: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	103
Table 60: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	104
Table 61: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	105
Table 62: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	106
Table 63: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	107

Table 64: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.1.....	108
Table 65: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	109
Table 66: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	110
Table 67: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	111
Table 68: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	112
Table 69: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	113
Table 70: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....	114
Table 71: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	115
Table 72: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	116
Table 73: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	117
Table 74: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	118
Table 75: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	119
Table 76: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....	120
Table 77: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	121
Table 78: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	122
Table 79: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	123

Table 80: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....	124
Table 81: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....	125
Table 82: Normal Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:4.....	126
Table 83: Normal Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:4.....	127
Table 84: Normal Distribution, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	128
Table 85: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4.....	129
Table 86: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	130
Table 87: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	131
Table 88: Normal Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:4.....	132
Table 89: Normal Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	133
Table 90: Normal Distribution, $n_1= n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	134
Table 91: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	135
Table 92: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	136
Table 93: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	137
Table 94: Normal Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:4.....	138
Table 95: Normal Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	139

Table 96: Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	140
Table 97: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....	141
Table 98: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	142
Table 99: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	143
Table 100: Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4.....	144
Table 101: Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	145
Table 102: Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	146
Table 103: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	147
Table 104: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	148
Table 105: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	149
Table 106: Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4.....	150
Table 107: Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....	151
Table 108: Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	152
Table 109: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....	153
Table 110: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	154
Table 111: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	155

Table 112: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:16.....	156
Table 113: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	157
Table 114: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	158
Table 115: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	159
Table 116: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	160
Table 117: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	161
Table 118: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	162
Table 119: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	163
Table 120: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	164
Table 121: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	165
Table 122: Normal Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	166
Table 123: Normal Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	167
Table 124: Normal Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	168
Table 125: Normal Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	169
Table 126: Normal Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	170
Table 127: Normal Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	171

Table 128: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	172
Table 129: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	173
Table 130: Normal Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:16.....	174
Table 131: Normal Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	175
Table 132: Normal Distribution, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	176
Table 133: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	177
Table 134: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	178
Table 135: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	179
Table 136: Normal Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:16.....	180
Table 137: Normal Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	181
Table 138: Normal Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	182
Table 139: Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	183
Table 140: Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	184
Table 141: Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	185
Table 142: Uniform Distribution, $n_1= n_2=5$, Effect Size= 0.0σ , Scale=1:1.....	186
Table 143: Uniform Distribution, $n_1= n_2=15$, Effect Size= 0.0σ , Scale=1:1.....	187

Table 144: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	188
Table 145: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	189
Table 146: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	190
Table 147: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	191
Table 148: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.....	192
Table 149: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	193
Table 150: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	194
Table 151: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	195
Table 152: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	196
Table 153: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	197
Table 154: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.....	198
Table 155: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	199
Table 156: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	200
Table 157: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	201
Table 158: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	202
Table 159: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	203

Table 160: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.....	204
Table 161: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	205
Table 162: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	206
Table 163: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	207
Table 164: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	208
Table 165: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	209
Table 166: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.....	210
Table 167: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....	211
Table 168: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.....	212
Table 169: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....	213
Table 170: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.....	214
Table 171: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.....	215
Table 172: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.....	216
Table 173: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.....	217
Table 174: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	218
Table 175: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.....	219

Table 176: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	220
Table 177: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	221
Table 178: Uniform Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:1.1.....	222
Table 179: Uniform Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	223
Table 180: Uniform Distribution, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	224
Table 181: Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	225
Table 182: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	226
Table 183: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	227
Table 184: Uniform Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:1.1.....	228
Table 185: Uniform Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	229
Table 186: Uniform Distribution, $n_1= n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	230
Table 187: Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	231
Table 188: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	232
Table 189: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	233
Table 190: Uniform Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:1.1.....	234
Table 191: Uniform Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	235

Table 192: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	236
Table 193: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	237
Table 194: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	238
Table 195: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	239
Table 196: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....	240
Table 197: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	241
Table 198: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	242
Table 199: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	243
Table 200: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	244
Table 201: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	245
Table 202: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....	246
Table 203: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	247
Table 204: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	248
Table 205: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	249
Table 206: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	250
Table 207: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	251

Table 208: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....	252
Table 209: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	253
Table 210: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	254
Table 211: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	255
Table 212: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	256
Table 213: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	257
Table 214: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....	258
Table 215: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	259
Table 216: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	260
Table 217: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	261
Table 218: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	262
Table 219: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	263
Table 220: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:4.....	264
Table 221: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	265
Table 222: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	266
Table 223: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	267

Table 224: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	268
Table 225: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	269
Table 226: Uniform Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:4.....	270
Table 227: Uniform Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	271
Table 228: Uniform Distribution, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	272
Table 229: Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	273
Table 230: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	274
Table 231: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	275
Table 232: Uniform Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:4.....	276
Table 233: Uniform Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	277
Table 234: Uniform Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	278
Table 235: Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	279
Table 236: Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	280
Table 237: Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	281
Table 238: Uniform Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:16.....	282
Table 239: Uniform Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	283

Table 240: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	284
Table 241: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	285
Table 242: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	286
Table 243: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	287
Table 244: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	288
Table 245: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	289
Table 246: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	290
Table 247: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	291
Table 248: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	292
Table 249: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	293
Table 250: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	294
Table 251: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	295
Table 252: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	296
Table 253: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	297
Table 254: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	298
Table 255: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	299

Table 256: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:16.....	300
Table 257: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	301
Table 258: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	302
Table 259: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	303
Table 260: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	304
Table 261: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	305
Table 262: Uniform Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	306
Table 263: Uniform Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	307
Table 264: Uniform Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	308
Table 265: Uniform Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	309
Table 266: Uniform Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	310
Table 267: Uniform Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	311
Table 268: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:1.....	312
Table 269: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	313
Table 270: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	314
Table 271: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	315

Table 272: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	316
Table 273: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	317
Table 274: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.2σ , Scale= $1:1$	318
Table 275: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	319
Table 276: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	320
Table 277: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	321
Table 278 : Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	322
Table 279: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	323
Table 280: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.5σ , Scale= $1:1$	324
Table 281: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.5σ , Scale= $1:1$	325
Table 282: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	326
Table 283: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1$	327
Table 284: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	328
Table 285: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	329
Table 286: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.8σ , Scale= $1:1$	330
Table 287: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.8σ , Scale= $1:1$	331

Table 288: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	332
Table 289: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1	333
Table 290: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	334
Table 291: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	335
Table 292: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1	336
Table 293: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1	337
Table 294: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	338
Table 295: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1	339
Table 296: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	340
Table 297: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	341
Table 298: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1	342
Table 299: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	343
Table 300: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	344
Table 301: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	345
Table 302: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	346
Table 303: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	347

Table 304: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.1.....	348
Table 305: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	349
Table 306: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	350
Table 307: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	351
Table 308: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	352
Table 309: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	353
Table 310: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.1.....	354
Table 311: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	355
Table 312: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	356
Table 313: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	357
Table 314: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	358
Table 315: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	359
Table 316: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.1.....	360
Table 317: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	361
Table 318: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	362
Table 319: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	363

Table 320: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$	364
Table 321: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$	365
Table 322: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 1.2σ , Scale= $1:1.1$	366
Table 323: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$	367
Table 324: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$	368
Table 325: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$	369
Table 326: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$	370
Table 327: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$	371
Table 328: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 2.0σ , Scale= $1:1.1$	372
Table 329: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$	373
Table 330: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$	374
Table 331: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$	375
Table 332: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$	376
Table 333: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$	377
Table 334: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.2σ , Scale= $1:4$	378
Table 335: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.2σ , Scale= $1:4$	379

Table 336: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	380
Table 337: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	381
Table 338: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	382
Table 339: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	383
Table 340: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....	384
Table 341: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	385
Table 342: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	386
Table 343: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	387
Table 344: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	388
Table 345: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	389
Table 346: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:4.....	390
Table 347: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	391
Table 348: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	392
Table 349: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	393
Table 350: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	394
Table 351: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	395

Table 352: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:4.....	396
Table 353: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:4.....	397
Table 354: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	398
Table 355: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:4.....	399
Table 356: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	400
Table 357: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	401
Table 358: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:4.....	402
Table 359: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	403
Table 360: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	404
Table 361: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	405
Table 362: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	406
Table 363: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	407
Table 364: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:16.....	408
Table 365: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	409
Table 366: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	410
Table 367: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	411

Table 368: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	412
Table 369: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	413
Table 370: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.5σ , Scale=1:16.....	414
Table 371: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.5σ , Scale=1:16.....	415
Table 372: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	416
Table 373: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16.....	417
Table 374: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	418
Table 375: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	419
Table 376: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 0.8σ , Scale=1:16.....	420
Table 377: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 0.8σ , Scale=1:16.....	421
Table 378: Exponential Distribution, $n_1 = n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	422
Table 379: Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16.....	423
Table 380: Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	424
Table 381: Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	425
Table 382: Exponential Distribution, $n_1 = n_2=5$, Effect Size= 1.2σ , Scale=1:16.....	426
Table 383: Exponential Distribution, $n_1 = n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	427

Table 384: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	428
Table 385: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	429
Table 386: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	430
Table 387: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	431
Table 388: Exponential Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	432
Table 389: Exponential Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	433
Table 390: Exponential Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	434
Table 391: Exponential Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	435
Table 392: Exponential Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	436
Table 393: Exponential Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	437
Table 394: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:1.....	438
Table 395: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	439
Table 396: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	440
Table 397: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	441
Table 398: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	442
Table 399: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	443

Table 400: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.....	444
Table 401: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	445
Table 402: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	446
Table 403: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	447
Table 404: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	448
Table 405: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	449
Table 406: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.....	450
Table 407: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	451
Table 408: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	452
Table 409: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	453
Table 410: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	454
Table 411: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	455
Table 412: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.....	456
Table 413: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	457
Table 414: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	458
Table 415: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	459

Table 416: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	460
Table 417: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	461
Table 418: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:1.....	462
Table 419: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	463
Table 420: Cauchy Distribution, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	464
Table 421: Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	465
Table 422: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	466
Table 423: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	467
Table 424: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.....	468
Table 425: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	469
Table 426: Cauchy Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	470
Table 427: Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	471
Table 428: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	472
Table 429: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	473
Table 430: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:1.1.....	474
Table 431: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	475

Table 432: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	476
Table 433: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1.....	477
Table 434: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	478
Table 435: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	479
Table 436: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1.....	480
Table 437: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1.....	481
Table 438: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1.....	482
Table 439: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1.....	483
Table 440: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1.....	484
Table 441: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1.....	485
Table 442: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1.....	486
Table 443: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1.....	487
Table 444: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1.....	488
Table 445: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1.....	489
Table 446: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1.....	490
Table 447: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1.....	491

Table 448: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....	492
Table 449: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	493
Table 450: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	494
Table 451: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	495
Table 452: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	496
Table 453: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	497
Table 454: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....	498
Table 455: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	499
Table 456: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	500
Table 457: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	501
Table 458: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	502
Table 459: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	503
Table 460: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....	504
Table 461: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	505
Table 462: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	506
Table 463: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	507

Table 464: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	508
Table 465: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	509
Table 466: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:4.....	510
Table 467: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	511
Table 468: Cauchy Distribution, $n_1= n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	512
Table 469: Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	513
Table 470: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	514
Table 471: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	515
Table 472: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:4.....	516
Table 473: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	517
Table 474: Cauchy Distribution, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	518
Table 475: Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	519
Table 476: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	520
Table 477: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	521
Table 478: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:4.....	522
Table 479: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	523

Table 480: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	524
Table 481: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	525
Table 482: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	526
Table 483: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	527
Table 484: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4.....	528
Table 485: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....	529
Table 486: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	530
Table 487: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....	531
Table 488: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	532
Table 489: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	533
Table 490: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16.....	534
Table 491: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....	535
Table 492: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	536
Table 493: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....	537
Table 494: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	538
Table 495: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	539

Table 496: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	540
Table 497: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	541
Table 498: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	542
Table 499: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	543
Table 500: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	544
Table 501: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	545
Table 502: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	546
Table 503: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	547
Table 504: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	548
Table 505: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	549
Table 506: Cauchy Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	550
Table 507: Cauchy Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	551
Table 508: Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:16.....	552
Table 509: Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	553
Table 510: Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	554
Table 511: Cauchy Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	555

Table 512: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	556
Table 513: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	557
Table 514: Cauchy Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:16.....	558
Table 515: Cauchy Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	559
Table 516: Cauchy Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	560
Table 517: Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	561
Table 518: Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	562
Table 519: Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	563
Table 520: T Distribution, $n_1= n_2=5$, Effect Size= 0.0σ , Scale=1:1.....	564
Table 521: T Distribution, $n_1= n_2=15$, Effect Size= 0.0σ , Scale=1:1.....	565
Table 522: T Distribution, $n_1= n_2=25$, Effect Size= 0.0σ , Scale=1:1.....	566
Table 523: T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1.....	567
Table 524: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1.....	568
Table 525: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1.....	569
Table 526: T Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:1.....	570
Table 527: T Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:1.....	571

Table 528: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1	572
Table 529: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1	573
Table 530 : T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1	574
Table 531: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1	575
Table 532: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1	576
Table 533: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1	577
Table 534: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	578
Table 535: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1	579
Table 536: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	580
Table 537: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	581
Table 538: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1	582
Table 539: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1	583
Table 540: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	584
Table 541: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1	585
Table 542: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	586
Table 543: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	587

Table 544: T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.....	588
Table 545: T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.....	589
Table 546: T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	590
Table 547: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.....	591
Table 548: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	592
Table 549: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	593
Table 550: T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.....	594
Table 551: T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.....	595
Table 552: T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	596
Table 553: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.....	597
Table 554: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	598
Table 555: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	599
Table 556: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1.....	600
Table 557: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1.....	601
Table 558: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	602
Table 559: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1.....	603

Table 560: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	604
Table 561: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	605
Table 562: T Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:1.1.....	606
Table 563: T Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	607
Table 564: T Distribution, $n_1= n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	608
Table 565: T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	609
Table 566: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	610
Table 567: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	611
Table 568: T Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:1.1.....	612
Table 569: T Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	613
Table 570: T Distribution, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	614
Table 571: T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	615
Table 572: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	616
Table 573: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	617
Table 574: T Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:1.1.....	618
Table 575: T Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:1.1.....	619

Table 576: T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	620
Table 577: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1.....	621
Table 578: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	622
Table 579: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	623
Table 580: T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1.....	624
Table 581: T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1.....	625
Table 582: T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1.....	626
Table 583: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1.....	627
Table 584: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1.....	628
Table 585: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1.....	629
Table 586: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4.....	630
Table 587: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4.....	631
Table 588: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4.....	632
Table 589: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4.....	633
Table 590: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4.....	634
Table 591: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4.....	635

Table 592: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4.....	636
Table 593: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4.....	637
Table 594: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	638
Table 595: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4.....	639
Table 596: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	640
Table 597: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	641
Table 598: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4.....	642
Table 599: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....	643
Table 600: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	644
Table 601: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....	645
Table 602: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	646
Table 603: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	647
Table 604: T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4.....	648
Table 605: T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	649
Table 606: T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	650
Table 607: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	651

Table 608: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	652
Table 609: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	653
Table 610: T Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:4.....	654
Table 611: T Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	655
Table 612: T Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	656
Table 613: T Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	657
Table 614: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	658
Table 615: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	659
Table 616: T Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:16.....	660
Table 617: T Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	661
Table 618: T Distribution, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	662
Table 619: T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	663
Table 620: T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	664
Table 621: T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	665
Table 622: T Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:16.....	666
Table 623: T Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:16.....	667

Table 624: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	668
Table 625: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16.....	669
Table 626: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	670
Table 627: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	671
Table 628: T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16.....	672
Table 629: T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16.....	673
Table 630: T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....	674
Table 631: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16.....	675
Table 632: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....	676
Table 633: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....	677
Table 634: T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16.....	678
Table 635: T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16.....	679
Table 636: T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....	680
Table 637: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16.....	681
Table 638: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....	682
Table 639: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....	683

Table 640: T Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	684
Table 641: T Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	685
Table 642: T Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	686
Table 643: T Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	687
Table 644: T Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	688
Table 645: T Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	689
Table 646: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:1.....	690
Table 647: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	691
Table 648: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	692
Table 649: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	693
Table 650: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	694
Table 651: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	695
Table 652: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.....	696
Table 653: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	697
Table 654: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	698
Table 655: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	699

Table 656 : Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	700
Table 657: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	701
Table 658: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale= $1:1$	702
Table 659: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale= $1:1$	703
Table 660: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	704
Table 661: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1$	705
Table 662: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	706
Table 663: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1$	707
Table 664: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale= $1:1$	708
Table 665: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale= $1:1$	709
Table 666: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 0.8σ , Scale= $1:1$	710
Table 667: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1$	711
Table 668: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$	712
Table 669: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$	713
Table 670: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale= $1:1$	714
Table 671: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale= $1:1$	715

Table 672: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	716
Table 673: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.....	717
Table 674: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	718
Table 675: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	719
Table 676: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.....	720
Table 677: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.....	721
Table 678: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	722
Table 679: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.....	723
Table 680: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	724
Table 681: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.....	725
Table 682: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1.....	726
Table 683: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1.....	727
Table 684: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	728
Table 685: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1.....	729
Table 686: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	730
Table 687: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1.....	731

Table 688: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.1.....	732
Table 689: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	733
Table 690: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	734
Table 691: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	735
Table 692: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	736
Table 693: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	737
Table 694: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.1.....	738
Table 695: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	739
Table 696: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	740
Table 697: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	741
Table 698: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	742
Table 699: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	743
Table 700: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....	744
Table 701: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	745
Table 702: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	746
Table 703: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	747

Table 704: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	748
Table 705: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	749
Table 706: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.1.....	750
Table 707: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.1.....	751
Table 708: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....	752
Table 709: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1.....	753
Table 710: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....	754
Table 711: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....	755
Table 712: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:4.....	756
Table 713: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:4.....	757
Table 714: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	758
Table 715: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4.....	759
Table 716: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	760
Table 717: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....	761
Table 718: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:4.....	762
Table 719: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	763

Table 720: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	764
Table 721: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4.....	765
Table 722: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	766
Table 723: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4.....	767
Table 724: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4.....	768
Table 725: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....	769
Table 726: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	770
Table 727: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....	771
Table 728: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	772
Table 729: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....	773
Table 730: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4.....	774
Table 731: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	775
Table 732: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	776
Table 733: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....	777
Table 734: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	778
Table 735: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....	779

Table 736: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:4.....	780
Table 737: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	781
Table 738: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	782
Table 739: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	783
Table 740: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	784
Table 741: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	785
Table 742: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:16.....	786
Table 743: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	787
Table 744: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	788
Table 745: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	789
Table 746: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	790
Table 747: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	791
Table 748: Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	792
Table 749: Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	793
Table 750: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	794
Table 751: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	795

Table 752: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	796
Table 753: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	797
Table 754: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:16.....	798
Table 755: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:16.....	799
Table 756: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	800
Table 757: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16.....	801
Table 758: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	802
Table 759: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	803
Table 760: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:16.....	804
Table 761: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	805
Table 762: Chi-Squared Distribution, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	806
Table 763: Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	807
Table 764: Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	808
Table 765: Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	809
Table 766: Chi-Squared Distribution, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:16.....	810
Table 767: Chi-Squared Distribution, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	811

Table 768: Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....	812
Table 769: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16.....	813
Table 770: Chi-Squared Distribution, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....	814
Table 771: Chi-Squared Distribution, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....	815
Table 772: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1.....	816
Table 773: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1.....	817
Table 774: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1.....	818
Table 775: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1.....	819
Table 776: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1.....	820
Table 777: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1.....	821
Table 778: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.....	822
Table 779: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.....	823
Table 780: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.....	824
Table 781: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.....	825
Table 782 : Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.....	826
Table 783: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.....	827

Table 784: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1	828
Table 785: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1	829
Table 786: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	830
Table 787: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1	831
Table 788: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	832
Table 789: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1	833
Table 790: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1	834
Table 791: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1	835
Table 792: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	836
Table 793: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1	837
Table 794: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	838
Table 795: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1	839
Table 796: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1	840
Table 797: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1	841
Table 798: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1	842
Table 799: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1	843

Table 800: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....844

Table 801: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....845

Table 802: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.....846

Table 803: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.....847

Table 804: Smooth Symmetric Data Set, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:1.....848

Table 805: Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.....849

Table 806: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....850

Table 807: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....851

Table 808: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:1.1.....852

Table 809: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....853

Table 810: Smooth Symmetric Data Set, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....854

Table 811: Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....855

Table 812: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....856

Table 813: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....857

Table 814: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:1.1.....858

Table 815: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....859

Table 816: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1 860

Table 817: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1 861

Table 818: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1 862

Table 819: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1 863

Table 820: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1 864

Table 821: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1 865

Table 822: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1 866

Table 823: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1 867

Table 824: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1 868

Table 825: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1 869

Table 826: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1 870

Table 827: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1 871

Table 828: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1 872

Table 829: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1 873

Table 830: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1 874

Table 831: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1 875

Table 832: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....876

Table 833: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....877

Table 834: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....878

Table 835: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....879

Table 836: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....880

Table 837: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....881

Table 838: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....882

Table 839: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....883

Table 840: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....884

Table 841: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....885

Table 842: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....886

Table 843: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....887

Table 844: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....888

Table 845: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....889

Table 846: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....890

Table 847: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....891

Table 848: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	892
Table 849: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	893
Table 850: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:4.....	894
Table 851: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	895
Table 852: Smooth Symmetric Data Set, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	896
Table 853: Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	897
Table 854: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	898
Table 855: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	899
Table 856: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:4.....	900
Table 857: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	901
Table 858: Smooth Symmetric Data Set, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	902
Table 859: Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	903
Table 860: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	904
Table 861: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	905
Table 862: Smooth Symmetric Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:4.....	906
Table 863: Smooth Symmetric Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	907

Table 864: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	908
Table 865: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....	909
Table 866: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	910
Table 867: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....	911
Table 868: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16.....	912
Table 869: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....	913
Table 870: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	914
Table 871: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....	915
Table 872: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	916
Table 873: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....	917
Table 874: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16.....	918
Table 875: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16.....	919
Table 876: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	920
Table 877: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16.....	921
Table 878: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	922
Table 879: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....	923

Table 880: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	924
Table 881: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	925
Table 882: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	926
Table 883: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	927
Table 884: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	928
Table 885: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	929
Table 886: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:16.....	930
Table 887: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	931
Table 888: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	932
Table 889: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	933
Table 890: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	934
Table 891: Smooth Symmetric Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	935
Table 892: Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	936
Table 893: Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	937
Table 894: Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	938
Table 895: Smooth Symmetric Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	939

Table 896: Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:16$	940
Table 897: Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:16$	941
Table 898: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 0.0σ , Scale= $1:1$	942
Table 899: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 0.0σ , Scale= $1:1$	943
Table 900: Extreme Asymmetry Data Set, $n_1 = n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	944
Table 901: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale= $1:1$	945
Table 902: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	946
Table 903: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	947
Table 904: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 0.2σ , Scale= $1:1$	948
Table 905: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	949
Table 906: Extreme Asymmetry Data Set, $n_1 = n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	950
Table 907: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	951
Table 908 : Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	952
Table 909: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	953
Table 910: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 0.5σ , Scale= $1:1$	954
Table 911: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 0.5σ , Scale= $1:1$	955

Table 912: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.....	956
Table 913: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.....	957
Table 914: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.....	958
Table 915: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.....	959
Table 916: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.....	960
Table 917: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.....	961
Table 918: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.....	962
Table 919: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.....	963
Table 920: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.....	964
Table 921: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.....	965
Table 922: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.....	966
Table 923: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.....	967
Table 924: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	968
Table 925: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.....	969
Table 926: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	970
Table 927: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.....	971

Table 928: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1	972
Table 929: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	973
Table 930: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	974
Table 931: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	975
Table 932: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	976
Table 933: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	977
Table 934: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.1	978
Table 935: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1	979
Table 936: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1	980
Table 937: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1	981
Table 938: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1	982
Table 939: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1	983
Table 940: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.1	984
Table 941: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1	985
Table 942: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1	986
Table 943: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1	987

Table 944: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	988
Table 945: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	989
Table 946: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 0.8σ , Scale=1:1.1.....	990
Table 947: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	991
Table 948: Extreme Asymmetry Data Set, $n_1 = n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	992
Table 949: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	993
Table 950: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	994
Table 951: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	995
Table 952: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 1.2σ , Scale=1:1.1.....	996
Table 953: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 1.2σ , Scale=1:1.1.....	997
Table 954: Extreme Asymmetry Data Set, $n_1 = n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	998
Table 955: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	999
Table 956: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	1000
Table 957: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	1001
Table 958: Extreme Asymmetry Data Set, $n_1 = n_2=5$, Effect Size= 2.0σ , Scale=1:1.1.....	1002
Table 959: Extreme Asymmetry Data Set, $n_1 = n_2=15$, Effect Size= 2.0σ , Scale=1:1.1.....	1003

Table 960: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1004
Table 961: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	1005
Table 962: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1006
Table 963: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1007
Table 964: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....	1008
Table 965: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1009
Table 966: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1010
Table 967: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1011
Table 968: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1012
Table 969: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1013
Table 970: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....	1014
Table 971: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1015
Table 972: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1016
Table 973: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1017
Table 974: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1018
Table 975: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1019

Table 976: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:4.....	1020
Table 977: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	1021
Table 978: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	1022
Table 979: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	1023
Table 980: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	1024
Table 981: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	1025
Table 982: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:4.....	1026
Table 983: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:4.....	1027
Table 984: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	1028
Table 985: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:4.....	1029
Table 986: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	1030
Table 987: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:4.....	1031
Table 988: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:4.....	1032
Table 989: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	1033
Table 990: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	1034
Table 991: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	1035

Table 992: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1036
Table 993: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1037
Table 994: Extreme Asymmetry Data Set, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:16.....	1038
Table 995: Extreme Asymmetry Data Set, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	1039
Table 996: Extreme Asymmetry Data Set, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	1040
Table 997: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	1041
Table 998: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	1042
Table 999: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16.....	1043
Table 1000: Extreme Asymmetry Data Set, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:16.....	1044
Table 1001: Extreme Asymmetry Data Set, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:16.....	1045
Table 1002: Extreme Asymmetry Data Set, $n_1= n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	1046
Table 1003: Extreme Asymmetry Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16.....	1047
Table 1004: Extreme Asymmetry Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	1048
Table 1005: Extreme Asymmetry Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16.....	1049
Table 1006: Extreme Asymmetry Data Set, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:16.....	1050
Table 1007: Extreme Asymmetry Data Set, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:16.....	1051

Table 1008: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....1052

Table 1009: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16.....1053

Table 1010: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....1054

Table 1011: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....1055

Table 1012: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16.....1056

Table 1013: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16.....1057

Table 1014: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....1058

Table 1015: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16.....1059

Table 1016: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....1060

Table 1017: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16.....1061

Table 1018: Extreme Asymmetry Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16.....1062

Table 1019: Extreme Asymmetry Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16.....1063

Table 1020: Extreme Asymmetry Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....1064

Table 1021: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16.....1065

Table 1022: Extreme Asymmetry Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....1066

Table 1023: Extreme Asymmetry Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16.....1067

Table 1024: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:11068

Table 1025: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:11069

Table 1026: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:11070

Table 1027: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:11071

Table 1028: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:11072

Table 1029: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:11073

Table 1030: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:11074

Table 1031: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:11075

Table 1032: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:11076

Table 1033: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:11077

Table 1034 : Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:11078

Table 1035: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:11079

Table 1036: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:11080

Table 1037: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:11081

Table 1038: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:11082

Table 1039: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:11083

Table 1040: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	1084
Table 1041: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	1085
Table 1042: Extreme Bimodality Data Set, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:1.....	1086
Table 1043: Extreme Bimodality Data Set, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:1.....	1087
Table 1044: Extreme Bimodality Data Set, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	1088
Table 1045: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.....	1089
Table 1046: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	1090
Table 1047: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	1091
Table 1048: Extreme Bimodality Data Set, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:1.....	1092
Table 1049: Extreme Bimodality Data Set, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	1093
Table 1050: Extreme Bimodality Data Set, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1094
Table 1051: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	1095
Table 1052: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1096
Table 1053: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1097
Table 1054: Extreme Bimodality Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.....	1098
Table 1055: Extreme Bimodality Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	1099

Table 1056: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	1100
Table 1057: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.....	1101
Table 1058: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	1102
Table 1059: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.....	1103
Table 1060: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.1.....	1104
Table 1061: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	1105
Table 1062: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	1106
Table 1063: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.1.....	1107
Table 1064: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	1108
Table 1065: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.1.....	1109
Table 1066: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.1.....	1110
Table 1067: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	1111
Table 1068: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	1112
Table 1069: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.1.....	1113
Table 1070: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	1114
Table 1071: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.1.....	1115

Table 1072: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.1.....1116

Table 1073: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....1117

Table 1074: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....1118

Table 1075: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....1119

Table 1076: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....1120

Table 1077: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....1121

Table 1078: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....1122

Table 1079: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....1123

Table 1080: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....1124

Table 1081: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....1125

Table 1082: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....1126

Table 1083: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....1127

Table 1084: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....1128

Table 1085: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....1129

Table 1086: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....1130

Table 1087: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....1131

Table 1088: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....1132

Table 1089: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1.....1133

Table 1090: Extreme Bimodality Data Set, $n_1=n_2=5$, Effect Size= 0.2σ , Scale=1:4.....1134

Table 1091: Extreme Bimodality Data Set, $n_1=n_2=15$, Effect Size= 0.2σ , Scale=1:4.....1135

Table 1092: Extreme Bimodality Data Set, $n_1=n_2=25$, Effect Size= 0.2σ , Scale=1:4.....1136

Table 1093: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4.....1137

Table 1094: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....1138

Table 1095: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4.....1139

Table 1096: Extreme Bimodality Data Set, $n_1=n_2=5$, Effect Size= 0.5σ , Scale=1:4.....1140

Table 1097: Extreme Bimodality Data Set, $n_1=n_2=15$, Effect Size= 0.5σ , Scale=1:4.....1141

Table 1098: Extreme Bimodality Data Set, $n_1=n_2=25$, Effect Size= 0.5σ , Scale=1:4.....1142

Table 1099: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4.....1143

Table 1100: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....1144

Table 1101: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....1145

Table 1102: Extreme Bimodality Data Set, $n_1=n_2=5$, Effect Size= 0.8σ , Scale=1:4.....1146

Table 1103: Extreme Bimodality Data Set, $n_1=n_2=15$, Effect Size= 0.8σ , Scale=1:4.....1147

Table 1104: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....1148

Table 1105: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4.....1149

Table 1106: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....1150

Table 1107: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4.....1151

Table 1108: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4.....1152

Table 1109: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....1153

Table 1110: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....1154

Table 1111: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4.....1155

Table 1112: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....1156

Table 1113: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4.....1157

Table 1114: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4.....1158

Table 1115: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....1159

Table 1116: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....1160

Table 1117: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4.....1161

Table 1118: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....1162

Table 1119: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4.....1163

Table 1120: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16.....1164

Table 1121: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....1165

Table 1122: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....1166

Table 1123: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16.....1167

Table 1124: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....1168

Table 1125: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16.....1169

Table 1126: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16.....1170

Table 1127: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16.....1171

Table 1128: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....1172

Table 1129: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16.....1173

Table 1130: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....1174

Table 1131: Extreme Bimodality Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16.....1175

Table 1132: Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16.....1176

Table 1133: Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16.....1177

Table 1134: Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16.....1178

Table 1135: Extreme Bimodality Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16.....1179

Table 1136: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	1180
Table 1137: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16.....	1181
Table 1138: Extreme Bimodality Data Set, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:16.....	1182
Table 1139: Extreme Bimodality Data Set, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	1183
Table 1140: Extreme Bimodality Data Set, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	1184
Table 1141: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16.....	1185
Table 1142: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	1186
Table 1143: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16.....	1187
Table 1144: Extreme Bimodality Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:16.....	1188
Table 1145: Extreme Bimodality Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	1189
Table 1146: Extreme Bimodality Data Set, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	1190
Table 1147: Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16.....	1191
Table 1148: Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	1192
Table 1149: Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	1193
Table 1150: Multimodal Lumpy Data Set, $n_1= n_2=5$, Effect Size= 0.0σ , Scale=1:1.....	1194
Table 1151: Multimodal Lumpy Data Set, $n_1= n_2=15$, Effect Size= 0.0σ , Scale=1:1.....	1195

Table 1152: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	1196
Table 1153: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	1197
Table 1154: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	1198
Table 1155: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	1199
Table 1156: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:1.....	1200
Table 1157: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	1201
Table 1158: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	1202
Table 1159: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:1.....	1203
Table 1160 : Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	1204
Table 1161: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:1.....	1205
Table 1162: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.....	1206
Table 1163: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	1207
Table 1164: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1208
Table 1165: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	1209
Table 1166: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1210
Table 1167: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1211

Table 1168: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1	1212
Table 1169: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1	1213
Table 1170: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	1214
Table 1171: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1	1215
Table 1172: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	1216
Table 1173: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1	1217
Table 1174: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1	1218
Table 1175: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1	1219
Table 1176: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	1220
Table 1177: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1	1221
Table 1178: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	1222
Table 1179: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1	1223
Table 1180: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1	1224
Table 1181: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	1225
Table 1182: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1	1226
Table 1183: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1	1227

Table 1184: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....1228

Table 1185: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....1229

Table 1186: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 0.2σ , Scale=1:1.1.....1230

Table 1187: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....1231

Table 1188: Multimodal Lumpy Data Set, $n_1 = n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....1232

Table 1189: Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....1233

Table 1190: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....1234

Table 1191: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....1235

Table 1192: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 0.5σ , Scale=1:1.1.....1236

Table 1193: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....1237

Table 1194: Multimodal Lumpy Data Set, $n_1 = n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....1238

Table 1195: Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....1239

Table 1196: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....1240

Table 1197: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....1241

Table 1198: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 0.8σ , Scale=1:1.1.....1242

Table 1199: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....1243

Table 1200: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	1244
Table 1201: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.1.....	1245
Table 1202: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	1246
Table 1203: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.1.....	1247
Table 1204: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.1.....	1248
Table 1205: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.1.....	1249
Table 1206: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	1250
Table 1207: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....	1251
Table 1208: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	1252
Table 1209: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.1.....	1253
Table 1210: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....	1254
Table 1211: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	1255
Table 1212: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1256
Table 1213: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.....	1257
Table 1214: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1258
Table 1215: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1259

Table 1216: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....	1260
Table 1217: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1261
Table 1218: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1262
Table 1219: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1263
Table 1220: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1264
Table 1221: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1265
Table 1222: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....	1266
Table 1223: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1267
Table 1224: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1268
Table 1225: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1269
Table 1226: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1270
Table 1227: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1271
Table 1228: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:4.....	1272
Table 1229: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	1273
Table 1230: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:4.....	1274
Table 1231: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:4.....	1275

Table 1232: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1276
Table 1233: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1277
Table 1234: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 1.2σ , Scale=1:4.....	1278
Table 1235: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	1279
Table 1236: Multimodal Lumpy Data Set, $n_1 = n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1280
Table 1237: Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	1281
Table 1238: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1282
Table 1239: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1283
Table 1240: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 2.0σ , Scale=1:4.....	1284
Table 1241: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	1285
Table 1242: Multimodal Lumpy Data Set, $n_1 = n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1286
Table 1243: Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	1287
Table 1244: Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1288
Table 1245: Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1289
Table 1246: Multimodal Lumpy Data Set, $n_1 = n_2=5$, Effect Size= 0.2σ , Scale=1:16.....	1290
Table 1247: Multimodal Lumpy Data Set, $n_1 = n_2=15$, Effect Size= 0.2σ , Scale=1:16.....	1291

Table 1248: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1292
Table 1249: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	1293
Table 1250: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1294
Table 1251: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1295
Table 1252: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	1296
Table 1253: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	1297
Table 1254: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1298
Table 1255: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	1299
Table 1256: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1300
Table 1257: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1301
Table 1258: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	1302
Table 1259: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	1303
Table 1260: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	1304
Table 1261: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	1305
Table 1262: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	1306
Table 1263: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	1307

Table 1264: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:16.....	1308
Table 1265: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	1309
Table 1266: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1310
Table 1267: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	1311
Table 1268: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1312
Table 1269: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1313
Table 1270: Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	1314
Table 1271: Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	1315
Table 1272: Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	1316
Table 1273: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	1317
Table 1274: Multimodal Lumpy Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	1318
Table 1275: Multimodal Lumpy Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	1319
Table 1276: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size= 0.0σ , Scale=1:1.....	1320
Table 1277: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size= 0.0σ , Scale=1:1.....	1321
Table 1278: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size= 0.0σ , Scale=1:1.....	1322

Table 1279: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1.....	1323
Table 1280: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1.....	1324
Table 1281: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1.....	1325
Table 1282: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.2σ , Scale=1:1.....	1326
Table 1283: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.2σ , Scale=1:1.....	1327
Table 1284: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.2σ , Scale=1:1.....	1328
Table 1285: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.....	1329
Table 1286 : Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.....	1330
Table 1287: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.....	1331
Table 1288: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.5σ , Scale=1:1.....	1332
Table 1289: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.5σ , Scale=1:1.....	1333
Table 1290: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.5σ , Scale=1:1.....	1334

Table 1291: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.....	1335
Table 1292: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	1336
Table 1293: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.....	1337
Table 1294: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.8σ , Scale=1:1.....	1338
Table 1295: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.8σ , Scale=1:1.....	1339
Table 1296: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.8σ , Scale=1:1.....	1340
Table 1297: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.....	1341
Table 1298: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	1342
Table 1299: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.....	1343
Table 1300: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 1.2σ , Scale=1:1.....	1344
Table 1301: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 1.2σ , Scale=1:1.....	1345
Table 1302: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 1.2σ , Scale=1:1.....	1346

Table 1303: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	1347
Table 1304: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1348
Table 1305: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1349
Table 1306: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 2.0σ , Scale=1:1.....	1350
Table 1307: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 2.0σ , Scale=1:1.....	1351
Table 1308: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 2.0σ , Scale=1:1.....	1352
Table 1309: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	1353
Table 1310: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1354
Table 1311: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1355
Table 1312: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.2σ , Scale=1:1.1.....	1356
Table 1313: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.2σ , Scale=1:1.1.....	1357
Table 1314: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.2σ , Scale=1:1.1.....	1358

Table 1315: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	1359
Table 1316: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	1360
Table 1317: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	1361
Table 1318: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.5σ , Scale=1:1.1.....	1362
Table 1319: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.5σ , Scale=1:1.1.....	1363
Table 1320: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.5σ , Scale=1:1.1.....	1364
Table 1321: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	1365
Table 1322: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	1366
Table 1323: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1.....	1367
Table 1324: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.8σ , Scale=1:1.1.....	1368
Table 1325: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.8σ , Scale=1:1.1.....	1369
Table 1326: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.8σ , Scale=1:1.1.....	1370

Table 1327: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1.....	1371
Table 1328: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	1372
Table 1329: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1.....	1373
Table 1330: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 1.2σ , Scale=1:1.1.....	1374
Table 1331: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 1.2σ , Scale=1:1.1.....	1375
Table 1332: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 1.2σ , Scale=1:1.1.....	1376
Table 1333: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.....	1377
Table 1334: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	1378
Table 1335: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1.....	1379
Table 1336: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 2.0σ , Scale=1:1.1.....	1380
Table 1337: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 2.0σ , Scale=1:1.1.....	1381
Table 1338: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 2.0σ , Scale=1:1.1.....	1382

Table 1339: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$	1383
Table 1340: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$	1384
Table 1341: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$	1385
Table 1342: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.2σ , Scale= $1:4$	1386
Table 1343: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.2σ , Scale= $1:4$	1387
Table 1344: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.2σ , Scale= $1:4$	1388
Table 1345: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:4$	1389
Table 1346: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:4$	1390
Table 1347: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:4$	1391
Table 1348: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.5σ , Scale= $1:4$	1392
Table 1349: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.5σ , Scale= $1:4$	1393
Table 1350: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.5σ , Scale= $1:4$	1394

Table 1351: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4.....	1395
Table 1352: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	1396
Table 1353: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	1397
Table 1354: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.8σ , Scale=1:4.....	1398
Table 1355: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.8σ , Scale=1:4.....	1399
Table 1356: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.8σ , Scale=1:4.....	1400
Table 1357: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	1401
Table 1358: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1402
Table 1359: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1403
Table 1360: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 1.2σ , Scale=1:4.....	1404
Table 1361: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 1.2σ , Scale=1:4.....	1405
Table 1362: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 1.2σ , Scale=1:4.....	1406

Table 1363: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	1407
Table 1364: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1408
Table 1365: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1409
Table 1366: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 2.0σ , Scale=1:4.....	1410
Table 1367: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 2.0σ , Scale=1:4.....	1411
Table 1368: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 2.0σ , Scale=1:4.....	1412
Table 1369: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	1413
Table 1370: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1414
Table 1371: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4.....	1415
Table 1372: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.2σ , Scale=1:16.....	1416
Table 1373: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.2σ , Scale=1:16.....	1417
Table 1374: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.2σ , Scale=1:16.....	1418

Table 1375: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:16$	1419
Table 1376: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:16$	1420
Table 1377: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:16$	1421
Table 1378: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.5σ , Scale= $1:16$	1422
Table 1379: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.5σ , Scale= $1:16$	1423
Table 1380: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.5σ , Scale= $1:16$	1424
Table 1381: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:16$	1425
Table 1382: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:16$	1426
Table 1383: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:16$	1427
Table 1384: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 0.8σ , Scale= $1:16$	1428
Table 1385: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 0.8σ , Scale= $1:16$	1429
Table 1386: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 0.8σ , Scale= $1:16$	1430

Table 1387: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:16$	1431
Table 1388: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:16$	1432
Table 1389: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:16$	1433
Table 1390: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 1.2σ , Scale= $1:16$	1434
Table 1391: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 1.2σ , Scale= $1:16$	1435
Table 1392: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 1.2σ , Scale= $1:16$	1436
Table 1393: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:16$	1437
Table 1394: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$	1438
Table 1395: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$	1439
Table 1396: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =5$, Effect Size= 2.0σ , Scale= $1:16$	1440
Table 1397: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =15$, Effect Size= 2.0σ , Scale= $1:16$	1441
Table 1398: Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 =25$, Effect Size= 2.0σ , Scale= $1:16$	1442

Table 1399: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:16$	1443
Table 1400: Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:16$	1444
Table 1401: Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:16$	1445
Table 1402: Digit Preference Data Set, $n_1=n_2=5$, Effect Size= 0.0σ , Scale= $1:1$	1446
Table 1403: Digit Preference Data Set, $n_1=n_2=15$, Effect Size= 0.0σ , Scale= $1:1$	1447
Table 1404: Digit Preference Data Set, $n_1=n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	1448
Table 1405: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale= $1:1$	1449
Table 1406: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	1450
Table 1407: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$	1451
Table 1408: Digit Preference Data Set, $n_1=n_2=5$, Effect Size= 0.2σ , Scale= $1:1$	1452
Table 1409: Digit Preference Data Set, $n_1=n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	1453
Table 1410: Digit Preference Data Set, $n_1=n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	1454
Table 1411: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1$	1455
Table 1412 : Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	1456
Table 1413: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$	1457

Table 1414: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:1.....	1458
Table 1415: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	1459
Table 1416: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1460
Table 1417: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:1.....	1461
Table 1418: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1462
Table 1419: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:1.....	1463
Table 1420: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:1.....	1464
Table 1421: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	1465
Table 1422: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	1466
Table 1423: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:1.....	1467
Table 1424: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	1468
Table 1425: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	1469
Table 1426: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:1.....	1470
Table 1427: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....	1471
Table 1428: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:1.....	1472
Table 1429: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:1.....	1473

Table 1430: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1474
Table 1431: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.....	1475
Table 1432: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:1.....	1476
Table 1433: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	1477
Table 1434: Digit Preference Data Set, $n_1= n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1478
Table 1435: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.....	1479
Table 1436: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1480
Table 1437: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1481
Table 1438: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 0.2σ , Scale=1:1.1.....	1482
Table 1439: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	1483
Table 1440: Digit Preference Data Set, $n_1= n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	1484
Table 1441: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1.....	1485
Table 1442: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	1486
Table 1443: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1.....	1487
Table 1444: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 0.5σ , Scale=1:1.1.....	1488
Table 1445: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 0.5σ , Scale=1:1.1.....	1489

Table 1446: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1.....	1490
Table 1447: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1.....	1491
Table 1448: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1.....	1492
Table 1449: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.....	1493
Table 1450: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1.....	1494
Table 1451: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.....	1495
Table 1452: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.....	1496
Table 1453: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.....	1497
Table 1454: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.....	1498
Table 1455: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1.....	1499
Table 1456: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1.....	1500
Table 1457: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1.....	1501
Table 1458: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	1502
Table 1459: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1.....	1503
Table 1460: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	1504
Table 1461: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1.....	1505

Table 1462: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:1.1.....	1506
Table 1463: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	1507
Table 1464: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1508
Table 1465: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:1.1.....	1509
Table 1466: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1510
Table 1467: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:1.1.....	1511
Table 1468: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:4.....	1512
Table 1469: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1513
Table 1470: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1514
Table 1471: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:4.....	1515
Table 1472: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1516
Table 1473: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:4.....	1517
Table 1474: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:4.....	1518
Table 1475: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1519
Table 1476: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:4.....	1520
Table 1477: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:4.....	1521

Table 1478: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	1522
Table 1479: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4.....	1523
Table 1480: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 0.8σ , Scale=1:4.....	1524
Table 1481: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	1525
Table 1482: Digit Preference Data Set, $n_1= n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1526
Table 1483: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4.....	1527
Table 1484: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1528
Table 1485: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4.....	1529
Table 1486: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 1.2σ , Scale=1:4.....	1530
Table 1487: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	1531
Table 1488: Digit Preference Data Set, $n_1= n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1532
Table 1489: Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4.....	1533
Table 1490: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1534
Table 1491: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4.....	1535
Table 1492: Digit Preference Data Set, $n_1= n_2=5$, Effect Size= 2.0σ , Scale=1:4.....	1536
Table 1493: Digit Preference Data Set, $n_1= n_2=15$, Effect Size= 2.0σ , Scale=1:4.....	1537

Table 1494: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	1538
Table 1495: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:4.....	1539
Table 1496: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	1540
Table 1497: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 2.0σ , Scale=1:4.....	1541
Table 1498: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.2σ , Scale=1:16.....	1542
Table 1499: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	1543
Table 1500: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1544
Table 1501: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.2σ , Scale=1:16.....	1545
Table 1502: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1546
Table 1503: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.2σ , Scale=1:16.....	1547
Table 1504: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.5σ , Scale=1:16.....	1548
Table 1505: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	1549
Table 1506: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1550
Table 1507: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.5σ , Scale=1:16.....	1551
Table 1508: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1552
Table 1509: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.5σ , Scale=1:16.....	1553

Table 1510: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 0.8σ , Scale=1:16.....	1554
Table 1511: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	1555
Table 1512: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	1556
Table 1513: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 0.8σ , Scale=1:16.....	1557
Table 1514: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:1.....	1558
Table 1515: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 0.8σ , Scale=1:16.....	1559
Table 1516: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 1.2σ , Scale=1:16.....	1560
Table 1517: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	1561
Table 1518: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1562
Table 1519: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 1.2σ , Scale=1:16.....	1563
Table 1520: Digit Preference Data Set, $n_1 = 5$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1564
Table 1521: Digit Preference Data Set, $n_1 = 15$, $n_2 = 25$, Effect Size= 1.2σ , Scale=1:16.....	1565
Table 1522: Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size= 2.0σ , Scale=1:16.....	1566
Table 1523: Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	1567
Table 1524: Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size= 2.0σ , Scale=1:16.....	1568
Table 1525: Digit Preference Data Set, $n_1 = 5$, $n_2 = 15$, Effect Size= 2.0σ , Scale=1:16.....	1569

Table 1526: Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16.....	1570
Table 1527: Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.....	1571
Table 1528: The Most Powerful Tests, Scale 1:1, Normal Distribution.....	1578
Table 1529: The Most Powerful Tests, Scale 1:1, Uniform Distribution.....	1579
Table 1530: The Most Powerful Tests, Scale 1:1, Exponential Distribution.....	1580
Table 1531: The Most Powerful Tests, Scale 1:1, Cauchy Distribution.....	1581
Table 1532: The Most Powerful Tests, Scale 1:1, T Distribution.....	1582
Table 1533: The Most Powerful Tests, Scale 1:1, Chi-Squared Distribution.....	1583
Table 1534: The Most Powerful Tests, Scale 1:1, Smooth Symmetric Data Set.....	1584
Table 1535: The Most Powerful Tests, Scale 1:1, Extreme Asymmetric Data Set.....	1585
Table 1536: The Most Powerful Tests, Scale 1:1, Extreme Bimodal Data Set.....	1586
Table 1537: The Most Powerful Tests, Scale 1:1, Multimodality Data Set.....	1587
Table 1538: The Most Powerful Tests, Scale 1:1, Discrete Mess At Zero With Gap Data Set.....	1588
Table 1539: The Most Powerful Tests, Scale 1:1, Digit Preference Data Set.....	1589
Table 1540: The Most Powerful Tests, Scale 1:1.1, Normal Distribution.....	1593
Table 1541: The Most Powerful Tests, Scale 1:1.1, Uniform Distribution.....	1594

Table 1542: The Most Powerful Tests, Scale 1:1.1, Exponential Distribution.....	1595
Table 1543: The Most Powerful Tests, Scale 1:1.1, Cauchy Distribution.....	1596
Table 1544: The Most Powerful Tests, Scale 1:1.1, T Distribution.....	1597
Table 1545: The Most Powerful Tests, Scale 1:1.1, Chi-Squared Distribution.....	1598
Table 1546: The Most Powerful Tests, Scale 1:1.1, Smooth Symmetric Data Set.....	1599
Table 1547: The Most Powerful Tests, Scale 1:1.1, Extreme Asymmetric Data Set.....	1600
Table 1548: The Most Powerful Tests, Scale 1:1.1, Extreme Bimodal Data Set.....	1601
Table 1549: The Most Powerful Tests, Scale 1:1.1, Multimodality Data Set.....	1602
Table 1550: The Most Powerful Tests, Scale 1:1.1, Discrete Mess At Zero With Gap Data Set..	1603
Table 1551: The Most Powerful Tests, Scale 1:1.1, Digit Preference Data Set.....	1604
Table 1552: The Most Powerful Tests, Scale 1:4, Normal Distribution.....	1608
Table 1553: The Most Powerful Tests, Scale 1:4, Uniform Distribution.....	1609
Table 1554: The Most Powerful Tests, Scale 1:4, Exponential Distribution.....	1610
Table 1555: The Most Powerful Tests, Scale 1:4, Cauchy Distribution.....	1611
Table 1556: The Most Powerful Tests, Scale 1:4, T Distribution.....	1612
Table 1557: The Most Powerful Tests, Scale 1:4, Chi-Squared Distribution.....	1613

Table 1558: The Most Powerful Tests, Scale 1:4, Smooth Symmetric Data Set.....	1614
Table 1559: The Most Powerful Tests, Scale 1:4, Extreme Asymmetric Data Set.....	1615
Table 1560: The Most Powerful Tests, Scale 1:4, Extreme Bimodal Data Set.....	1616
Table 1561: The Most Powerful Tests, Scale 1:4, Multimodality Data Set.....	1617
Table 1562: The Most Powerful Tests, Scale 1:4, Discrete Mess At Zero With Gap Data Set....	1618
Table 1563: The Most Powerful Tests, Scale 1:4, Digit Preference Data Set.....	1619
Table 1564: The Most Powerful Tests, Scale 1:16, Normal Distribution.....	1623
Table 1565: The Most Powerful Tests, Scale 1:16, UniformDistribution.....	1624
Table 1566: The Most Powerful Tests, Scale 1:16, Exponential Distribution.....	1625
Table 1567: The Most Powerful Tests, Scale 1:16, Cauchy Distribution.....	1626
Table 1568: The Most Powerful Tests, Scale 1:16, T Distribution.....	1627
Table 1569: The Most Powerful Tests, Scale 1:16, Chi-Squared Distribution.....	1628
Table 1570: The Most Powerful Tests, Scale 1:16, Smooth Symmetric Data Set.....	1629
Table 1571: The Most Powerful Tests, Scale 1:16, Extreme Asymmetric Data Set.....	1630
Table 1572: The Most Powerful Tests, Scale 1:16, Extreme Bimodal Data Set.....	1631
Table 1573: The Most Powerful Tests, Scale 1:16, Multimodality Data Set.....	1632

Table 1574: The Most Powerful Tests, Scale 1:16, Discrete Mess At Zero With Gap Data Set...1633

Table 1575: The Most Powerful Tests, Scale 1:16, Digit Preference Data Set.....1634

LIST OF FIGURES

Figure 1: Location shifting to right.....	10
Figure 2. Location shifting to left.....	11
Figure 3. Shifting in location and simultaneously changing in scale.....	12
Figure 4. Outcomes of Hypothesis Decisions.....	13

CHAPTER 1 INTRODUCTION

Parametric and Nonparametric Statistics

Null hypothesis significance testing dominates the research community “overwhelmingly” (Cumming et al., 2007). The most widely used null hypothesis tests are classic parametric procedures. “Parametric statistics are the most widely used procedures and are well represented throughout the literature. Some examples of parametric tests commonly used in educational and psychological research include t tests and ANOVA’s” (Scales & Petlick, 2004, p. 9). However, for classic parametric tests to produce accurate results, the assumptions underlying them must be sufficiently satisfied. “Parametric statistical tests are often very sensitive to violations of their assumptions, and the results of the analysis may be due to this violation rather than a true view of the patterns in the data” (Scales & Petlick, 2004, p. 9). However, these assumptions are rarely met when analyzing real data (Micceri, 1989). “The use of classic parametric methods with violated assumptions can result in the inaccurate computation of p values, effect sizes, and confidence intervals...[which in turn] may lead to substantive errors in the interpretation of data” (Erceg-Hurn & Mirosevich, 2008, p. 591).

One important assumption is the normality of the underlying population distribution. If the distribution of the population is normally distributed, these classic procedures can make accurate predictions. However for most of the time the normality of the population distribution is beyond of researchers’ knowledge and “We simply do not know for sure that this is the case” (Hill, Lewicki & Lewicki, 2006, p. 383).

Many researchers believe in the strict normal distribution: experimenters because they think it is a mathematical theorem and mathematicians because they think it is an experimental fact (Zumbo, & Zimmerman, 1993). The normal distribution, however, is neither a mathematical

theorem nor an experimental fact (Wainer & Thissen, 1976). Fisher (1956) did not believe in the existence of the theoretical normal distribution and claimed that it was just an exclusive “products of the statistician's imagination through the hypothesis which he has decided to test” (Fisher, 1956, p.81). Many data sets in psychology and education depart widely from normal distribution (Blair, 1980; Bradley, 1968; Micceri, 1989; Still & White, 1981; Tan, 1982). “Real world data often fail to meet the underlying assumption of population normality” (Headrick & Sawilowsky 2000, p.1059).

For example, Micceri (1989) examined 440 large data sets from the psychological and educational literature, including a wide range of ability and aptitude measures and psychometric measures and found that virtually none could be characterized as normal or Gaussian. The distributions he studied produced widely varying patterns of tail weight and skew and often demonstrated varying degrees of digit preference and multimodality. He found that real data are more likely to resemble an exponential distribution rather than normal bell curve. Freidman (2012) also believed that the assumptions for most statistical data were not justified and normal distribution for social and economic data were exceptional rather than rule. Sawilowsky (1993) noted that the data sets in behavioral and social science were rarely remotely symmetric with light tails and the assumption of Gaussian model was “untenable for all but the most uncommon real data set” (p. 437).

Applications of parametric procedures that are based on the normality assumptions are further limited by the small sample sizes which are common in behavioral and social science. According to Central Limit Theorem and asymptotic theory, the normality assumption can be assumed as long as the sample sizes are large enough (e.g. $N > 100$) even if the population distribution is not normally distributed. If the sample sizes are small, then the variables have to be

normally distributed to justify the use of classic methods. But in reality, obviously there is no way to test this assumption when the sample sizes are small (Hill et al., 2006).

Another important assumption underlying classic parametric methods is homogeneity of variance, or homoscedasticity, which means the population variances are equal. When two populations have similar variances, their variance ratio should be close to 1:1. But an analyses of journal articles in behavioral and social science indicated the variance ration of the real data set often strays remarkably from the 1:1 ratio required to fulfill the assumption (Keselman et al., 1998; Grissom, 2000; Erceg-Hurn & Mirosevich, 2008). Usually when an intervention is applied in an experiment, it could be expected that the treatment groups and the control groups will be different if the intervention is effective. Sawilowsky and Fahoome (2003) listed the two treatment models that are more likely to happen in Education: (1) the members of the treatment group become more heterogeneous or spread out, (2) the members of the treatment group become more homogeneous or bunch up closer to the middle. Usually a change in scale should be expected after an intervention has been applied in an experiment, which again makes the homogeneity of variance assumption unlikely to be tenable.

The reasons for heteroscedasticity might be various and it might be possible that the sample variance ratios are subject to sampling error; nevertheless, the great magnitude of the variance ratios and the consistency with which they are reported in the scientific journal articles suggests that it is not unusual for the homoscedasticity assumption to be violated in reality (Erceg-Hurn & Mirosevich, 2008).

The third factor that undermines the applicability of classic methods is the lack of precise measurement in behavioral and social science. According to Stevens (1946), most of the scales “used widely and effectively by psychologists are ordinal scales” (p. 679). Most data used in

behavioral and social science belongs to ordinal scale of measurement. “In the strictest propriety the ordinary statistics involving means and standard deviations ought not to be used with these scales, for these statistics imply a knowledge of something more than the relative rank-order of data” (Stevens, 1946, p. 679). Most classic statistical techniques such as t tests, analysis of variance and regression assume that the underlying measurements are at least of interval, meaning that equally spaced intervals on the scale can be compared in a meaningful manner. However, this assumption is often not tenable. Most measurement of scholastic accomplishments is only a rank and the data represents rather a rank ordering of observations than precise measurements (Hill et al., 2006).

According to Scales and Petlick (2004), parametric statistical tests are sensitive to violations of the assumptions, and the results of the analysis may not reflect the true view of the patterns in the data. Violation of the normality and homoscedasticity assumptions substantially influence the results of classic parametric tests, particularly distorting the Type I and Type II error rates (Wilcox, Charlin, & Thompson, 1986; Harwell, Rubinstein, Hayes, & Olds, 1992). The power of classic parametric tests can also be dramatically lowered when the assumptions of normality or homoscedasticity are violated. Wilcox (1998) demonstrated that even a small departure from normality can reduce the power of the t test from .96 to .28.

Classic parametric methods with violated assumptions creates inaccurate computation of p values, effect sizes, and confidence intervals resulting substantive errors in the interpretation of data. However, nonparametric statistical methods can alleviate all the problems. As an effective alternative to normal theory statistics, nonparametric statistical procedures makes no assumptions about the underlying distribution of the data hence they are also referred to as parameter free procedures or distribution-free procedures. “Nonparametric and distribution-free tests do not

require the same level of assumptions required by classical parametric tests, nor do they require the large N needed to produce a normal distribution of errors” (Scales & Petlick, 2004, p. 10). Another advantage of nonparametric methods is they usually requires the ordinal level measurement scale of data which permits more valid analyses of educational or psychological variables that are measured as rank data obtained from judges or observations (Sawilowsky,1990). According to Gibbons (1993), ordinal scale data are very common in social science research and almost all attitude surveys use the Likert scale questionnaires. In Gibbons' view, non-parametric tests are more appropriate than classical parametric procedures for Likert-scaled data.

Sawilowsky and Fahoome (2003) noted that nonparametric statistics have a fundamental advantage over parametric procedures for preserving Type I error rates to nominal alpha when testing hypotheses. Nonparametric statistics “is a fundamental advantage over parametric procedures that rely on distribution assumptions... This advantage would have figured prominently in the history of the development of modern statistics in the 20th Century” (Sawilowsky & Fahoome, 2003, p. 209).

Instead of being welcomed as a major breakthrough in the development of statistics, there are some myths and misconceptions on power and robustness of the two statistical methods (Hunter & May, 1996). “Nonparametric statistics were received by the established statistical hierarchy with suspicion and disdain... The statistical literature is replete with disparaging remarks about nonparametric procedures” (Sawilowsky & Fahoome, 2003, p. 209). Sawilowsky and Fahoome (2003) listed two such remarks:

1. “Applied statistics in education and the social sciences experienced a largely unnecessary hegira to nonparametrics during the 1950s... The flight to nonparametrics was unnecessary” (Glass, Peckham, & Sanders, 1972, 237-238).
2. Nonparametric tests are only “better than doing no statistical analysis at all”. (Winn & Johnson, 1978, p. 358)

Sullivan (2010) presented similar remarks and listed the following what he considered as disadvantages of nonparametric statistical procedures:

1. Nonparametric procedures are less efficient than parametric procedures.
2. Nonparametric procedures often discard useful information. As a result, nonparametric procedures are typically less powerful.
3. Typically, a test with more requirements has stronger results. So, if the requirements to perform parametric statistical procedures are satisfied, these tests should be used because the results will be more powerful and efficient. Nonparametric statistical procedures should only be used if the requirements are not satisfied. (p. 15-3)

If data sets meet all of the required assumptions, then parametric statistics are slightly more powerful than nonparametric tests, but they also require more assumptions than the nonparametric methods. One advantage of nonparametric tests is that they make no assumption about the normal distribution of the data. “Nonparametric tests typically fall into three divisions based on the information they use: categorical, sign, or rank” (Sawilowsky, 1990, p. 91). When the assumptions of a statistical test are not met, or when sample sizes are small, nonparametric tests are more advantageous methods.

There really is no ground to support the accusation that the nonparametric methods are less efficient. Efficiency refers to the cost, time and effort required to use a test (Bradly, 1968). Sawilowsky (1990) stated: “In terms of statistic power, efficiency refers to the minimum sample size necessary to detect a false null hypothesis. The smaller the sample necessary to detect a treatment, the more efficient, or powerful, is the statistic” (p. 93). It was demonstrated in previous studies (Sawilowsky & Blaire, 1992; Fahoome, 1999; Olson, 2013; Haidous, 2012) that the t test is not as powerful as its nonparametric counterparts when sample sizes are small and population normality is violated.

Some researchers (e.g., Barlow, Bartholomew, Bremner, & Brunk, 1972; Capon, 1988; Christensen, 1977; Couch, 1987; Dixon & Massey, 1969; Downie & Heath, 1970; Kreyszig, 1970;

Marascuilo & Serlin, 1988; Mendenhall & Scheaffer, 1973; Wampold, & Drew, 1990) also opined that rank tests often perform more efficiently than the parametric methods under nonnormality (Sawilowsky, 1990). Responding to the conclusion that nonparametric procedures are typically less powerful because they often discard useful information, Sawilowsky (1993) made the following analogy:

Both an accomplished opera singer and an off-key beginning tuba player dots and dashes of the International Morse Code. While some may consider the opera singer's notes to be sounds of music, there is, in fact, no more information in those dots and dashes than in the off-key notes of the beginning tuba player, with respect to the codes. If the complexity and subtlety of what is often imagined to be included in interval scales is noise and not signal, parametric tests will have no more information available than a rank test, and will be less efficient by trying to discriminate a signal from noise when in fact there isn't any. (p. 432)

Noether (1984) noted that far more from wasting any information, Wilcoxon's rank test made better use of the available information than the corresponding t test, provided exact tests when the null hypothesis was true, and were considerably less sensitive to outliers than t test and pointed out that the only kind of information a nonparametric procedure was likely to waste was information that was not available. According to Sawilowsky (1990), many Monte Carlo studies also indicated that some nonparametric rank tests outperform their parametric counterparts under many nonnormal conditions, and nonparametric tests were often more powerful than parametric tests under nonnormality.

Generally speaking, there are three categories of nonparametric equivalents for parametric methods. They are tests of differences between groups, (e.g. independent samples location tests), tests of differences between variables (e.g. dependent samples location tests) and tests of relationships between variables. Some widely used nonparametric alternatives for the independent two-sample location t test include the Wilcoxon-Mann-Whitney U test, Tukey's quick test, Rosenbaum test and the Kolmogorov-Smirnov two-sample test.

Monte Carlo Simulation Methods

The name Monte Carlo comes from the fact that the process of repeated sampling is like the gambling in the Casinos of Monte Carlo in Monaco. It is an explicit reference to the use of repetition as a method to discover the long run outcome of an event. Sawilowsky and Fahoome (2003) defined Monte Carlo as “repeated sampling from a probability distribution to determine the long run average of some parameter or characteristic” (p. 46). Later in the same book, they also stated that “Monte Carlo refers to repeated sampling from a probability distribution, and computing the long-run average of some property over all the samples” (p. 116).

Simulation uses a pseudo-random number generator to model real events or real variables (Sawilowsky & Fahoome, 2003). It is the imitation of important elements of a system or phenomenon which is being studied in its simplified form. Norlén (1975) stated that simulation is a “numerical technique for the carrying out of experiments” (p.15). The purpose of Monte Carlo simulation is to simulate a phenomenon, as Sawilowsky and Fahoome (2003) stated:

Monte Carlo simulation brings together two elements: (1) simulating outcomes or constructs of real or theoretical processes via pseudo-random numbers, and (2) using Monte Carlo methods of repeated sampling to estimate some long run average, parameter, or desired characteristic. For example, a uniform random number generator can be used to simulate the tossing of a coin. Repeating the process many, many times is an application of Monte Carlo methods to that simulation to determine the long run average of what happens when a coin is tossed. (p. 145)

Sawilowsky (2003) reviewed simulation, Monte Carlo methods, and Monte Carlo simulation and distinguished between them: simulation is a fictitious representation of reality, a Monte Carlo method is a technique that can be used to solve a mathematical or statistical problem, and Monte Carlo simulation uses repeated sampling to determine the properties of some phenomenon or behavior.

A pseudo-random number generator is used to produce pseudo-random numbers for Monte Carlo simulation. Pseudo-random number sampling algorithms are used to transform uniformly distributed pseudo-random numbers into numbers that are distributed according to a given probability distribution.

According to Sawilowsky (2003), the characteristics of a high quality Monte Carlo simulation should be as the follows:

1. The (pseudo-random) number generator has certain characteristics (e.g., a long "period" before the sequence repeats).
2. The (pseudo-random) number generator produces values that pass tests for randomness.
3. There are enough samples to ensure accurate results.
4. The proper sampling technique is used.
5. The algorithm used is valid for what is being modeled.
6. It simulates the phenomenon in question. (p. 220)

Tests and Impacts of Treatment Effects

When an intervention is applied in an experiment, it could be expected that the treatment groups and the control groups will be different if the intervention is effective. "The actual impact of an educational or psychological treatment is never known. It can be assumed, however, that one of the simplest effects of a treatment that can be detected is the increase or decrease in the average score of a group" (Sawilowsky & Fahoome, 2003, p. 219). According to Sawilowsky and Fahoome (2003), when an intervention impacts on a treatment group, it changes the measures of central tendency (i.e., mean, median, and mode) and shifts it to the right (see Figure 1) or shifts it to the left (see Figure 2) without changing the variance (σ^2), the skew (γ_1), and the kurtosis (γ_2). This kind of model of a treatment effect is called a shift in location.

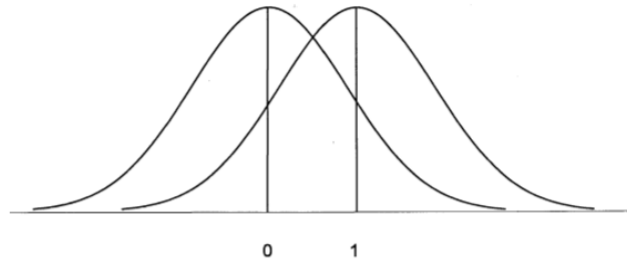


Figure 1. Location shifting to right. Adapted from Sawilowsky and Fahoome (2003, p. 219).

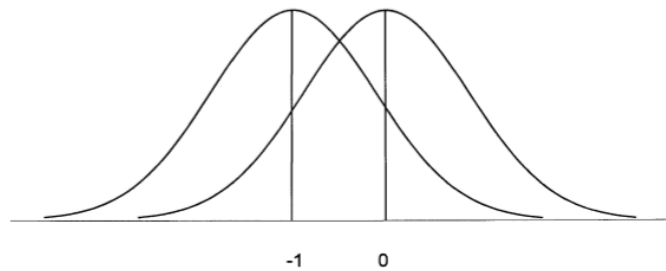


Figure 2. Location shifting to left. Adapted from Sawilowsky and Fahoome (2003, p. 220).

In the real world, a mere change in location without a change in scale “is rather unlikely to occur in Education or Psychology interventions” (Sawilowsky & Fahoome, 2003, p. 230). Sawilowsky and Fahoome (2003) listed the two treatment models that are more likely to happen in Education: (1) the members of the treatment group become more heterogeneous or spread out, (2) the members of the treatment group become more homogeneous or bunch up closer to the middle, meaning that as a result of sharing a common treatment the spread or scatter of scores diminishes. (p.230) In either case, the shift in location model will not be likely thus it is not practical to assume that the effects of the treatment only change the average of scores, instead, a change in scale should also be expected (see Figure 3.).

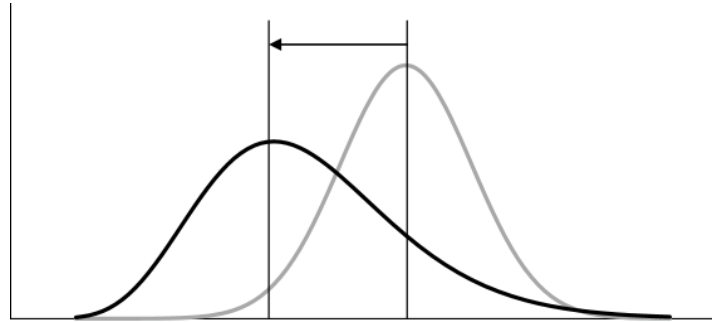


Figure 3. Shifting in location and simultaneously changing in scale. Adapted from Olson (2013, p.14).

There are many statistical tests available for the shift in location model. The independent two-sample t test probably is the single most popular classic statistical procedure used for testing shifts in location when there are two samples that need to be compared concerning their mean values for some variable of interest. The most widely used corresponding nonparametric alternative for independent two-sample location test is Wilcoxon-Mann-Whitney test. However, when a change in scale occurs simultaneously with a change in location, the variance of the treatment group will be different from that of the control group. The underlying assumption of homoscedasticity, or homogeneous variances, of the Student t test is violated. In this case, the independent sample t test is not a good test for such situation nor the Wilcoxon-Mann-Whitney test when the treatment primarily impacts scale. Both the two procedures perform poorly in this situation (Sawilowsky & Fahoome, 2003).

Robustness and Power Analysis

A Type I error occurs when a true null hypothesis is rejected. In other words, a researcher concludes that an effect exists when in fact it does not. A Type II error occurs when the null

hypothesis is not rejected even though it is false. The power of a test is the probability that a Type II error will not occur.

When the statistical decisions are made, sample data are used to determine whether to reject or not to reject the null hypothesis. The null hypothesis is rejected in favor of the alternative hypothesis if the absolute value of z or t score obtained exceeds the corresponding critical value. The null hypothesis is failed to be rejected when the z or t score obtained is not sufficiently large or small. Because the incompleteness of the information the null hypothesis is based on, there is always the opportunity of making an incorrect decision. There are always four possibilities of hypothesis testing shown as in Figure 4:

		Reality	
		H_0 is true.	H_1 is true.
Decision	Do not reject H_0 .	Correct decision.	Type II error.
	Reject H_0 .	Type I error.	Correct decision.

Figure 4. Outcomes of Hypothesis Decisions.

1. The null hypothesis is reject when it is false. This would be a correct decision.
2. The null hypothesis is not rejected when it is true. This would be a correct decision.
3. The null hypothesis is rejected when it is true. This would be incorrect. This type of error is a Type I error.
4. The null hypothesis is not rejected when it is false. This would be incorrect. This type of error is a Type II error.

When a confidence interval is constructed, it is not known that whether or not the confidence interval contains the parameter but it is known that the likelihood the confidence

interval contains the parameter. Similarly, it is not known whether or not the statistical decision of a hypothesis test is correct but just like the certain level of confidence in the confidence interval, the probability of making errors when testing hypothesis can be determined.

The probability of making a Type I error is denoted as α .

α = Probability of making a Type I error = Probability of rejecting H_0 when it is true.

The probability of making Type II error is denoted as β .

β = Probability of making a Type II error = Probability of not rejecting H_0 when it is false.

Type I errors are considered to be destructive of the highest order (Sawilowsky & Fahoome, 2003), which occur when a treatment or an intervention is claimed to be significant when in fact is not. The probability of making Type I errors, α , is selected by the researcher before the research is conducted and is called the level of significance or nominal alpha. Conventionally nominal alpha is set as $\alpha = 0.05$, $\alpha = 0.01$ or more stringently, $\alpha = 0.001$. Cohen (1990) stated that nominal alpha is “the probability of mistakenly rejecting the H_0 , α , represents a research policy – the maximum risk one is prepared to take of making this error.” (p. 99)

Type II errors are the missed opportunities that failed to detect the intervention or treatment which in fact has happened. Though they are not as destructive as to report something that never exists, they would miss many important scientific discoveries.

The statistical power is the ability to detect a false null hypothesis when it is false, which is defined as $1-\beta$. Power depends on the significance criteria (α), the sample size (N), and the population effect size (ES) (Cohen, 1990). For any statistical inference, these relationships are a function of the other three (Cohen, 1988). As the sample size, significant level, and the effect size increase, so does the power. The statistical power of a test is the long term probability of rejecting a false null hypothesis given a specified alpha level and sample size N.

Robustness refers to a statistic method still performs well when its underlying assumptions are violated. Kariya and Sinha (2014) defined the robustness of a test as “the stability or invariance of the null distribution of the test statistic, the nonnull distribution, and the optimal properties when the underlying model undergoes change” (p. xiii). When the robustness involves Type I error rates, it refers to the statistic method pertains to its nominal alpha level under conditions of violated assumptions. Robustness may also involves Type II error rates. Sawilowsky (1990) stated:

A consequence of violating the normality assumption, even though the test maintains the nominal Type I error rates in the absence of treatment effects, is that the test may demonstrate erratic power function. Thus the robustness issue is related not only to Type I error but also to Type II error, the complement of the power of a statistic test. (p. 98)

Purpose of the Study

Robustness, power and versatility are traditional areas of comparison between parametric and nonparametric tests (Blair, 1985). There have been many studies conducted on the comparative power of parametric methods and nonparametric methods for the comparison of the independent two-sample location tests. Previous studies (e.g., Sawilowsky & Blair, 1992; Fahoome, 1999; Olson, 2013; Lowenstein, 2015; Keselman et. al., 2004) were conducted on the comparative power of Student’s t test, Welch-Aspin t test, Wilcoxon-Mann-Whitney test, Yuen’s test and Tukey’s Quick tests, for example, but no study has included the Haga test as a competitor, even though it was introduced in 1957. It is an improved version of Rosenbaum test, a nonparametric method for location test. Hence, in this study, Haga test will be used as a competitor to test for a shift in location and/or a change in scale between two independent groups. Understanding its comparative power will cover an important blank space in the statistic repertoire, and will help researchers and users make appropriate decisions when choosing the statistical methods.

Scope and limitations

The independent two-sample location test methods considered in this research are limited to the five tests of Student's t test, Welch-Aspin t test, Yuen's test, Tukey's Quick test and Haga test.

The significance criteria will be set at $\alpha = 0.05$, $\alpha = 0.01$, and $\alpha = 0.001$, which are the conventional alpha levels used in the social and behavioral sciences. The sample sizes considered in this research are limited to the equal sample sizes of $n_1 = n_2 = 5$, $n_1 = n_2 = 15$, and $n_1 = n_2 = 25$, and unequal sample sizes of $n_1 = 5$, $n_2 = 15$; $n_1 = 5$, $n_2 = 25$, and $n_1 = 15$, $n_2 = 25$. Observations of both equal and unequal sample sizes will be sampled from six theoretical distributions and six real data sets defined by Micceri (1989).

The largest sample size is limited by the maximum sample size available in the tables of Haga test critical values. For each of these samples, n_1 will be designated as the control group whereas n_2 will be designated as the treatment group. The iteration of the Monte Carlo simulation will be limited to 1,000,000 runs for each condition under study.

The shift in location effects will be limited to the levels of 0.2σ , 0.5σ , and 0.8σ to simulate the effect sizes of small, medium and large defined by Cohen (1988), and 1.2σ and 2.0σ to simulate the effect sizes of very large and huge defined by Sawilowsky (2009). The change in scale effects will be limited to 1: 1, 1:1.1, 1: 4, and 1: 16. Larger change in scale effects will not be considered in this research for being lack of practical meaning.

The distributions from which the observations are being sampled are limited to the six theoretical distributions of normal distribution, uniform distribution, exponential distribution ($\mu = \alpha = 1$), Chi-square distribution ($v = 3$), t distribution ($v = 3$) and Cauchy distribution, and the six Micceri's (1989) real data sets of smooth symmetric, extreme asymmetric (growth), extreme bimodal, multimodal-lumpy, discrete mass at zero with gap, and digit preference.

CHAPTER 2 REVIEW OF THE RELATED LITERATURE

Student's t Test

There are many situations in behavioral and social science that one needs to compare population measures of location corresponding to two independent groups, such as the mean of one group with the mean of the other group (e.g., Wilcox, 1996). Sawilowsky and Blair (1992) noted that the independent sample t test was counted among the best-known statistical procedures in current use. "Along with Pearson's chi-squared test, the independent-samples t test must be counted among the best-known statistical procedures in current use" (Sawilowsky & Blair, 1992, p. 352). Wilcox (1996) considered Student's t test was the best-known and most popular method for comparing two groups. Sawilowsky and Fahoome (2003) stated that t test is the single most important breakthrough in the development of modern statistics.

The Student t-statistic and t distribution were developed in 1908 by William Sealy Gosset under the pseudonym "Student" when he worked as a chemist at the Guinness Brewery Company in Dublin. Gosset, along with other chemists, were asked to make the best beer at the cheapest cost. He was in charge of conducting experiments to identify the best barley variety, which allowed him to concentrate on statistics. At his time, the only available distribution was the standard normal distribution. When one tried to compute confidence intervals about a population mean, μ , he had to make the following assumptions:

1. The standard deviation or σ was known.
2. The sample was drawn from a normally distributed population or the sample size, n , was large ($n > 30$).
3. The sample was a simple random sample.

A $(1-\alpha) \times 100\%$ confidence interval could be computed as

$$\bar{x} - z_{\frac{\alpha}{2}} \cdot \frac{\sigma}{\sqrt{n}} \text{ and } \bar{x} + z_{\frac{\alpha}{2}} \cdot \frac{\sigma}{\sqrt{n}},$$

but Gosset always performed experiments with small data sets and he did not know σ , so Gosset tried to determine the sampling distribution of

$$\frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}.$$

Gosset found that $\frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$ follows Student's t-distribution. The Guinness Brewery did not allow its employees to publish their findings, so Gosset published his research using the pen name Student (Sullivan, 2010). "Along with K. Pearson's Chi-squared test published eight years earlier, the t test introduced the modern era of statistics" (Sawilowsky & Fahoome, 2003).

If a simple random sample of size n is taken from a normally distributed population, then the distribution of

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

follows Student's t-distribution with $n-1$ degrees of freedom, where \bar{x} is the sample mean and s is the sample standard deviation (Sullivan, 2010).

The t-statistic works the same as z-Test. It represents the number of sample standard errors \bar{x} is from the population mean μ . The shape of t-distribution depends on the sample size, n . As the sample size n increases, the density curve of t gets closer to the standard normal curve because when the sample size increases, the values of s get closer to the value of σ as a result of large numbers. If the notation t_{α} represents the t-value whose area under the t distribution to the right of t_{α} is α , then the value of t_{α} depends not only on α , but also on the degrees of freedom, $n-1$.

If a simple random sample of size n is drawn from a population with unknown μ and unknown standard deviation σ , then a $(1-\alpha) \cdot 100\%$ confidence interval for the population mean μ is given by:

$$\text{Lower bound: } \bar{x} - t_{\frac{\alpha}{2}} \cdot \frac{s}{\sqrt{n}}$$

and

$$\text{Upper bound } \bar{x} + t_{\frac{\alpha}{2}} \cdot \frac{s}{\sqrt{n}}$$

where $t_{\frac{\alpha}{2}}$ is computed with the $n-1$ degrees of freedom. This confidence interval is exact when the underlying population is normally distributed and it is approximately exact when the population is not normally distributed but the sample size, n is equal to or larger than 30 (Sawilowsky & Blair, 1992).

According to Sawilowsky and Blair (1992, 1993), it's not surprising that t test has received an inordinate amount of attention from statistical researchers due to its familiarity and utility. Student's t -statistic is robust because the procedure is accurate despite moderate departures from the normality assumption. If a small data set has outliers, the results are compromised because neither the sample mean, \bar{x} , nor the sample standard deviation, s , is resistant to outliers (Sullivan, 2010).

In situations when inference about means of two independent samples need to be made, that is, means from two independent samples need to be compared, the null and alternative hypothesis are

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 \neq \mu_2$$

or

$$H_0 : \mu_1 - \mu_2 = 0$$

$$H_1 : \mu_1 - \mu_2 \neq 0$$

If \bar{x}_1 , \bar{x}_2 represent sample mean from the first group and sample mean from the second group respectively, a determination needs to be made that whether the difference in the sample means,

$\bar{x}_1 - \bar{x}_2$, is significantly different from 0. If the result is significantly different from 0, null hypothesis is rejected, otherwise null hypothesis will have to be accepted. In such situation, the sampling distribution of $D = \bar{x}_1 - \bar{x}_2$ needs to be known. The assumption of independent groups can be used to show that the variance of the difference of the two means, D is

$$\sigma_D^2 = \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}$$

and the standard error is

$$\sigma_D = \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$$

According to the null hypothesis, $\mu_D = \mu_1 - \mu_2 = 0$, so if the variances, $\sigma_D, \sigma_1, \sigma_2$ were known, H_0 can be tested with

$$\frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \quad \text{or} \quad \frac{D}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

because D has a normal distribution. The variances are usually unknown, but they can be estimated with sample variances, s_1 and s_2 , yielding the test statistic

$$W = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

During the 1900s, the null distribution of W was unknown and it was William Gosset obtained a test statistic and developed its null distribution by assuming normality and the two groups have the same variance,

$$\sigma_1^2 = \sigma_2^2 = \sigma_p^2.$$

An unbiased estimate of σ_p^2 , the pooled sample variance is

$$s_p^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}.$$

Replacing s_1^2 and s_2^2 with s_p^2 in W yielding the test statistic

$$T = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{s_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

If both groups' normality of distribution are assumed, then T has Student's t distribution with $v = n_1 + n_2 - 2$ degrees of freedom when the null hypothesis of equal means is true.

Let the values shown in Table 1 be the sample data from two different populations X and Y.

Table 1

Student's T Test Example Data

X	Y
9	21
6	17
13	22
21	19
17	16
18	23
22	22
11	15
23	25
14	18
20	19
24	16
19	17
8	15

21	29
7	21
12	14
10	30
16	29
15	25
20	22
22	24
23	28
3	29
6	31
24	53
26	48
27	37
4	
5	

The test hypothesis is

$$H_0: \mu_x = \mu_y$$

$$H_1: \mu_x \neq \mu_y.$$

The sample statistics are shown in Table 2.

Table 2

Student's T Test Example Statistics

	X	Y
Sample size	30	28
Sample mean	15.53	24.46

Standard deviation

7.26

9.67

The pooled sample variance is

$$s_p^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} = \frac{(30 - 1)7.26^2 + (28 - 1)9.67^2}{30 + 28 - 2} = 72.37.$$

The test statistic is calculated as

$$T = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{s_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} = \frac{(15.53 - 24.46) - (0 - 0)}{\sqrt{72.37 \left(\frac{1}{30} + \frac{1}{28} \right)}} = -3.32$$

The degree of freedom is

$$v = n_1 + n_2 - 2 = 30 + 28 - 2 = 56.$$

Since this is a two-tailed hypothesis, the hypothesis is rejected when $|T| > t_{1-\frac{\alpha}{2}}$, where $t_{1-\frac{\alpha}{2}}$ is the $1 - \frac{\alpha}{2}$ quantile of Student's t distribution with v degree of freedom. The critical value, $t_{.975} = 2.01$ when the degree of freedom $v = 56$. For the above example, $|T| = 3.32 > 2.01$, the null hypothesis is rejected.

Welch-Aspin's t Test

Variance homogeneity is assumed in the Student t test but in real life the population means of the groups are often unknown. It is even impossible to know the population standard deviation, nor the equality of variances, or homogeneity. Welch (1938) provided a solution which is a variation of the Student t test which assumes the variances are not equal. Welch (1938) derived an approximation of the statistic distribution using Student's t distribution with adjusted degrees of freedom and Aspin (1949) worked out the tables for the method so the method is also called Welch-Aspin's t Test

Testing the equality of the means of two normal populations when the variances are both unknown, and not known to be equal, is called the Behrens-Fisher problem which has been well

known since the early 1930's (Wilcox,1996; Dong, 2004; Sullivan, 2010). Though an exact method for performing inference on the quality of two means with unequal population standard deviations does not exist, Welch-Aspin's t Test is an approximate solution to the problem.

Welch-Aspin's method is designed to test the hypothesis of equal means with the assumption of normality but not the assumption of homogeneity. If the variances are nearly equal or/and the samples are taken from normal distributions, Welch-Aspin's method and Student's t test yield similar results but when the sample sizes are very different, Welch-Aspin's method have shorter confidence intervals and more power (Wilcox,1996). While Welch-Aspin's method has a higher Type II error rates which is more conservative than the Student t test when the variances are equal, the two tests usually provide the same conclusion even if the assumption of equal population standard deviations seems reasonable (Sullivan, 2010).

According Sawilowsky and Blair (1992), good power cannot be assured for Student's t test when sample sizes are not equal but for Welch-Aspin's method, power problem can be negligible with large sample sizes though there are no agreed upon guidelines on just how large the sample sizes must be.

The test statistic of Welch-Aspin's method is

$$W = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Different from the degrees of freedom, $v = n_1 + n_2 - 2$, for Student's t test, Welch-Aspin's method has the degrees of freedom of

$$\hat{v} = \frac{(q_1 + q_2)^2}{\frac{q_1^2}{n_1 - 1} + \frac{q_2^2}{n_2 - 1}}$$

where

$$q_1 = \frac{s_1^2}{n_1}$$

and

$$q_2 = \frac{s_2^2}{n_2},$$

which indicates Welch-Aspin's \hat{u} is estimated based on the sample variances while the degrees of freedom for Student's t are based on the sample sizes.

Suppose the values of sample x and sample y from two different populations X and Y are shown as in Table 3.

The hypothesis is

$$H_0: \mu_x = \mu_y$$

$$H_1: \mu_x > \mu_y.$$

Table 3

Welch-Aspin's t Test Example Data

X	Y
59	81
64	75
43	72
21	59
87	60
89	73
72	82
71	55
83	65

74	86
80	49
84	65
90	78
68	59

The sample statistics for the data are shown in table 4.

Table 4

Welch-Aspin's t Test Example Statistics

	X	Y
Sample size	14	14
Sample mean	70.36	68.5
Standard deviation	19.27	15.51

The test statistic

$$W = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} = \frac{(70.36 - 68.5) - (0 - 0)}{\sqrt{\frac{19.27^2}{14} + \frac{15.51^2}{14}}} = 0.28.$$

The degree of freedom

$$\hat{v} = \frac{(q_1 + q_2)^2}{\frac{q_1^2}{n_1 - 1} + \frac{q_2^2}{n_2 - 1}} \approx 25.$$

The critical value is approximately 1.7 when $\alpha = 0.05$ and $\hat{v} = 25$. Because $0.28 < 1.7$, the hypothesis is failed to be rejected.

Yuen's Test

Both Student's t test and Welch-Aspin's method relies on the means to compare the location of two population. The results of these tests will be impaired when outliers occur.

“Outliers and heavy-tailed distributions are common in applied work, which can reduced the power of any method designed to compare means” (Wilcox, 1996, p. 136). Yuen (1974) proposed a method of comparing the location of two independent groups for unequal variances for symmetric, heavy-tailed distributions. “Yuen (1974) generalized Welch's test to trimmed means; her method provides improved control over the probability of a Type I error” (Keselman et. al., 2004, p. 47). Yuen’s method is a modified Welch-Aspin test based on 20 percent trimmed means. It removes 20 percent of the largest and smallest observations in the data thus is able to moderate the impacts of the extreme values and better capture the central tendency of the data. “Yuen’s two-sample trimmed mean test statistic is one of the most robust methods to apply when variances are heterogeneous” (Luh & Guo, 2007, p. 137).

Suppose the sample data from population X and Y are shown in Table 5. Let μ_{t1} and μ_{t2} be the trimmed means corresponding to the sample data form X and Y respectively. The test hypothesis is

$$H_0: \mu_{t1} = \mu_{t2}$$

$$H_1: \mu_{t1} > \mu_{t2}.$$

Table 5

Yuen’s Test Example (Original Sample Data)

X	Y
10	15
11	15
14	22
15	26
16	30

18	32
20	32
21	35
23	35
24	36
30	40
34	
40	

A 20% trimmed amount of the sample data is $g = n \times 0.2$.

For sample from X, $n_x = 13$, $g_1 = [n \times 0.2] = [13 \times 0.2] = [2.6] = 2$. The two largest and the two smallest values will be removed from the sample x.

For sample from Y, $n_y = 11$, $g_2 = [n \times 0.2] = [11 \times 0.2] = [2.2] = 2$. The two largest and the two smallest values will be removed from the sample y.

The new trimmed sample data is shown in Table 6.

Table 6

Yuen's Test Example (Trimmed Sample Data)

X	Y
14	22
15	26
16	30
18	32
20	32
21	35

23

35

24

30

To obtain the Yuen's test statistic the following need to be calculated:

The trimmed mean of the sample x,

$$\bar{X}_t = \frac{14+15+16+18+20+21+23+24+30}{9} = 20.11.$$

The trimmed mean of the sample y,

$$\bar{Y}_t = \frac{22+26+30+32+32+35+35}{7} = 30.29.$$

The Winsorized mean of sample x,

$$\bar{X}_w = \frac{1}{n_1} \{ (g_1+1) X_{(g_1+1)} + X_{(g_1+2)} + X_{(g_1+3)} + \dots + (g_1+1) X_{(n_1-g_1)} \} = 20.7.$$

The Winsorized mean of sample y,

$$\bar{Y}_w = \frac{1}{n_2} \{ (g_2+1) X_{(g_2+1)} + X_{(g_2+2)} + X_{(g_2+3)} + \dots + (g_2+1) X_{(n_2-g_2)} \} = 29.6.$$

The Winsorized sum of squared deviations,

$$\begin{aligned} SSD_w = & (g+1)(X_{(g+1)} - \bar{X}_w)^2 + (X_{(g+2)} - \bar{X}_w)^2 + \\ & (X_{(g+3)} - \bar{X}_w)^2 + \dots + (g+1)(X_{(n-g)} - \bar{X}_w)^2. \end{aligned}$$

The Winsorized sum of squared deviations for sample x, $SSD_{wx} = 461.88$.

The Winsorized sum of squared deviations for sample y, $SSD_{wy} = 314.56$.

$$h_1 = n_1 - 2g_1 = 13 - 4 = 9$$

$$h_2 = n_2 - 2g_2 = 11 - 4 = 7$$

$$d_1 = \frac{SSD_{w1}}{h_1(h_1-1)} = \frac{461.88}{9 \times 8} = 10.03$$

$$d_2 = \frac{SSD_{w2}}{h_2(h_2-1)} = \frac{314.56}{7 \times 6} = 7.49$$

The test statistic of Yuen's test is

$$T_y = \frac{\bar{X}_t - \bar{Y}_t}{\sqrt{d_1 + d_2}} = \frac{20.11 - 30.29}{\sqrt{10.03 + 7.49}} = -2.43$$

The degrees of freedom are estimated to be

$$\hat{u}_y = \frac{(d_1 + d_2)^2}{\frac{d_1^2}{h_1 - 1} + \frac{d_2^2}{h_2 - 1}} = 13.$$

For $\alpha = 0.05$, $t_{.975} = 2.16$ approximately. Because $|-2.43| = 2.43 > 2.16$, the null hypothesis is rejected.

The Wilcoxon-Mann-Whitney Test

The Wilcoxon-Mann-Whitney test is an extremely powerful and widely used distribution free two sample location test. Kamat (1956) remarked that the test was "clearly be most sensitive to possible differences of location of the two distribution functions" (p.377). It is useful when comparing the location of two independent samples. The procedure is later rediscovered by Mann and Whitney (1947), based on comparing wage data from 1940 with wage data from 1944. However, Wilcoxon initially only provided critical values for equal sample sizes, and that version involved slightly more computations than Mann-Whitney U method.

Previous study (Blair & Higgins, 1980a, 1980b) demonstrated that for departures from normality the Wilcoxon-Mann-Whitney test might be considerably more powerful than the Student t test, and for data sets that happened to be normal, the nonparametric test was only slightly less powerful (i.e., .01-.03 less power). Sawilowsky and Blair (1992) presented by far the strongest arguments on the comparison of the t and Wilcoxon test for shift in location. In summarizing the comparison of t test and the Wilcoxon-Mann-Whitney test for shift in location, Sawilowsky and Fahoome (2003) stated:

The article by Sawilowsky and Blair (1992) is the latest word on the comparison of the t and Wilcoxon test for shift in location. You have replicated much of these findings in the

labs above, and in so doing, have discovered (1) the t can be decidedly nonrobust to departures from population normality unless certain conditions have been met, (2) when normality is met or nearly met (which occurs rarely), the t maintains a very small power advantage over the Wilcoxon, and (3) when normality is violated, the Wilcoxon can be three or four times more powerful than the t . (p.226)

The asymptotic relative efficiency (ARE), an index that compares the efficiency of competing tests under standardized conditions is “[A] large sample index that compares the RE of competing statistical tests when sample a of Test A and sample b of Test B are infinitely large, and the treatment effect is infinitesimally small” (Sawilowsky, 1990, p. 93). According to Sawilowsky and Fahoome (2003), a test is more efficient if the ARE is greater than 1.0; if the ARE is less than 1.0, the competitor is more efficient. The ARE of the Wilcoxon-Mann-Whitney test relative to the t test under population normality is 0.955. However, under population nonnormality, the ARE of the Wilcoxon rank sum test can be as high as infinity relative to the t test. The Wilcoxon rank-sum test is often three to four times more powerful than the parametric t test for samples sizes and treatment effect sizes common in Education and Psychology.

The Wilcoxon-Mann-Whitney test is a nonparametric procedure “meaning that it guarantees the Type I error rate will be limited to nominal alpha regardless of the status of any population parameters” (Sawilowsky & Fahoome, 2003, p.189). The idea of the Wilcoxon-Mann-Whitney test is to combine the two samples and rank all the observations from small to large and use the mean of the ranks for tied values.

Suppose the sample data from population X and from population Y are shown in Table 7.

Table 7

The Wilcoxon-Mann-Whitney Test Example (Original Sample Data)

X	Y
29	16

28	24
39	26
45	78
57	73
64	39
61	
65	

Combine and rank the data as in Table 8:

Table 8

The Wilcoxon-Mann-Whitney Test Example (Ranked Sample Data)

Rank	Data	Original population
1	16	Y
2	24	Y
3	26	Y
4	28	X
5	29	X
6.5	39	Y
6.5	39	X
8	45	X
9	57	X
10	61	X
11	64	X

12	65	X
13	73	Y
14	78	Y

The value 39 appears twice. To find the rank of 39, the value should be placed in the sixth and seventh positions. So the mean rank is $\frac{6+7}{2} = 6.5$ and both the values of 39 are ranked as the 6.5 position. After the data has been ranked, sum the ranks of the sample observations from population X only. The sum of the ranks from the sample observations from population X is, $4+5+6.5+8+9+10+11+12 = 65.5$. If the two populations have the same median, that is, the null hypothesis is true, the sum of the ranks for the sample observations from population X should be close to the sum of the ranks for the sample observations from population Y. If the median for population X is less than the median for population Y (left-tailed test), the sum of the ranks for the sample observations from population X should be less than the sum of the ranks for the sample observations from population Y.

Let n_1 represent the sample size for population X and n_2 represent the sample size for population Y. The test statistic will depend on the size of the samples from each population:

Small-sample case ($n_1 \leq 20$ and $n_2 \leq 20$).

Let W be the sum of the ranks corresponding to the sample from population X, then the test statistic is

$$U = W - \frac{n_1(n_1+1)}{2}$$

The value of S is always obtained by summing the ranks of the sample data that correspond to M_x , the median of population X, in the hypothesis. For a two-tailed test, reject the null hypothesis, $H_0: M_x = M_y$ if U is sufficiently large or sufficiently small. To test a left-tailed

test, $H_1: M_x < M_y$, reject $H_0: M_x = M_y$ if U is sufficiently small because if U is small, the sum of the ranks for population X is small. For a right-tailed test, reject H_0 if U is sufficiently large.

Suppose the sample data from two populations X and Y are as in Table 9:

Table 9

The Wilcoxon-Mann-Whitney Test Example (Small-Sample Original Data)

X	Y
6	9
10	21
3	18
15	20
19	5
7	
8	

There are 7 values in the sample from population X and 5 values in the sample from population Y , so $n_1 = 7$, $n_2 = 5$.

$$H_0: M_x = M_y$$

$$H_1: M_x < M_y$$

Combine and rank the values as in Table 10:

Table 10

The Wilcoxon-Mann-Whitney Test Example (Small-Sample Ranked Data)

Rank	Data	Original group
1	3	X

2	5	Y
3	6	X
4	7	X
5	8	X
6	9	Y
7	10	X
8	15	X
9	18	Y
10	19	X
11	20	Y
12	21	Y

Sum the ranks of all the values in the sample from population X:

$$W = 1+3+4+5+7+8+10=38$$

$$\begin{aligned} U &= W - \frac{n_1(n_1+1)}{2} \\ &= 38 - \frac{7(7+1)}{2} \\ &= 10 \end{aligned}$$

For sample size $n_1=5$, $n_2=7$, the critical region at $\alpha = 0.05$ significance level is 6. Since it is small values of U that are significant, critical regions should be of the form

$$U \leq \text{critical value.}$$

Because $U = 10 > 6$, the null hypothesis is failed to be rejected.

Large-sample case ($n_1 > 20$ or $n_2 > 20$).

From the Central Limit Theorem, the test statistic is given by

$$Z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}}$$

where U is the test statistic from the small-sample case. When the null hypothesis of identical distributions is true the test statistic has approximately a standard normal distribution. Thus the null hypothesis is rejected if $|Z| > z_{1-\frac{\alpha}{2}}$, the $1 - \frac{\alpha}{2}$ quantile of a standard normal distribution.

Let X and Y be two different populations and the data shown in Table 11 are sample values from the two populations.

Table 11

The Wilcoxon-Mann-Whitney Test Example (Large-Sample Original Data)

X	Y
7	115
7	412
33	200
4	55
20	62
4	253
59	219
91	225
5	122
76	245
278	129
473	168
53	239
18	71
126	118
28	130
103	12
25	
68	
17	

Combine and rank the data as in Table 12:

Table 12

The Wilcoxon-Mann-Whitney Test Example (Large-Sample Ranked Data)

Rank	Value	Population	Rank	Value	Population	Rank	Value	Population
1	3	X	14	53	X	27	126	X
2	4	X	15	55	Y	28	129	Y
3	4	X	16	59	X	29	130	Y
4	5	X	17	62	Y	30	168	Y
5	7	X	18	68	X	31	200	Y
6	7	X	19	71	Y	32	219	Y
7	12	Y	20	76	X	33	225	Y
8	17	X	21	91	X	34	239	Y
9	18	X	22	103	X	35	245	Y
10	20	X	23	109	X	36	253	Y
11	25	X	24	115	Y	37	278	X
12	28	X	25	118	Y	38	412	Y
13	33	X	26	122	Y	39	473	X

Then:

$$W = \sum R_i = 321$$

$$U = W - \frac{n_1(n_1+1)}{2} = 321 - \frac{22(22+1)}{2} = 68$$

$$Z = \frac{U - \frac{n_1 n_2}{2}}{\sqrt{\frac{n_1 n_2 (n_1 + n_2)}{12}}} = \frac{68 - \frac{22 \times 17}{2}}{\sqrt{\frac{22 \times 17 (22 + 17 + 1)}{12}}} = -3.37$$

Because $Z = -3.37$, $|Z| = 3.37$ is greater than the critical value $z_{0.05} = 1.645$, the null hypothesis is rejected.

Although Wilcoxon-Mann-Whitney test is probably the most widely used nonparametric alternative for Student's t test for shift in location, it is not robust when the assumption of homogeneity is violated. According to Sawilowsky and Fahoome (2003), Wilcoxon-Mann-Whitney test is almost as powerful as t test when normality is met or nearly met, and can be three or four times more powerful than the t when normality is violated and when the treatment only impacts location. However, “[t]he Wilcoxon Rank Sum test is... not a good test when the treatment primarily impacts scale” (Sawilowsky & Fahoome, 2003, p.231). Zimmerman (1996, 1998) noted that the sets of ranks inherit the heterogeneous variance of sets of scores when two or more sets of scores with unequal variances are combined and ranked and the Wilcoxon-Mann-Whitney test is biased by heterogeneous variances. Zimmerman (2000) stated:

The statistical significance levels of the Wilcoxon-Mann-Whitney test and the Kruskal-Wallis test are substantially biased by heterogeneous variances of treatment groups – even when sample sizes are equal. Under these conditions, the Type I error probabilities of the nonparametric tests, performed at the .01, .05, and .10 significance levels, increase by as much as 40% - 50% in many cases and sometimes as much as 300%. (p. 354)

Tukey's Quick Test

In responding to the call for the need for a procedure that would be much easier both to use and to teach than those already available, Professor John W. Tukey (1959) devised “A quick, compact, two-sample test” (p.31). Tukey (1959) believed that this useful procedure need be not only quick but compact. By “quick”, it means that the test statistic is extremely simple to calculate, irrespective of the sample size, and in particular usually requires the ordering of only a few of the observations rather than all of them as in Wilcoxon-Mann-Whitney test, and by “compact”, it

refers to the unusual property that no tables of critical values are needed (Neave & Worthington, 1988).

Neave and Worthington (1988) stated:

The remarkable feature of this test is not so much the simplicity in calculating T_y but the simple form of the critical values (at least for most practical purpose). It turns out that, as long as the sample sizes are not very small nor very different from each other, the $\alpha_1 = 5\%$ and 1% critical regions may be taken as $T_y > 6$ and $T_y > 9$ respectively, regardless of the actual sample sizes! Thus you need only commit these two numbers to memory, and you then have a test that is indeed “compact” in the sense described above. (p121)

Though simple, these critical values work well for data with equal sample sizes or sample sizes with a ratio from 1 to 1.5. For more different sample sizes, some simple amendments need to be made to the critical values. The method is carried out as the follows:

Arrange all the data in ascending order with the samples still remaining their original identities. Write down a list of “A”s and “B”s corresponding to the origins of the numbers in the ordered sequence. If H_0 is true, the “A”s and “B”s will be well mixed in the letter sequence without obvious patterns or tendencies in either ends. If either “A”s or “B”s accumulate at one end while the others gather at other end, it is obvious that there is a difference in location of the samples of data.

Neave and Worthington (1988) stated:

If we are testing H_0 , against the one-sided alternative H_1 that the median of population B is higher than the median of population A, we first check to see whether the overall maximum value is from sample B and the overall minimum value is from sample A. If this is not true, then the test ends then and there with the decision not to reject H_0 in favor of H_1 . We could say that the Tukey statistic, denoted by T_y , is zero in these circumstances. (p120)

If the overall maximum and minimum values do come from the samples as the alternative hypothesis expects, the statistic of Tukey’s quick test T_y is defined as the sum of the length of the

two extreme runs, that is the initial run of the smallest values and the final run of the largest values.

Suppose sample data from two different populations are as in Table 13:

Table 13

Tukey's Quick Test Example (Original Data)

Values From Population X	Values From Population Y
3	7
8	5
2	10
9	12
11	16
4	14
	13
	15

The hypothesis is:

$$H_0: M_x = M_y$$

$$H_1: M_x < M_y$$

Rank all data in ascending order as in Table 14:

Table 14

Tukey's Quick Test Example (Ranked Data)

Rank	Value	Original Population
1	2	X

2	3	X
3	4	X
4	5	Y
5	7	Y
6	8	X
7	9	X
8	10	Y
9	11	X
10	12	Y
11	13	Y
12	14	Y
13	15	Y
14	16	Y

The letter sequence of the values is:

X X X Y Y X X Y X Y Y Y Y Y

There are three “X”s in the initial smallest run and 5 “Y”s in the final largest run.

$T_y = 3 + 5 = 8$ which is greater than 6, the critical value of Tukey’s quick test at 5% level, so reject H_0 .

If the test is two-sided instead of one-sided, T_y will be zero if the overall maximum and minimum values come from the same sample. If they are not from the same sample, the critical values corresponding to significance levels of $\alpha_2 = 5\%$, $\alpha_2 = 1\%$, and $\alpha_2 = 0.5\%$ are 7, 10, 13 respectively which are easy to remember and are often referred to as “7-10-13” rule. For large sample sizes or the sample sizes are much different, the critical values lose accuracy and need to be obtained from the tables.

Haga's Test

Inspired by the idea of tolerance of limits by S. S. Wilks (1942), the British academic Rosenbaum (1953, 1954) derived the nonparametric tests on dispersion and location respectively.

Rosenbaum (1953) stated:

Two samples are known to come from the same population with the same mean (or median). Without reference to the form of the distribution function, we want to test the hypothesis that the population are identical, and we simply count the number of points in one sample which lie outside the extreme values of the other sample. The device owes its origin to S.S. Wilks, who derived the basic formulas in a classic paper on tolerance limits. In the absence of prior knowledge that the two populations have the same location, the test becomes merely a two-sample test of identity of the populations and the rejection may imply difference in location as well as in shape. (p. 663)

Rosenbaum (1954) complemented the argument in two-sample test in location:

To test whether two samples come from the same location, we merely count the number of points in one sample which lie outside of an extreme value of the other sample. ... the end point [can be] taken to be the greatest value, but the argument is identical if the smallest is chosen instead. (p. 146)

Presenting an alternative test for Rosenbaum's test on dispersion, Kamat (1956) stated:

Rosenbaum (1953) assumed that the location parameters of the distribution functions were equal, and the criterion he suggested could be used to test for the equivalence of parameters of dispersion, by counting the numbers in one sample falling outside the range of the other. An alternative test to Rosenbaum's is discussed here, using a criterion based on the rank ranges of both samples. (p. 377)

Three years after Kamat, Haga (1959) presented an alternative test for Rosenbaum's test on location. Haga (1959) remarked:

Rosenbaum proposed two-sample rank tests on the dispersion and location based on the number of exceedances. Recently, Kamat proposed a modification of Rosenbaum's test on dispersion. In this paper, Rosenbaum's test on location is modified after the same manner as Kamat. (p. 211)

Let x_i, y_i be two samples from two population X and Y . Put

a = the number of y larger than x_{\max} ,

a' = the number of x larger than y_{\max} ,

b = the number of y smaller than x_{\min} ,

b' = the number of x smaller than y_{\min} .

Then the test statistic $H = a - a' - b + b'$ is used to test the mean deviation of two populations. The mean of H approaches 0 if the two populations have the same distribution. The mean of H has a positive value if population Y shifts to the right of population X . For one-sided test, the null hypothesis that the two populations have the same location parameter is rejected when H is equal to or larger than the critical value s_{α} at significant level α . For the two-sided test, the null hypothesis is rejected at significant level α when

$$|H| \geq s_{\frac{\alpha}{2}}$$

Suppose data of two samples from population X and population Y are in Table 15:

Table 15

Haga's Test Example Data

X	Y
18	19
7	31
13	22
21	33
24	36
	47
	29

The hypothesis is:

$$H_0: M_x = M_y$$

$$H_1: M_x < M_y$$

then:

a = the number of y larger than $x_{\max} = 5$,

a' = the number of x larger than $y_{\max} = 0$,

b = the number of y smaller than $x_{\min} = 0$,

b' = the number of x smaller than $y_{\min} = 3$,

so $H = 5 + 3 = 8$ which is greater than 6, the critical value of Haga test at $\alpha = 0.05$ level, so the null hypothesis is rejected.

As an improved version of Rosenbaum test, Haga test is more powerful and more efficient than Rosenbaum test, and it is almost not affected by the difference of dispersion of the two populations (Haga, 1959).

CHAPTER 3 RESEARCH METHODOLOGY

The main purpose of this study is to examine and compare the robustness and power of the nonparametric Haga test with that of the Tukey's Quick test, Welch-Aspin t test, Yuen's test and Student's t test under the condition of concomitant heteroscedasticity and treatment effect. Previous researches (Sawilowsky & Blaire, 1992; Fahoome, 1999; Olson, 2013; Lowenstein, 2015; Keselman et. al., 2004) have examined the performance of statistical tests such as Wilcoxon-Mann-Whitney test, Tukey's Quick test, Rosenbaum test, Welch-Aspin t test, Yuen's test and compared that of Student's t test. Although Haga test is similar to Rosenbaum test, it is an improved approach.

Tukey's Quick test is primarily a test for differences in medians and is most appropriate when the sampled populations have the same spread or same shape (Neave & Worthington, 1988). According to Lowenstein (2015), Tukey's Quick test remains robust with respect to Type I and Type II error properties (and associated power levels) for detecting variance changes when their assumptions of equal means was slightly violated. According to Sawilowsky (2002), Yuen's test is also a robust solution to situations under nonnormality and heteroscedasticity based on trimmed means and matching sample variances. Both tests will be included in the current study as a contrast for Haga's test.

It has been demonstrated that small sample sizes, unequal sample sizes and one-tailed tests can be problematic for Student's t test with respect to heteroscedasticity and nonnormality (Sawilowsky & Blair, 1992). Wilcoxon-Mann-Whitney test is also substantially biased by heterogeneous variances of treatment groups and it is not a good test when the treatment primarily impacts scale. (Sawilowsky & Fahoome, 2003; Wilcox, 1996; Zimmerman, 1996, 1998, 2000) Though both tests do not work well when there is a change in scale and a shift in location, the

Student t test will be kept in this study to serve as a baseline and standard against which all other tests are compared while Wilcoxon-Mann-Whitney test will not be included in this study because of its unsatisfactory performance and frequency in previous studies. Welch-Aspin's t Test is an improved version of the Student t test and it is widely used as an alternative of Student's t test. It will also be kept in the study as a contrast of Haga's test.

This study will be conducted by using observations of different sample sizes sampled with replacement from a variety of real, nonnormal distributions defined by Micceri (1989) and theoretical distributions generated by pseudo-random number generator. The real, nonnormal data sets are six most prevalent distributions occurring in psychology and education data sets identified by Micceri (1989) including smooth symmetric, extreme asymmetry (growth), extreme bimodality, and multimodal lumpy, discrete mass at zero with gap, and digit preference. The distributions generated by pseudo-random number generator are six theoretical distributions include the normal, uniform, exponential ($\mu = \alpha = 3$), Chi-squared ($v = 1$), t ($v = 3$) distributions, and Cauchy distribution.

Unique to this research, the performance of nonparametric Haga's test, is compared to that of the more common nonparametric test of the Tukey's Quick test, a trimmed-mean test of the Yuen test, and that of the classic parametric Student's t test and Welch-Aspin's t test thus the performance and the comparative power of Haga's test can be more precisely ranked and positioned among all the available statistical tests by other researchers in the future.

This study will be conducted via Monte Carlo simulation methods to address the following research questions: Does the Haga test control Type I error under population nonnormality and/or Heteroscedasticity? What is the comparative power of Haga's test against that of Yuen's test, Tukey's Quick test, Welch-Aspin's t test and Student's t test under various population distributions

with/without heteroscedasticity? Can a recommendation be made for the Haga's test for the researchers for non-normally distributed data? What of the above statistical methods should an educational or behavioral science researcher choose for his research?

This study will be conducted via Monte Carlo simulation methods. The Monte Carlo simulation will be utilized for the investigation of the comparative power and robustness of the five tests using various sample sizes and distributions. Fortran 90/95 programming language is used to carry out the Monte Carlo simulation in this study due to its convenience of operation and ease of programming. Sawilowsky (1998) preferred pure Fortran code or callable subroutines solely written in Fortran in terms of conducting research on the properties of new procedures because it is the shortest path to obtaining successful and useful results (Sawilowsky & Fahoome, 2003). The Fortran code will be compiled and executed using Fortran 90/95 programming language and the open source software Eclipse 4.6, and included the use of the subroutine Rangen 2.0 with unilas as the pseudo-random number generator and the subroutine Realpops 2.0 for the real, nonnormal data sets defined by Micceri (1989). The compiled Fortran program will be used to compare the robustness of Type I error, and power of the five statistical tests under the permutation conditions of shift in locations and change in scales.

Sample Size and Nominal Alpha

This Monte Carlo simulation study will be conducted on three equal sample sizes of $n_1 = n_2 = 5$, $n_1 = n_2 = 15$ and $n_1 = n_2 = 25$, and three unequal sample sizes of $n_1 = 5$, $n_2 = 15$, and $n_1 = 5$, $n_2 = 25$, and $n_1 = 15$, $n_2 = 25$. Sample sizes are selected based on the fact that researches in real world behavioral and social sciences commonly have small sample sizes (Sawilowsky & Blair, 1992). The fact that Haga (1959) provided the tables of critical values for Haga's test with sample sizes up to 15 and Hojek (1978) provided the tables for Haga's test with sample sizes up to 25 also

restricted the sample sizes in this research. Cohen (1988) noted that in situations of both unequal variances and unequal sample sizes, the tabled power values "may be greatly in error" (p. 44). To examine this statement, both equal and unequal sample sizes will be sampled from the theoretical distribution and Micceri (1989)'s realistic data sets.

Nominal alpha levels will be set at the conventional level of $\alpha = 0.05$, $\alpha = 0.01$, and $\alpha = 0.001$ which are common in social and behavioral sciences. For each of these samples, n_1 will be designated as the control group whereas n_2 will be designated as the treatment group. The Monte Carlo simulation will be run 1,000,000 iterations for each condition of the tests in order to obtain the accuracy of the experiment.

This study is to examine and compare Haga's test with other tests under the condition of concomitant heteroscedasticity and treatment effect. The effect size for treatment groups will be manipulated at different levels except the baseline group which contains 0 effect size to simulate no treatment effect. This simulation study will not address the Behrens-Fisher problem, that is, the determination of a test for the equality of means for two normal distributions with different variances, because the focus of the study is on the performance of the Haga's test in more realistic situations. Another reason the Behrens-Fisher problem will not be considered in this study is "this problem is irrelevant for applied research in psychology, education, and related disciplines" (Sawilowsky, 2002, p. 461), and it does not have any practical meaning to do so (Sawilowsky & Blair, 1992). Sawilowsky (1998) stated:

We have spent many years examining large data sets but have never encountered a treatment or other naturally occurring condition that produces heterogeneous variances while leaving population means exactly equal. While the impact of some treatments may be seen primarily in measures of scale, they always (in our experience) impact location as well. (Sawilowsky & Blair, 1992, p. 358)

Although Zumbo & Coulombe (1997) demurred and claimed that “We could simply counter that in our experience we have seen it occur” (p. 147), neither they nor Wilcox (1996) offer any data sets indicating the existence, much less the prevalence, of the Behrens-Fisher problem.

The shift treatment effects will be applied to the treatment groups at the level of 0.2σ , 0.5σ , 0.8σ , respectively in accordance with the effect sizes defined by Cohen (1988) as small, medium and large, and also 1.2σ and 2.0σ in accordance with the effect sizes defined by Sawilowsky (2009) as very large and huge. The value of σ will be based on the value obtained from the real data sets (Sawilowsky, Micceri, & Blair, 1990), and theoretical distributions.

A scale effect will also be introduced at each iteration to simulate the effect of shift in location plus a change in scale when a departure from normality is combined with a violation of homogeneous variances. The level of heterogeneous variances will be set at 1:1, 1:1.1, 1:4 and 1:16 in each iteration of the second part of this study. The small increment of .1 variances is necessary to test whether the small changes in scale impact anything. Sawilowsky (2009) stated:

When advising a former doctoral student on how to deconstruct the comparative power of the independent t test vs. the Wilcoxon test (Bridge, 2007), it was necessary to model very small effect sizes (e.g., .001, .01). This led to disproving the notion that when the former test fails to reject and the later test rejects it is because the latter is actually detecting a shift in scale instead of a shift in location. It would not have been possible to demonstrate this had the Monte Carlo study began by modeling effect sizes at .2. (p.598)

The doctoral student Sawilowsky (2009) mentioned in the quote was doing a test that focused only on shift in means, so it was important to model even a small shift in variances to make sure it didn't impact anything. The current study is doing a test that focuses on both a shift in means and a shift in variances. Therefore, it is necessary to include very small effect sizes (i.e., small shift in means), and small changes in scale (variances).

The robustness of the statistical tests with respect to Type I error and Type II error will be addressed. Robustness for Type I errors will be examined within the liberal magnitudes of the Bradley Limits (Bradley, 1978), defined as between 0.5α and 1.5α . The results will be processed into output files and imported into a spreadsheet program where they were formatted into tables. They will be organized by distribution/data set and sample sizes, shift, scale, and shift with scale, by, nominal alpha (α) levels of 0.05, 0.01 and 0.001.

Documenting Type I and Type II Errors and Statistical Power

According to Sawilowsky and Fahoome (2003), a Type I error is a chance occurrence which happens when the null hypothesis is true but the chance fluctuation rejects the null hypothesis at the level of nominal alpha. The number of significant results divided by the numbers of replications is Type I error rate.

Once a treatment has been introduced into the Monte Carlo study, it should be expected that the statistical test will find it. If the statistical test fails to detect a statistically significant difference due to any reason, a Type II error occurs and the ratio of the number of non-significant outcomes divided by the number of replications is Type II error rate or β .

Suppose there is a treatment effect in the treatment group, the ability of the statistic to discover the treatment is called statistical power. Power is the ability to detect a false null hypothesis and it is defined as $1 - \beta$.

CHAPTER 4 RESULTS

The calculation amounts in this research are enormous. It takes Eclipse 35 hours to run the whole Fortran program on an Acer desk top computer with Intel Core i5-4200M CPU at 2.50 GHz. A total of 68,040 pieces of data produced in the research is presented in the following 1,512 tables. The tables are sectioned by the 12 distributions under the study, each containing 126 tables. The tables are organized according to their sample sizes, effect sizes and scales under each distribution. Each table contains the upper level, lower level and total rejection rates of the five tests at three alpha levels of 0.05, 0.01 and 0.001. The sample sizes are presented in the order of $n_1=n_2=5$; $n_1=n_2=15$; $n_1=n_2=25$; $n_1=5, n_2=15$; $n_1=5, n_2=25$; and $n_1=15, n_2=25$. The effect sizes are presented in the order of 0.0σ , 0.2σ , 0.5σ , 0.8σ , 1.2σ and 2.0σ . The scale effects are presented in the order of 1:1, 1:1.1, 1:4 and 1:16. The first 6 tables in each distribution are the rejection rates for the effect size 0.0σ , which are used to study the robustness of the five tests. The next 30 tables are data under five levels of effect sizes for scale 1:1, which are used to study the shift in location effects. The following next 30 tables are data under five levels of effect sizes for scale 1:1.1, which are used to study the impact of a slight change in scale on the performance of the five tests. The following next 60 tables are data under five levels of effect sizes for scale 1:4 and 1:16, which are used to study the comparative powers of the five tests.

Table 16 to Table 141 contains the output of the five tests under the normal distribution. Table 142 to Table 267 contains the output of the five tests under the uniform distribution. Table 268 to Table 393 contains the output of the five tests under the exponential ($\mu = \alpha = 3$) distribution. Table 394 to Table 519 contains the output of the five tests under the Cauchy distribution. Table 520 to Table 645 contains the output of the five tests under the t ($v = 3$) distribution. Table 646 to Table 771 contains the output of the five tests under the Chi-Squared ($v = 1$) distribution. Table

772 to Table 897 contains the output of the five tests under the smooth symmetric data set. Table 898 to Table 1023 contains the output of the five tests under the extreme asymmetry data set. Table 1024 to Table 1149 contains the output of the five tests under the extreme bimodal data set. Table 1150 to Table 1275 contains the output of the five tests under the multimodal lumpy data set. Table 1276 to Table 1401 contains the output of the five tests under the discrete mass at zero with gap data set. Table 1402 to Table 1527 contains the output of the five tests under the digit preference data set.

Table 16

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0251	0.0501	0.025
Welch-Aspin's t	0.0223	0.0445	0.0222
Yuen	0.0213	0.0425	0.0212
Tukey's Quick	0.016	0.0318	0.0159
Haga	0.0159	0.0318	0.016
$\alpha=0.01$			
Student's t	0.0051	0.0101	0.005
Welch-Aspin's t	0.0039	0.0078	0.0039
Yuen	0.004	0.0079	0.004
Tukey's Quick	0.004	0.008	0.004
Haga	0.004	0.008	0.004
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0003	0.0007	0.0003
Yuen	0.0004	0.0008	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.004	0.008	0.004

Table 17

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.025	0.0497	0.0247
Welch-Aspin's t	0.0247	0.0491	0.0244
Yuen	0.0252	0.0504	0.0251
Tukey's Quick	0.0233	0.0466	0.0233
Haga	0.0238	0.0477	0.0239
$\alpha=0.01$			
Student's t	0.0051	0.01	0.0049
Welch-Aspin's t	0.0049	0.0097	0.0048
Yuen	0.0051	0.0103	0.0052
Tukey's Quick	0.0034	0.0066	0.0032
Haga	0.0032	0.0066	0.0034
$\alpha=0.001$			
Student's t	0.0005	0.0011	0.0005
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0006	0.0012	0.0006
Tukey's Quick	0.0004	0.0009	0.0004
Haga	0.0004	0.0009	0.0004

Table 18

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0249	0.0496	0.0248
Welch-Aspin's t	0.0248	0.0494	0.0246
Yuen	0.0253	0.0503	0.0251
Tukey's Quick	0.025	0.0501	0.025
Haga	0.0141	0.0282	0.0141
$\alpha=0.01$			
Student's t	0.0051	0.01	0.005
Welch-Aspin's t	0.005	0.0099	0.0049
Yuen	0.0054	0.0106	0.0052
Tukey's Quick	0.0038	0.0076	0.0038
Haga	0.0039	0.0077	0.0039
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0006	0.0012	0.0006
Tukey's Quick	0.0002	0.0005	0.0003
Haga	0.0005	0.001	0.0005

Table 19

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0252	0.0501	0.0249
Welch-Aspin's t	0.0274	0.0544	0.0271
Yuen	0.0352	0.0705	0.0352
Tukey's Quick	0.0252	0.0498	0.0246
Haga	0.0067	0.0135	0.0068
$\alpha=0.01$			
Student's t	0.005	0.0099	0.0049
Welch-Aspin's t	0.0068	0.0135	0.0067
Yuen	0.011	0.0221	0.0111
Tukey's Quick	0.0038	0.0074	0.0037
Haga	0.002	0.004	0.002
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0011	0.0022	0.0011
Yuen	0.0022	0.0045	0.0023
Tukey's Quick	0.0003	0.0005	0.0003
Haga	0.001	0.0021	0.001

Table 20

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.025	0.05	0.025
Welch-Aspin's t	0.0286	0.057	0.0284
Yuen	0.0415	0.0826	0.0411
Tukey's Quick	0.0226	0.0452	0.0226
Haga	0.0076	0.0153	0.0077
$\alpha=0.01$			
Student's t	0.005	0.01	0.005
Welch-Aspin's t	0.0079	0.0158	0.0079
Yuen	0.0162	0.0325	0.0162
Tukey's Quick	0.0039	0.0079	0.0039
Haga	0.0051	0.0102	0.0051
$\alpha=0.001$			
Student's t	0.0005	0.0009	0.0005
Welch-Aspin's t	0.0017	0.0035	0.0018
Yuen	0.0051	0.0102	0.0051
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0034	0.0067	0.0033

Table 21

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.025	0.0501	0.0251
Welch-Aspin's t	0.025	0.05	0.0251
Yuen	0.0258	0.0519	0.0261
Tukey's Quick	0.0191	0.0383	0.0193
Haga	0.0127	0.0253	0.0126
$\alpha=0.01$			
Student's t	0.023	0.0238	0.0008
Welch-Aspin's t	0.0227	0.0235	0.0008
Yuen	0.0218	0.023	0.0012
Tukey's Quick	0.0142	0.0151	0.0009
Haga	0.0005	0.0097	0.0092
$\alpha=0.001$			
Student's t	0.0005	0.0009	0.0005
Welch-Aspin's t	0.0017	0.0035	0.0018
Yuen	0.0051	0.0102	0.0051
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0034	0.0067	0.0033

Table 22

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0465	0.0588	0.0123
Welch-Aspin's t	0.0414	0.0522	0.0108
Yuen	0.0352	0.0471	0.012
Tukey's Quick	0.0301	0.0379	0.0078
Haga	0.0078	0.0379	0.0301
<hr/>			
$\alpha=0.01$			
Student's t	0.0103	0.0125	0.0023
Welch-Aspin's t	0.0081	0.0099	0.0017
Yuen	0.0068	0.009	0.0022
Tukey's Quick	0.0082	0.01	0.0018
Haga	0.0018	0.01	0.0082
<hr/>			
$\alpha=0.001$			
Student's t	0.0011	0.0014	0.0002
Welch-Aspin's t	0.0008	0.0009	0.0001
Yuen	0.0007	0.001	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0019	0.01	0.0081

Table 23

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0766	0.0831	0.0065
Welch-Aspin's t	0.0758	0.0821	0.0064
Yuen	0.0702	0.0777	0.0075
Tukey's Quick	0.0611	0.0687	0.0076
Haga	0.0078	0.0703	0.0626
$\alpha=0.01$			
Student's t	0.0194	0.0204	0.0009
Welch-Aspin's t	0.0189	0.0198	0.0009
Yuen	0.0176	0.0188	0.0012
Tukey's Quick	0.0118	0.0125	0.0007
Haga	0.0007	0.0126	0.0118
$\alpha=0.001$			
Student's t	0.0026	0.0027	0.0001
Welch-Aspin's t	0.0024	0.0025	0.0001
Yuen	0.0024	0.0025	0.0001
Tukey's Quick	0.002	0.0021	0.0001
Haga	0.0001	0.0021	0.002

Table 24

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1029	0.107	0.004
Welch-Aspin's t	0.1026	0.1066	0.004
Yuen	0.0936	0.0984	0.0048
Tukey's Quick	0.0723	0.0791	0.0068
Haga	0.0034	0.0504	0.0471
$\alpha=0.01$			
Student's t	0.0294	0.0299	0.0006
Welch-Aspin's t	0.0291	0.0297	0.0006
Yuen	0.0262	0.0269	0.0007
Tukey's Quick	0.0164	0.0171	0.0006
Haga	0.0007	0.0174	0.0167
$\alpha=0.001$			
Student's t	0.0044	0.0044	0
Welch-Aspin's t	0.0043	0.0043	0
Yuen	0.0039	0.0039	0.0001
Tukey's Quick	0.0018	0.0018	0
Haga	0.0001	0.0033	0.0032

Table 25

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0556	0.0657	0.0101
Welch-Aspin's t	0.0564	0.0681	0.0118
Yuen	0.0647	0.0823	0.0177
Tukey's Quick	0.0515	0.0622	0.0108
Haga Test	0.0025	0.0187	0.0162
$\alpha=0.01$			
Student's t	0.0131	0.0148	0.0017
Welch-Aspin's t	0.0158	0.0185	0.0027
Yuen	0.0221	0.0272	0.0051
Tukey's Quick	0.0095	0.0108	0.0013
Haga	0.0007	0.0062	0.0055
$\alpha=0.001$			
Student's t	0.0016	0.0017	0.0001
Welch-Aspin's t	0.003	0.0033	0.0004
Yuen	0.0049	0.0058	0.001
Tukey's Quick	0.0008	0.0009	0.0001
Haga	0.0003	0.0032	0.0029

Table 26

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0592	0.0685	0.0094
Welch-Aspin's t	0.0601	0.0723	0.0122
Yuen	0.0748	0.0954	0.0205
Tukey's Quick	0.048	0.0576	0.0096
Haga	0.0027	0.0219	0.0192
$\alpha=0.01$			
Student's t	0.0142	0.0158	0.0016
Welch-Aspin's t	0.0184	0.0214	0.003
Yuen	0.0315	0.0392	0.0077
Tukey's Quick	0.0107	0.012	0.0013
Haga	0.0017	0.0153	0.0136
$\alpha=0.001$			
Student's t	0.0017	0.0019	0.0001
Welch-Aspin's t	0.0044	0.0051	0.0006
Yuen	0.0107	0.0128	0.0021
Tukey's Quick	0.0013	0.0014	0.0001
Haga	0.0011	0.0102	0.0091

Table 27

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0867	0.0919	0.0052
Welch-Aspin's t	0.086	0.0913	0.0053
Yuen Test	0.0798	0.0862	0.0065
Tukey's Quick Test	0.0531	0.0586	0.0055
Haga Test	0.0033	0.042	0.0387
$\alpha=0.01$			
Student's t	0.0235	0.0242	0.0008
Welch-Aspin's t	0.0231	0.0239	0.0008
Yuen	0.0219	0.023	0.0011
Tukey's Quick	0.0144	0.0152	0.0008
Haga	0.0004	0.0099	0.0095
$\alpha=0.001$			
Student's t	0.0032	0.0033	0.0001
Welch-Aspin's t	0.0032	0.0033	0.0001
Yuen	0.0035	0.0036	0.0001
Tukey's Quick	0.0019	0.002	0.0001
Haga	0.0001	0.0021	0.002

Table 28

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1041	0.1079	0.0038
Welch-Aspin's t	0.0941	0.0974	0.0033
Yuen Test	0.0685	0.0731	0.0046
Tukey's Quick Test	0.07	0.0722	0.0022
Haga Test	0.0022	0.0722	0.07
$\alpha=0.01$			
Student's t	0.0269	0.0275	0.0006
Welch-Aspin's t	0.0214	0.0218	0.0004
Yuen	0.0144	0.0151	0.0008
Tukey's Quick	0.0209	0.0214	0.0005
Haga	0.0005	0.0214	0.0209
$\alpha=0.001$			
Student's t	0.0034	0.0034	0.0001
Welch-Aspin's t	0.0022	0.0022	0
Yuen	0.0015	0.0016	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0213	0.0208

Table 29

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2622	0.2628	0.0005
Welch-Aspin's t	0.2604	0.2609	0.0005
Yuen Test	0.2235	0.2243	0.0008
Tukey's Quick Test	0.1833	0.1843	0.0009
Haga Test	0.001	0.1894	0.1884
$\alpha=0.01$			
Student's t	0.0992	0.0992	0.0001
Welch-Aspin's t	0.0972	0.0973	0.0001
Yuen	0.0768	0.0769	0.0001
Tukey's Quick	0.0563	0.0563	0.0001
Haga	0.0001	0.0566	0.0565
$\alpha=0.001$			
Student's t	0.0202	0.0202	0
Welch-Aspin's t	0.0192	0.0192	0
Yuen	0.0139	0.0139	0
Tukey's Quick	0.014	0.014	0
Haga	0	0.014	0.014

Table 30

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

	L0.025	Total	U0.025
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$\alpha=0.05$			
Student's t	0.4093	0.4094	0.0001
Welch-Aspin's t	0.4085	0.4086	0.0001
Yuen Test	0.3569	0.3571	0.0002
Tukey's Quick Test	0.2334	0.234	0.0006
Haga Test	0.0002	0.181	0.1808
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$\alpha=0.01$			
Student's t	0.193	0.193	0
Welch-Aspin's t	0.1919	0.1919	0
Yuen	0.1547	0.1547	0
Tukey's Quick	0.0897	0.0897	0
Haga	0	0.0916	0.0915
<hr/>			
$\alpha=0.001$			
Student's t	0.0527	0.0527	0
Welch-Aspin's t	0.0519	0.0519	0
Yuen	0.0378	0.0378	0
Tukey's Quick	0.0185	0.0185	0
Haga	0	0.0284	0.0284
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Table 31

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.149	0.151	0.002
Welch-Aspin's t	0.1392	0.1418	0.0027
Yuen Test	0.1369	0.142	0.0051
Tukey's Quick Test	0.1279	0.1304	0.0025
Haga Test	0.0004	0.0512	0.0508
$\alpha=0.01$			
Student's t	0.045	0.0453	0.0003
Welch-Aspin's t	0.046	0.0465	0.0005
Yuen	0.053	0.0543	0.0013
Tukey's Quick	0.032	0.0323	0.0002
Haga	0.0001	0.0202	0.0201
$\alpha=0.001$			
Student's t	0.0069	0.0069	0
Welch-Aspin's t	0.0101	0.0102	0.0001
Yuen	0.0135	0.0137	0.0002
Tukey's Quick	0.0035	0.0035	0
Haga	0	0.0115	0.0115

Table 32

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1658	0.1674	0.0016
Welch-Aspin's t	0.1482	0.1508	0.0026
Yuen Test	0.1537	0.1596	0.0059
Tukey's Quick Test	0.1219	0.1239	0.002
Haga Test	0.0004	0.061	0.0606
$\alpha=0.01$			
Student's t	0.0532	0.0534	0.0002
Welch-Aspin's t	0.0515	0.0521	0.0006
Yuen	0.0711	0.073	0.0019
Tukey's Quick	0.0368	0.037	0.0002
Haga	0.0002	0.0454	0.0452
$\alpha=0.001$			
Student's t	0.0092	0.0092	0
Welch-Aspin's t	0.014	0.0141	0.0001
Yuen	0.0278	0.0283	0.0005
Tukey's Quick	0.0064	0.0065	0
Haga	0.0002	0.0333	0.0331

Table 33

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.32	0.3203	0.0003
Welch-Aspin's t	0.3159	0.3162	0.0003
Yuen Test	0.2728	0.2733	0.0005
Tukey's Quick Test	0.1734	0.1741	0.0006
Haga Test	0.0003	0.1419	0.1415
$\alpha=0.01$			
Student's t	0.1333	0.1333	0
Welch-Aspin's t	0.1293	0.1294	0
Yuen	0.1052	0.1052	0.0001
Tukey's Quick	0.0683	0.0683	0
Haga	0	0.0508	0.0508
$\alpha=0.001$			
Student's t	0.031	0.031	0
Welch-Aspin's t	0.0295	0.0295	0
Yuen	0.0228	0.0229	0
Tukey's Quick	0.0151	0.0151	0
Haga	0	0.0154	0.0154

Table 34

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1999	0.2009	0.001
Welch-Aspin's t	0.1833	0.1841	0.0009
Yuen Test	0.1206	0.1222	0.0017
Tukey's Quick Test	0.14	0.1406	0.0006
Haga Test	0.0006	0.1406	0.14
$\alpha=0.01$			
Student's t	0.0602	0.0604	0.0002
Welch-Aspin's t	0.0486	0.0487	0.0001
Yuen	0.0268	0.0271	0.0003
Tukey's Quick	0.0463	0.0465	0.0001
Haga	0.0001	0.0465	0.0463
$\alpha=0.001$			
Student's t	0.0087	0.0087	0
Welch-Aspin's t	0.0057	0.0057	0
Yuen	0.003	0.003	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0465	0.0464

Table 35

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5612	0.5612	0
Welch-Aspin's t	0.5589	0.5589	0
Yuen Test	0.4794	0.4794	0
Tukey's Quick Test	0.3915	0.3916	0.0001
Haga Test	0.0001	0.4024	0.4023
$\alpha=0.01$			
Student's t	0.3034	0.3034	0
Welch-Aspin's t	0.2992	0.2992	0
Yuen	0.2246	0.2247	0
Tukey's Quick	0.1765	0.1765	0
Haga	0	0.1773	0.1773
$\alpha=0.001$			
Student's t	0.0956	0.0956	0
Welch-Aspin's t	0.0918	0.0918	0
Yuen	0.0575	0.0575	0
Tukey's Quick	0.0624	0.0624	0
Haga	0	0.0624	0.0624

Table 36

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7913	0.7913	0
Welch-Aspin's t	0.7907	0.7907	0
Yuen Test	0.7209	0.7209	0
Tukey's Quick Test	0.4885	0.4886	0
Haga Test	0	0.4286	0.4286
$\alpha=0.01$			
Student's t	0.5622	0.5622	0
Welch-Aspin's t	0.5605	0.5605	0
Yuen	0.4608	0.4608	0
Tukey's Quick	0.2772	0.2772	0
Haga	0	0.283	0.283
$\alpha=0.001$			
Student's t	0.1553	0.1553	0
Welch-Aspin's t	0.1451	0.1451	0
Yuen	0.0993	0.0993	0
Tukey's Quick	0.0727	0.0727	0
Haga	0	0.0741	0.0741

Table 37

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.311	0.3113	0.0003
Welch-Aspin's t	0.277	0.2774	0.0005
Yuen Test	0.2416	0.2429	0.0012
Tukey's Quick Test	0.2553	0.2557	0.0005
Haga Test	0.0001	0.1255	0.1254
$\alpha=0.01$			
Student's t	0.1219	0.1219	0
Welch-Aspin's t	0.107	0.1071	0.0001
Yuen	0.1062	0.1065	0.0003
Tukey's Quick	0.0856	0.0857	0
Haga	0	0.0579	0.0579
$\alpha=0.001$			
Student's t	0.6446	0.6446	0
Welch-Aspin's t	0.599	0.599	0
Yuen	0.7077	0.7077	0
Tukey's Quick	0.6514	0.6514	0
Haga	0	0.6976	0.6976

Table 38

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0977	0.0978	0.0001
Welch-Aspin's t	0.0215	0.0448	0.0233
Yuen Test	0.0597	0.0716	0.012
Tukey's Quick Test	0.0846	0.0846	0
Haga Test	0.0001	0.0288	0.0288
$\alpha=0.01$			
Student's t	0.7046	0.7047	0.0001
Welch-Aspin's t	0.7245	0.7245	0
Yuen	0.8555	0.8555	0
Tukey's Quick	0.5988	0.5988	0
Haga	0	0.8965	0.8965
$\alpha=0.001$			
Student's t	0.6137	0.6137	0
Welch-Aspin's t	0.609	0.609	0
Yuen	0.6617	0.6617	0
Tukey's Quick	0.5934	0.5934	0
Haga	0	0.8931	0.8931

Table 39

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1378	0.1387	0.0009
Welch-Aspin's t	0.0994	0.1025	0.003
Yuen Test	0.1143	0.1163	0.002
Tukey's Quick Test	0.2984	0.2984	0
Haga Test	0.0001	0.2907	0.2906
$\alpha=0.01$			
Student's t	0.7046	0.7047	0.0001
Welch-Aspin's t	0.7245	0.7245	0
Yuen	0.8555	0.8555	0
Tukey's Quick	0.5988	0.5988	0
Haga	0	0.8965	0.8965
$\alpha=0.001$			
Student's t	0.6137	0.6137	0
Welch-Aspin's t	0.609	0.609	0
Yuen	0.6617	0.6617	0
Tukey's Quick	0.5934	0.5934	0
Haga	0	0.8931	0.8931

Table 40

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3863	0.3865	0.0001
Welch-Aspin's t	0.3611	0.3612	0.0001
Yuen Test	0.2208	0.2211	0.0003
Tukey's Quick Test	0.2881	0.2882	0.0001
Haga Test	0.0001	0.2882	0.2881
$\alpha=0.01$			
Student's t	0.1475	0.1475	0
Welch-Aspin's t	0.1223	0.1223	0
Yuen	0.0553	0.0553	0.0001
Tukey's Quick	0.1127	0.1127	0
Haga	0	0.1127	0.1127
$\alpha=0.001$			
Student's t	0.0262	0.0262	0
Welch-Aspin's t	0.0178	0.0178	0
Yuen	0.0066	0.0066	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1127	0.1127

Table 41

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3767	0.3767	0
Welch-Aspin's t	0.3675	0.3675	0
Yuen Test	0.2244	0.2244	0
Tukey's Quick Test	0.2544	0.2544	0
Haga Test	0	0.2544	0.2544
$\alpha=0.01$			
Student's t	0.6421	0.6421	0
Welch-Aspin's t	0.6369	0.6369	0
Yuen	0.5022	0.5022	0
Tukey's Quick	0.421	0.421	0
Haga	0	0.4234	0.4234
$\alpha=0.001$			
Student's t	0.8562	0.8562	0
Welch-Aspin's t	0.8418	0.8418	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.8008	0.8008	0
Haga	0	0.9532	0.9532

Table 42

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.986	0.986	0
Welch-Aspin's t	0.9859	0.9859	0
Yuen Test	0.9678	0.9678	0
Tukey's Quick Test	0.8004	0.8004	0
Haga Test	0	0.7756	0.7756
$\alpha=0.01$			
Student's t	0.9359	0.9359	0
Welch-Aspin's t	0.9353	0.9353	0
Yuen	0.8694	0.8694	0
Tukey's Quick	0.6417	0.6417	0
Haga	0	0.6533	0.6533
$\alpha=0.001$			
Student's t	0.919	0.919	0
Welch-Aspin's t	0.9142	0.9142	0
Yuen	1	1	0
Tukey's Quick	0.8049	0.8049	0
Haga	0	0.9817	0.9817

Table 43

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1394	0.1395	0.0001
Welch-Aspin's t	0.0477	0.0525	0.0048
Yuen Test	0.0846	0.0873	0.0026
Tukey's Quick Test	0.1592	0.1593	0.0001
Haga Test	0	0.0484	0.0484
$\alpha=0.01$			
Student's t	0.0498	0.0498	0
Welch-Aspin's t	0.0084	0.009	0.0005
Yuen	0.0309	0.0313	0.0004
Tukey's Quick	0.0267	0.0267	0
Haga	0	0.0147	0.0147
$\alpha=0.001$			
Student's t	0.0107	0.0107	0
Welch-Aspin's t	0.0014	0.0014	0
Yuen	0.0092	0.0092	0
Tukey's Quick	0.0019	0.0019	0
Haga	0	0.0077	0.0076

Table 44

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1438	0.1438	0
Welch-Aspin's t	0.0412	0.0496	0.0085
Yuen Test	0.092	0.0953	0.0033
Tukey's Quick Test	0.146	0.146	0
Haga Test	0	0.0564	0.0564
$\alpha=0.01$			
Student's t	0.0579	0.0579	0
Welch-Aspin's t	0.0079	0.0094	0.0015
Yuen	0.0377	0.0382	0.0005
Tukey's Quick	0.0292	0.0292	0
Haga	0	0.0379	0.0379
$\alpha=0.001$			
Student's t	0.0149	0.0149	0
Welch-Aspin's t	0.0014	0.0015	0.0001
Yuen	0.0141	0.0141	0
Tukey's Quick	0.0029	0.0029	0
Haga	0	0.0242	0.0242

Table 45

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2468	0.247	0.0001
Welch-Aspin's t	0.2066	0.2072	0.0006
Yuen Test	0.2356	0.2359	0.0003
Tukey's Quick Test	0.4323	0.4323	0
Haga Test	0	0.561	0.561
$\alpha=0.01$			
Student's t	0.926	0.926	0
Welch-Aspin's t	0.9243	0.9243	0
Yuen	1	1	0
Tukey's Quick	0.8148	0.8148	0
Haga	0	0.9823	0.9823
$\alpha=0.001$			
Student's t	0.6773	0.6773	0
Welch-Aspin's t	0.6545	0.6545	0
Yuen	0.79	0.79	0
Tukey's Quick	0.3675	0.3675	0
Haga	0	0.4161	0.4161

Table 46

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7901	0.7901	0
Welch-Aspin's t	0.7664	0.7664	0
Yuen Test	0.4912	0.4912	0
Tukey's Quick Test	0.6754	0.6754	0
Haga Test	0	0.6754	0.6754
$\alpha=0.01$			
Student's t	0.4771	0.4771	0
Welch-Aspin's t	0.4196	0.4196	0
Yuen	0.1593	0.1593	0
Tukey's Quick	0.3777	0.3777	0
Haga	0	0.3777	0.3777
$\alpha=0.001$			
Student's t	0.1387	0.1387	0
Welch-Aspin's t	0.0987	0.0987	0
Yuen	0.0231	0.0231	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.377	0.377

Table 47

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9499	0.9499	0
Welch-Aspin's t	0.947	0.947	0
Yuen Test	0.7942	0.7942	0
Tukey's Quick Test	0.8364	0.8364	0
Haga Test	0	0.8366	0.8366
$\alpha=0.01$			
Student's t	0.9977	0.9977	0
Welch-Aspin's t	0.9976	0.9976	0
Yuen	0.8787	0.8787	0
Tukey's Quick	0.9993	0.9993	0
Haga	0	0.9993	0.9993
$\alpha=0.001$			
Student's t	0.9417	0.9417	0
Welch-Aspin's t	0.9351	0.9351	0
Yuen	1	1	0
Tukey's Quick	0.9034	0.9034	0
Haga	0	0.9922	0.9922

Table 48

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9721	0.9721	0
Welch-Aspin's t	0.9715	0.9715	0
Yuen Test	1	1	0
Tukey's Quick Test	0.868	0.868	0
Haga Test	0	0.9932	0.9932
$\alpha=0.01$			
Student's t	0.9629	0.9629	0
Welch-Aspin's t	0.9614	0.9614	0
Yuen	1	1	0
Tukey's Quick	0.8682	0.8682	0
Haga	0	0.9931	0.9931
$\alpha=0.001$			
Student's t	0.9511	0.9511	0
Welch-Aspin's t	0.9481	0.9481	0
Yuen	1	1	0
Tukey's Quick	0.8678	0.8678	0
Haga	0	0.9932	0.9932

Table 49

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9266	0.9266	0
Welch-Aspin's t	0.9265	0.9265	0
Yuen Test	0.9958	0.9958	0
Tukey's Quick Test	0.8701	0.8701	0
Haga Test	0	0.9577	0.9577
$\alpha=0.01$			
Student's t	0.8998	0.8998	0
Welch-Aspin's t	0.8891	0.8891	0
Yuen	0.9789	0.9789	0
Tukey's Quick	0.8695	0.8695	0
Haga	0	0.8692	0.8692
$\alpha=0.001$			
Student's t	0.6727	0.6727	0
Welch-Aspin's t	0.4915	0.4915	0
Yuen	0.3874	0.3874	0
Tukey's Quick	0.5353	0.5353	0
Haga	0	0.687	0.687

Table 50

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9152	0.9164	0.0012
Welch-Aspin's t	0.9269	0.9269	0
Yuen Test	0.9957	0.9957	0
Tukey's Quick Test	0.8123	0.8123	0
Haga Test	0	0.9622	0.9622
$\alpha=0.01$			
Student's t	0.9036	0.9036	0
Welch-Aspin's t	0.769	0.769	0
Yuen	0.5988	0.5988	0
Tukey's Quick	0.7107	0.7107	0
Haga	0	0.8645	0.8645
$\alpha=0.001$			
Student's t	0.7581	0.7581	0
Welch-Aspin's t	0.4908	0.4908	0
Yuen	0.3582	0.3582	0
Tukey's Quick	0.6366	0.6366	0
Haga	0	0.8474	0.8474

Table 51

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9669	0.9669	0
Welch-Aspin's t	0.9667	0.9667	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8763	0.8763	0
Haga Test	0	0.9946	0.9946
$\alpha=0.01$			
Student's t	0.9557	0.9557	0
Welch-Aspin's t	0.9544	0.9544	0
Yuen	1	1	0
Tukey's Quick	0.8761	0.8761	0
Haga	0	0.9933	0.9933
$\alpha=0.001$			
Student's t	0.9421	0.9421	0
Welch-Aspin's t	0.9385	0.9385	0
Yuen	1	1	0
Tukey's Quick	0.8761	0.8761	0
Haga	0	0.9524	0.9524

Table 52

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0456	0.0585	0.013
Welch-Aspin's t	0.0406	0.052	0.0113
Yuen Test	0.0344	0.0471	0.0126
Tukey's Quick Test	0.0296	0.0377	0.008
Haga Test	0.008	0.0377	0.0296
$\alpha=0.01$			
Student's t	0.01	0.0124	0.0024
Welch-Aspin's t	0.0078	0.0096	0.0018
Yuen	0.0068	0.0091	0.0023
Tukey's Quick	0.0078	0.0098	0.002
Haga	0.002	0.0098	0.0078
$\alpha=0.001$			
Student's t	0.0011	0.0014	0.0002
Welch-Aspin's t	0.0007	0.0009	0.0002
Yuen	0.0007	0.001	0.0002
Tukey's Quick	0	0	0
Haga	0.002	0.0099	0.008

Table 53

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0724	0.0793	0.0068
Welch-Aspin's t	0.0716	0.0783	0.0067
Yuen Test	0.0666	0.0747	0.008
Tukey's Quick Test	0.0578	0.0657	0.008
Haga Test	0.0082	0.0677	0.0595
$\alpha=0.01$			
Student's t	0.01	0.0124	0.0024
Welch-Aspin's t	0.0078	0.0096	0.0018
Yuen	0.0068	0.0091	0.0023
Tukey's Quick	0.0078	0.0098	0.002
Haga	0.002	0.0098	0.0078
$\alpha=0.001$			
Student's t	0.0025	0.0025	0.0001
Welch-Aspin's t	0.0023	0.0024	0.0001
Yuen	0.0022	0.0024	0.0002
Tukey's Quick	0.0019	0.0019	0.0001
Haga	0.0001	0.0019	0.0019

Table 54

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0966	0.101	0.0044
Welch-Aspin's t	0.0962	0.1006	0.0044
Yuen Test	0.0884	0.0936	0.0052
Tukey's Quick Test	0.0691	0.0764	0.0073
Haga Test	0.0036	0.0487	0.0451
$\alpha=0.01$			
Student's t	0.0269	0.0275	0.0006
Welch-Aspin's t	0.0266	0.0272	0.0006
Yuen	0.0242	0.0251	0.0009
Tukey's Quick	0.0156	0.0163	0.0007
Haga	0.0007	0.0167	0.016
$\alpha=0.001$			
Student's t	0.0044	0.0044	0
Welch-Aspin's t	0.0043	0.0043	0
Yuen	0.0039	0.0039	0.0001
Tukey's Quick	0.0018	0.0018	0
Haga	0.0001	0.0033	0.0032

Table 55

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0629	0.0763	0.0135
Welch-Aspin's t	0.0543	0.0672	0.0129
Yuen Test	0.0641	0.0835	0.0195
Tukey's Quick Test	0.0543	0.0675	0.0132
Haga Test	0.0032	0.0213	0.0181
$\alpha=0.01$			
Student's t	0.0164	0.019	0.0026
Welch-Aspin's t	0.0153	0.0183	0.003
Yuen	0.0228	0.0287	0.0059
Tukey's Quick	0.0108	0.0126	0.0017
Haga	0.0009	0.0074	0.0065
$\alpha=0.001$			
Student's t	0.0022	0.0025	0.0003
Welch-Aspin's t	0.003	0.0035	0.0005
Yuen	0.0054	0.0066	0.0012
Tukey's Quick	0.0011	0.0012	0.0001
Haga	0.0005	0.0042	0.0037

Table 56

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0701	0.0837	0.0136
Welch-Aspin's t	0.0565	0.0697	0.0132
Yuen Test	0.0728	0.0953	0.0225
Tukey's Quick Test	0.053	0.0653	0.0123
Haga Test	0.0037	0.0249	0.0212
$\alpha=0.01$			
Student's t	0.0192	0.0219	0.0027
Welch-Aspin's t	0.0173	0.0209	0.0036
Yuen	0.0317	0.0404	0.0088
Tukey's Quick	0.0124	0.0144	0.002
Haga	0.0025	0.0176	0.0151
$\alpha=0.001$			
Student's t	0.0028	0.0031	0.0003
Welch-Aspin's t	0.0042	0.0049	0.0007
Yuen	0.0113	0.014	0.0027
Tukey's Quick	0.0019	0.0021	0.0002
Haga	0.0016	0.0122	0.0106

Table 57

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0881	0.0947	0.0066
Welch-Aspin's t	0.0801	0.086	0.0059
Yuen Test	0.0754	0.0825	0.0071
Tukey's Quick Test	0.0486	0.0541	0.0055
Haga Test	0.0031	0.0367	0.0336
$\alpha=0.01$			
Student's t	0.0244	0.0255	0.001
Welch-Aspin's t	0.0209	0.0218	0.0009
Yuen	0.0205	0.0218	0.0013
Tukey's Quick	0.0129	0.0138	0.0009
Haga	0.0005	0.0088	0.0083
$\alpha=0.001$			
Student's t	0.0037	0.0038	0.0001
Welch-Aspin's t	0.003	0.0031	0.0001
Yuen	0.0032	0.0033	0.0001
Tukey's Quick	0.0018	0.0018	0.0001
Haga	0.0001	0.0019	0.0018

Table 58

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0982	0.1025	0.0043
Welch-Aspin's t	0.0885	0.0922	0.0037
Yuen Test	0.0653	0.0704	0.0051
Tukey's Quick Test	0.0656	0.0683	0.0027
Haga Test	0.0027	0.0683	0.0656
$\alpha=0.01$			
Student's t	0.0251	0.0258	0.0006
Welch-Aspin's t	0.0199	0.0205	0.0005
Yuen	0.0135	0.0144	0.0009
Tukey's Quick	0.0193	0.0198	0.0005
Haga	0.0005	0.0198	0.0193
$\alpha=0.001$			
Student's t	0.0031	0.0031	0
Welch-Aspin's t	0.002	0.0021	0
Yuen	0.0014	0.0015	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0006	0.0199	0.0193

Table 59

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2414	0.2421	0.0007
Welch-Aspin's t	0.2395	0.2402	0.0006
Yuen Test	0.2064	0.2074	0.001
Tukey's Quick Test	0.1688	0.17	0.0012
Haga Test	0.0012	0.1754	0.1742
$\alpha=0.01$			
Student's t	0.0251	0.0258	0.0006
Welch-Aspin's t	0.0199	0.0205	0.0005
Yuen	0.0135	0.0144	0.0009
Tukey's Quick	0.0193	0.0198	0.0005
Haga	0.0005	0.0198	0.0193
$\alpha=0.001$			
Student's t	0.0031	0.0031	0
Welch-Aspin's t	0.002	0.0021	0
Yuen	0.0014	0.0015	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0006	0.0199	0.0193

Table 60

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3775	0.3777	0.0002
Welch-Aspin's t	0.3766	0.3768	0.0002
Yuen Test	0.3284	0.3287	0.0003
Tukey's Quick Test	0.2146	0.2153	0.0007
Haga Test	0.0003	0.1669	0.1666
$\alpha=0.01$			
Student's t	0.1706	0.1707	0
Welch-Aspin's t	0.1694	0.1694	0
Yuen	0.1373	0.1373	0
Tukey's Quick	0.0794	0.0795	0
Haga	0	0.0816	0.0816
$\alpha=0.001$			
Student's t	0.0436	0.0436	0
Welch-Aspin's t	0.0436	0.0436	0
Yuen	0.0322	0.0322	0
Tukey's Quick	0.0159	0.0159	0
Haga	0	0.0245	0.0245

Table 61

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.155	0.1582	0.0032
Welch-Aspin's t	0.1259	0.1292	0.0033
Yuen Test	0.1278	0.1341	0.0064
Tukey's Quick Test	0.126	0.1295	0.0035
Haga Test	0.0007	0.0517	0.0509
$\alpha=0.01$			
Student's t	0.0505	0.051	0.0005
Welch-Aspin's t	0.0411	0.0418	0.0007
Yuen	0.051	0.0528	0.0018
Tukey's Quick	0.0332	0.0336	0.0003
Haga	0.0002	0.0213	0.0211
$\alpha=0.001$			
Student's t	0.0086	0.0086	0.0086
Welch-Aspin's t	0.0094	0.0095	0.0001
Yuen	0.0139	0.0142	0.0003
Tukey's Quick	0.0041	0.0041	0
Haga	0.0001	0.0128	0.0127

Table 62

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0451	0.046	0.0008
Welch-Aspin's t	0.066	0.0686	0.0027
Yuen Test	0.039	0.0394	0.0004
Tukey's Quick Test	0.0005	0.0466	0.0462
<hr/>			
Haga Test			
$\alpha=0.01$			
<hr/>			
Student's t	0.1761	0.1789	0.0028
Welch-Aspin's t	0.1317	0.1349	0.0032
Yuen	0.1407	0.1481	0.0074
Tukey's Quick	0.125	0.1282	0.0032
Haga	0.0008	0.0615	0.0607
<hr/>			
$\alpha=0.001$			
<hr/>			
Student's t	0.0123	0.0124	0
Welch-Aspin's t	0.0122	0.0123	0.0001
Yuen	0.0266	0.0274	0.0008
Tukey's Quick	0.0076	0.0076	0
Haga	0.0003	0.0347	0.0344

Table 63

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0906	0.097	0.0064
Welch-Aspin's t	0.0822	0.0877	0.0055
Yuen Test	0.0594	0.0687	0.0093
Tukey's Quick Test	0.0566	0.0602	0.0036
Haga Test	0.0036	0.0602	0.0566
$\alpha=0.01$			
Student's t	0.1215	0.1216	0.0001
Welch-Aspin's t	0.1038	0.1039	0.0001
Yuen	0.0621	0.0624	0.0004
Tukey's Quick	0.1391	0.1391	0
Haga	0	0.0911	0.0911
$\alpha=0.001$			
Student's t	0.0115	0.0115	0
Welch-Aspin's t	0.0165	0.0174	0.0008
Yuen	0.0295	0.0313	0.0017
Tukey's Quick	0.0089	0.0089	0
Haga	0.0002	0.0336	0.0335

Table 64

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3082	0.3088	0.0006
Welch-Aspin's t	0.2437	0.2444	0.0007
Yuen Test	0.2187	0.2205	0.0018
Tukey's Quick Test	0.2436	0.2444	0.0008
Haga Test	0.0001	0.1197	0.1196
$\alpha=0.01$			
Student's t	0.0552	0.0554	0.0002
Welch-Aspin's t	0.0446	0.0447	0.0001
Yuen	0.0255	0.0258	0.0003
Tukey's Quick	0.0424	0.0425	0.0001
Haga	0.0001	0.0425	0.0424
$\alpha=0.001$			
Student's t	0.0079	0.0079	0
Welch-Aspin's t	0.0052	0.0052	0
Yuen	0.0028	0.0028	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0426	0.0425

Table 65

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5216	0.5217	0
Welch-Aspin's t	0.519	0.5191	0
Yuen Test	0.4437	0.4438	0.0001
Tukey's Quick Test	0.36	0.3601	0.0001
Haga Test	0.0001	0.3718	0.3717
$\alpha=0.01$			
Student's t	0.2696	0.2696	0
Welch-Aspin's t	0.2654	0.2654	0
Yuen	0.2007	0.2007	0
Tukey's Quick	0.1555	0.1555	0
Haga	0	0.1563	0.1563
$\alpha=0.001$			
Student's t	0.0813	0.0813	0
Welch-Aspin's t	0.0777	0.0777	0
Yuen	0.0491	0.0491	0
Tukey's Quick	0.053	0.053	0
Haga	0	0.053	0.053

Table 66

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7504	0.7504	0
Welch-Aspin's t	0.7496	0.7496	0
Yuen Test	0.6769	0.6769	0
Tukey's Quick Test	0.4509	0.4509	0
Haga Test	0	0.3961	0.396
$\alpha=0.01$			
Student's t	0.5079	0.5079	0
Welch-Aspin's t	0.5059	0.5059	0
Yuen	0.4136	0.4136	0
Tukey's Quick	0.2449	0.2449	0
Haga	0	0.2517	0.2517
$\alpha=0.001$			
Student's t	0.2273	0.2273	0
Welch-Aspin's t	0.2243	0.2243	0
Yuen	0.1555	0.1555	0
Tukey's Quick	0.0827	0.0827	0
Haga	0	0.1124	0.1124

Table 67

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3082	0.3088	0.0006
Welch-Aspin's t	0.2437	0.2444	0.0007
Yuen Test	0.2187	0.2205	0.0018
Tukey's Quick Test	0.2436	0.2444	0.0008
Haga Test	0.0001	0.1197	0.1196
$\alpha=0.01$			
Student's t	0.1256	0.1257	0.0001
Welch-Aspin's t	0.0919	0.092	0.0001
Yuen	0.0974	0.0979	0.0005
Tukey's Quick	0.0835	0.0836	0.0001
Haga	0	0.0572	0.0572
$\alpha=0.001$			
Student's t	0.0279	0.0279	0
Welch-Aspin's t	0.0243	0.0243	0
Yuen	0.0307	0.0308	0.0001
Tukey's Quick	0.0133	0.0133	0
Haga	0	0.0372	0.0371

Table 68

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3517	0.3522	0.0005
Welch-Aspin's t	0.2539	0.2546	0.0007
Yuen Test	0.2341	0.2361	0.002
Tukey's Quick Test	0.2448	0.2454	0.0007
Haga Test	0.0001	0.1411	0.141
$\alpha=0.01$			
Student's t	0.1591	0.1591	0.0001
Welch-Aspin's t	0.0975	0.0977	0.0002
Yuen	0.1167	0.1174	0.0007
Tukey's Quick	0.0989	0.0989	0.0001
Haga	0.0001	0.1136	0.1135
$\alpha=0.001$			
Student's t	0.0418	0.0418	0
Welch-Aspin's t	0.0292	0.0292	0
Yuen	0.052	0.0522	0.0002
Tukey's Quick	0.0254	0.0254	0
Haga	0	0.0894	0.0893

Table 69

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.63	0.63	0
Welch-Aspin's t	0.6022	0.6022	0
Yuen Test	0.5237	0.5238	0
Tukey's Quick Test	0.3476	0.3477	0.0001
Haga Test	0	0.2947	0.2946
$\alpha=0.01$			
Student's t	0.3774	0.3774	0
Welch-Aspin's t	0.3398	0.3398	0
Yuen	0.2659	0.2659	0
Tukey's Quick	0.1778	0.1778	0
Haga	0	0.1414	0.1414
$\alpha=0.001$			
Student's t	0.1424	0.1424	0
Welch-Aspin's t	0.1155	0.1155	0
Yuen	0.0806	0.0806	0
Tukey's Quick	0.0593	0.0593	0
Haga	0	0.0599	0.0599

Table 70

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3562	0.3563	0.0002
Welch-Aspin's t	0.3315	0.3316	0.0001
Yuen Test	0.2042	0.2046	0.0004
Tukey's Quick Test	0.2628	0.2629	0.0001
Haga Test	0.0001	0.2629	0.2628
$\alpha=0.01$			
Student's t	0.1317	0.1317	0
Welch-Aspin's t	0.1086	0.1086	0
Yuen	0.0506	0.0507	0.0001
Tukey's Quick	0.1005	0.1005	0
Haga	0	0.1005	0.1005
$\alpha=0.001$			
Student's t	0.023	0.023	0
Welch-Aspin's t	0.0154	0.0154	0
Yuen	0.0061	0.0062	0
Tukey's Quick	0	0	0
Haga	0	0.1011	0.1011

Table 71

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.855	0.855	0
Welch-Aspin's t	0.8534	0.8534	0
Yuen Test	0.7755	0.7755	0
Tukey's Quick Test	0.6593	0.6593	0
Haga Test	0	0.6785	0.6785
$\alpha=0.01$			
Student's t	0.6421	0.6421	0
Welch-Aspin's t	0.6369	0.6369	0
Yuen	0.5022	0.5022	0
Tukey's Quick	0.421	0.421	0
Haga	0	0.4234	0.4234
$\alpha=0.001$			
Student's t	0.3224	0.3224	0
Welch-Aspin's t	0.313	0.313	0
Yuen	0.1898	0.1898	0
Tukey's Quick	0.2144	0.2144	0
Haga	0	0.2144	0.2144

Table 72

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.986	0.986	0
Welch-Aspin's t	0.9859	0.9859	0
Yuen Test	0.9678	0.9678	0
Tukey's Quick Test	0.8004	0.8004	0
Haga Test	0	0.7756	0.7756
$\alpha=0.01$			
Student's t	0.5079	0.5079	0
Welch-Aspin's t	0.5059	0.5059	0
Yuen	0.4136	0.4136	0
Tukey's Quick	0.2449	0.2449	0
Haga	0	0.2517	0.2517
$\alpha=0.001$			
Student's t	0.2273	0.2273	0
Welch-Aspin's t	0.2243	0.2243	0
Yuen	0.1555	0.1555	0
Tukey's Quick	0.0827	0.0827	0
Haga	0	0.1124	0.1124

Table 73

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5716	0.5716	0
Welch-Aspin's t	0.4568	0.4569	0.0001
Yuen Test	0.3692	0.3694	0.0002
Tukey's Quick Test	0.4561	0.4562	0
Haga Test	0	0.2797	0.2797
$\alpha=0.01$			
Student's t	0.3125	0.3125	0
Welch-Aspin's t	0.2089	0.2089	0
Yuen	0.1851	0.1851	0
Tukey's Quick	0.2155	0.2155	0
Haga	0	0.1618	0.1618
$\alpha=0.001$			
Student's t	0.0976	0.0976	0
Welch-Aspin's t	0.066	0.066	0
Yuen	0.0697	0.0697	0
Tukey's Quick	0.0487	0.0487	0
Haga	0	0.1147	0.1147

Table 74

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3517	0.3522	0.0005
Welch-Aspin's t	0.2539	0.2546	0.0007
Yuen Test	0.2341	0.2361	0.002
Tukey's Quick Test	0.2448	0.2454	0.0007
Haga Test	0.0001	0.1411	0.141
$\alpha=0.01$			
Student's t	0.3869	0.3869	0
Welch-Aspin's t	0.2122	0.2122	0
Yuen	0.2032	0.2032	0.0001
Tukey's Quick	0.2493	0.2493	0
Haga	0	0.2751	0.2751
$\alpha=0.001$			
Student's t	0.1483	0.1483	0
Welch-Aspin's t	0.0713	0.0713	0
Yuen	0.1017	0.1017	0
Tukey's Quick	0.0902	0.0902	0
Haga	0	0.2318	0.2318

Table 75

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9274	0.9274	0
Welch-Aspin's t	0.9142	0.9142	0
Yuen Test	0.8517	0.8517	0
Tukey's Quick Test	0.6587	0.6587	0
Haga Test	0	0.6105	0.6105
$\alpha=0.01$			
Student's t	0.7855	0.7855	0
Welch-Aspin's t	0.7454	0.7454	0
Yuen	0.6168	0.6168	0
Tukey's Quick	0.4645	0.4645	0
Haga	0	0.4087	0.4087
$\alpha=0.001$			
Student's t	0.4992	0.4992	0
Welch-Aspin's t	0.4299	0.4299	0
Yuen	0.2888	0.2888	0
Tukey's Quick	0.2407	0.2407	0
Haga	0	0.2427	0.2427

Table 76

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7503	0.7503	0
Welch-Aspin's t	0.724	0.724	0
Yuen Test	0.4568	0.4568	0
Tukey's Quick Test	0.6311	0.6311	0
Haga Test	0	0.6311	0.6311
$\alpha=0.01$			
Student's t	0.4302	0.4302	0
Welch-Aspin's t	0.375	0.375	0
Yuen	0.1437	0.1437	0
Tukey's Quick	0.3383	0.3383	0
Haga	0	0.3383	0.3383
$\alpha=0.001$			
Student's t	0.1174	0.1174	0
Welch-Aspin's t	0.0829	0.0829	0
Yuen	0.0201	0.0201	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.3375	0.3375

Table 77

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9989	0.9989	0
Welch-Aspin's t	0.9989	0.9989	0
Yuen Test	0.9943	0.9943	0
Tukey's Quick Test	0.9642	0.9642	0
Haga Test	0	0.975	0.975
$\alpha=0.01$			
Student's t	0.9898	0.9898	0
Welch-Aspin's t	0.9893	0.9893	0
Yuen	0.9523	0.9523	0
Tukey's Quick	0.9083	0.9083	0
Haga	0	0.9123	0.9123
$\alpha=0.001$			
Student's t	0.92	0.92	0
Welch-Aspin's t	0.915	0.915	0
Yuen	0.7345	0.7345	0
Tukey's Quick	0.783	0.783	0
Haga	0	0.7832	0.7832

Table 78

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	1	1	0
Tukey's Quick Test	0.9821	0.9821	0
Haga Test	0	0.9886	0.9886
$\alpha=0.01$			
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.9994	0.9994	0
Tukey's Quick	0.9668	0.9668	0
Haga	0	0.9749	0.9749
$\alpha=0.001$			
Student's t	0.9988	0.9988	0
Welch-Aspin's t	0.9988	0.9988	0
Yuen	0.9882	0.9882	0
Tukey's Quick	0.9113	0.9113	0
Haga	0	0.9354	0.9354

Table 79

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9386	0.9386	0
Welch-Aspin's t	0.8448	0.8448	0
Yuen Test	0.6501	0.6501	0
Tukey's Quick Test	0.8448	0.8448	0
Haga Test	0	0.7128	0.7128
$\alpha=0.01$			
Student's t	0.7941	0.7941	0
Welch-Aspin's t	0.5495	0.5495	0
Yuen	0.3905	0.3905	0
Tukey's Quick	0.6386	0.6386	0
Haga	0	0.5619	0.5619
$\alpha=0.001$			
Student's t	0.4751	0.4751	0
Welch-Aspin's t	0.2383	0.2383	0
Yuen	0.1967	0.1967	0
Tukey's Quick	0.2856	0.2856	0
Haga	0	0.4736	0.4736

Table 80

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9645	0.9645	0
Welch-Aspin's t	0.8538	0.8538	0
Yuen Test	0.6319	0.6319	0
Tukey's Quick Test	0.8487	0.8487	0
Haga Test	0	0.7537	0.7537
$\alpha=0.01$			
Student's t	0.8721	0.8721	0
Welch-Aspin's t	0.542	0.542	0
Yuen	0.3763	0.3763	0
Tukey's Quick	0.6884	0.6884	0
Haga	0	0.7137	0.7137
$\alpha=0.001$			
Student's t	0.6276	0.6276	0
Welch-Aspin's t	0.2251	0.2251	0
Yuen	0.2122	0.2122	0
Tukey's Quick	0.4386	0.4386	0
Haga	0	0.6688	0.6688

Table 81

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen Test	0.9984	0.9984	0
Tukey's Quick Test	0.9689	0.9689	0
Haga Test	0	0.965	0.965
$\alpha=0.01$			
Student's t	0.9987	0.9987	0
Welch-Aspin's t	0.9974	0.9974	0
Yuen	0.9803	0.9803	0
Tukey's Quick	0.9272	0.9272	0
Haga	0	0.9087	0.9087
$\alpha=0.001$			
Student's t	0.9836	0.9836	0
Welch-Aspin's t	0.9667	0.9667	0
Yuen	0.8446	0.8446	0
Tukey's Quick	0.8136	0.8136	0
Haga	0	0.8158	0.8158

Table 82

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0438	0.0736	0.0297
Welch-Aspin's t	0.0323	0.0541	0.0218
Yuen Test	0.0383	0.0662	0.0279
Tukey's Quick Test	0.0314	0.0525	0.0211
Haga Test	0.0211	0.0525	0.0314
$\alpha=0.01$			
Student's t	0.0131	0.0214	0.0083
Welch-Aspin's t	0.008	0.0132	0.0052
Yuen	0.0105	0.0179	0.0074
Tukey's Quick	0.0138	0.0224	0.0087
Haga	0.0087	0.0224	0.0138
$\alpha=0.001$			
Student's t	0.0024	0.0039	0.0014
Welch-Aspin's t	0.0013	0.0021	0.0008
Yuen	0.0015	0.0025	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0088	0.0225	0.0137

Table 83

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0426	0.0616	0.019
Welch-Aspin's t	0.0377	0.0542	0.0165
Yuen Test	0.0397	0.0594	0.0197
Tukey's Quick Test	0.0046	0.0067	0.0021
Haga Test	0.0172	0.0537	0.0364
$\alpha=0.01$			
Student's t	0.011	0.0153	0.0042
Welch-Aspin's t	0.0083	0.0114	0.0031
Yuen	0.0102	0.0147	0.0045
Tukey's Quick	0.0021	0.0029	0.0008
Haga	0.0015	0.0053	0.0038
$\alpha=0.001$			
Student's t	0.0017	0.0023	0.0006
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0016	0.0022	0.0007
Tukey's Quick	0.0006	0.0007	0.0002
Haga	0.0002	0.0008	0.0006

Table 84

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0457	0.0612	0.0155
Welch-Aspin's t	0.0424	0.0566	0.0142
Yuen Test	0.0425	0.0584	0.016
Tukey's Quick Test	0.0005	0.0006	0.0002
Haga Test	0.0241	0.0832	0.059
$\alpha=0.01$			
Student's t	0.0115	0.0146	0.0031
Welch-Aspin's t	0.0095	0.0121	0.0025
Yuen	0.0103	0.0136	0.0033
Tukey's Quick	0.0004	0.0005	0.0001
Haga	0.0071	0.0272	0.0202
$\alpha=0.001$			
Student's t	0.0017	0.002	0.0004
Welch-Aspin's t	0.0011	0.0013	0.0002
Yuen	0.0015	0.0019	0.0004
Tukey's Quick	0.0001	0.0002	0
Haga	0.0007	0.0033	0.0026

Table 85

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1513	0.2588	0.1075
Welch-Aspin's t	0.0316	0.0526	0.021
Yuen Test	0.0442	0.0768	0.0326
Tukey's Quick Test	0.0504	0.0845	0.0342
Haga Test	0.0213	0.0541	0.0328
$\alpha=0.01$			
Student's t	0.0818	0.1365	0.0548
Welch-Aspin's t	0.0082	0.0135	0.0053
Yuen	0.0197	0.0343	0.0146
Tukey's Quick	0.0281	0.0461	0.018
Haga	0.015	0.0387	0.0237
$\alpha=0.001$			
Student's t	0.0336	0.0552	0.0216
Welch-Aspin's t	0.0017	0.0027	0.0011
Yuen	0.0084	0.0144	0.006
Tukey's Quick	0.0126	0.0203	0.0078
Haga	0.0125	0.0322	0.0197

Table 86

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2058	0.3547	0.149
Welch-Aspin's t	0.0306	0.051	0.0203
Yuen Test	0.0416	0.0727	0.0312
Tukey's Quick Test	0.053	0.089	0.036
Haga Test	0.0223	0.0563	0.0341
$\alpha=0.01$			
Student's t	0.1304	0.2209	0.0905
Welch-Aspin's t	0.0072	0.012	0.0048
Yuen	0.0182	0.0319	0.0137
Tukey's Quick	0.0306	0.0506	0.02
Haga	0.0201	0.0508	0.0307
$\alpha=0.001$			
Student's t	0.0689	0.1145	0.0455
Welch-Aspin's t	0.0014	0.0024	0.0009
Yuen	0.0084	0.0147	0.0063
Tukey's Quick	0.0178	0.0291	0.0113
Haga	0.0184	0.0466	0.0281

Table 87

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0895	0.1329	0.0434
Welch-Aspin's t	0.0377	0.0539	0.0162
Yuen Test	0.0401	0.0593	0.0193
Tukey's Quick Test	0.0048	0.0068	0.002
Haga Test	0.0029	0.0102	0.0073
$\alpha=0.01$			
Student's t	0.0344	0.0491	0.0147
Welch-Aspin's t	0.0082	0.0112	0.0031
Yuen	0.0103	0.0147	0.0045
Tukey's Quick	0.0018	0.0025	0.0007
Haga	0.0005	0.0017	0.0012
$\alpha=0.001$			
Student's t	0.0093	0.0127	0.0034
Welch-Aspin's t	0.001	0.0013	0.0003
Yuen	0.0016	0.0024	0.0007
Tukey's Quick	0.0004	0.0006	0.0001
Haga	0.0001	0.0006	0.0004

Table 88

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0586	0.0797	0.0211
Welch-Aspin's t	0.0434	0.0589	0.0156
Yuen Test	0.0487	0.0701	0.0214
Tukey's Quick Test	0.0421	0.0571	0.015
Haga Test	0.015	0.0571	0.0421
$\alpha=0.01$			
Student's t	0.0181	0.024	0.0059
Welch-Aspin's t	0.011	0.0146	0.0036
Yuen	0.0137	0.0193	0.0056
Tukey's Quick	0.0192	0.0254	0.0062
Haga	0.0062	0.0254	0.0192
$\alpha=0.001$			
Student's t	0.0034	0.0043	0.001
Welch-Aspin's t	0.0019	0.0024	0.0005
Yuen	0.002	0.0027	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	0.006	0.0249	0.0189

Table 89

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0726	0.082	0.0094
Welch-Aspin's t	0.0649	0.073	0.0081
Yuen Test	0.0646	0.0752	0.0106
Tukey's Quick Test	0.0079	0.009	0.0011
Haga Test	0.0092	0.0694	0.0602
$\alpha=0.01$			
Student's t	0.0211	0.023	0.0019
Welch-Aspin's t	0.0162	0.0176	0.0014
Yuen	0.0177	0.0199	0.0023
Tukey's Quick	0.004	0.0044	0.0004
Haga	0.0007	0.0082	0.0075
$\alpha=0.001$			
Student's t	0.0037	0.0039	0.0002
Welch-Aspin's t	0.0021	0.0023	0.0001
Yuen	0.0031	0.0034	0.0004
Tukey's Quick	0.0012	0.0013	0.0001
Haga	0.0001	0.0013	0.0012

Table 90

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0904	0.0964	0.006
Welch-Aspin's t	0.0846	0.0901	0.0054
Yuen Test	0.0802	0.0871	0.0069
Tukey's Quick Test	0.001	0.0011	0.0001
Haga Test	0.0112	0.1162	0.105
$\alpha=0.01$			
Student's t	0.0211	0.023	0.0019
Welch-Aspin's t	0.0162	0.0176	0.0014
Yuen	0.0177	0.0199	0.0023
Tukey's Quick	0.004	0.0044	0.0004
Haga	0.0007	0.0082	0.0075
$\alpha=0.001$			
Student's t	0.0037	0.0039	0.0002
Welch-Aspin's t	0.0021	0.0023	0.0001
Yuen	0.0031	0.0034	0.0004
Tukey's Quick	0.0012	0.0013	0.0001
Haga	0.0001	0.0013	0.0012

Table 91

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1909	0.2719	0.081
Welch-Aspin's t	0.0416	0.0567	0.0152
Yuen Test	0.0544	0.0806	0.0261
Tukey's Quick Test	0.0654	0.0907	0.0253
Haga Test	0.0155	0.0589	0.0434
$\alpha=0.01$			
Student's t	0.107	0.1469	0.0399
Welch-Aspin's t	0.0109	0.0146	0.0037
Yuen	0.0241	0.0355	0.0113
Tukey's Quick	0.0378	0.0506	0.0128
Haga	0.0107	0.0429	0.0322
$\alpha=0.001$			
Student's t	0.0465	0.0617	0.0152
Welch-Aspin's t	0.0024	0.0032	0.0008
Yuen	0.0104	0.0152	0.0048
Tukey's Quick	0.0178	0.0232	0.0054
Haga	0.0089	0.0363	0.0275

Table 92

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2549	0.369	0.1141
Welch-Aspin's t	0.0411	0.0558	0.0147
Yuen Test	0.0512	0.0756	0.0245
Tukey's Quick Test	0.0692	0.0958	0.0266
Haga Test	0.0161	0.0618	0.0457
$\alpha=0.01$			
Student's t	0.1669	0.2341	0.0672
Welch-Aspin's t	0.0099	0.0133	0.0034
Yuen	0.0227	0.0336	0.0108
Tukey's Quick	0.0413	0.0558	0.0145
Haga	0.0146	0.056	0.0414
$\alpha=0.001$			
Student's t	0.0924	0.1251	0.0327
Welch-Aspin's t	0.002	0.0027	0.0007
Yuen	0.0101	0.0151	0.005
Tukey's Quick	0.0247	0.0327	0.0079
Haga	0.0132	0.0512	0.038

Table 93

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.143	0.1664	0.0235
Welch-Aspin's t	0.0655	0.0737	0.0082
Yuen Test	0.0653	0.0761	0.0108
Tukey's Quick Test	0.0086	0.0096	0.001
Haga Test	0.0014	0.0153	0.0139
$\alpha=0.01$			
Student's t	0.0606	0.0678	0.0073
Welch-Aspin's t	0.016	0.0174	0.0014
Yuen	0.0177	0.02	0.0023
Tukey's Quick	0.0035	0.0038	0.0003
Haga	0.0002	0.0027	0.0025
$\alpha=0.001$			
Student's t	0.0181	0.0196	0.0014
Welch-Aspin's t	0.0021	0.0023	0.0001
Yuen	0.0031	0.0035	0.0004
Tukey's Quick	0.0009	0.001	0.0001
Haga	0.0001	0.001	0.0009

Table 94

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0766	0.0916	0.015
Welch-Aspin's t	0.0568	0.0677	0.011
Yuen Test	0.0594	0.0759	0.0165
Tukey's Quick Test	0.0555	0.066	0.0106
Haga Test	0.0106	0.066	0.0555
$\alpha=0.01$			
Student's t	0.0246	0.0287	0.004
Welch-Aspin's t	0.015	0.0175	0.0025
Yuen	0.0171	0.0213	0.0042
Tukey's Quick	0.0259	0.03	0.0041
Haga	0.0041	0.03	0.0259
$\alpha=0.001$			
Student's t	0.0048	0.0055	0.0007
Welch-Aspin's t	0.0026	0.003	0.0004
Yuen	0.0025	0.003	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0042	0.03	0.0259

Table 95

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1167	0.1211	0.0044
Welch-Aspin's t	0.1054	0.1091	0.0038
Yuen Test	0.0991	0.1045	0.0054
Tukey's Quick Test	0.0127	0.0133	0.0005
Haga Test	0.0045	0.0987	0.0942
$\alpha=0.01$			
Student's t	0.0295	0.0301	0.0006
Welch-Aspin's t	0.0291	0.0302	0.0011
Yuen	0.0074	0.0076	0.0002
Tukey's Quick	0.0003	0.0142	0.0139
Haga			
$\alpha=0.001$			
Student's t	0.0074	0.0075	0.0001
Welch-Aspin's t	0.0044	0.0044	0
Yuen	0.0053	0.0055	0.0002
Tukey's Quick	0.0025	0.0025	0
Haga	0	0.0025	0.0025

Table 96

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1621	0.1642	0.0021
Welch-Aspin's t	0.1531	0.155	0.0019
Yuen Test	0.1384	0.1411	0.0027
Tukey's Quick Test	0.0019	0.002	0
Haga Test	0.0046	0.1762	0.1716
$\alpha=0.01$			
Student's t	0.056	0.0563	0.0003
Welch-Aspin's t	0.0483	0.0485	0.0002
Yuen	0.0436	0.0441	0.0005
Tukey's Quick	0.0016	0.0017	0
Haga	0.001	0.0764	0.0754
$\alpha=0.001$			
Student's t	0.0116	0.0116	0
Welch-Aspin's t	0.0081	0.0081	0
Yuen	0.0078	0.0079	0
Tukey's Quick	0.0009	0.0009	0
Haga	0.0001	0.0146	0.0145

Table 97

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.237	0.2964	0.0594
Welch-Aspin's t	0.0549	0.0657	0.0108
Yuen Test	0.0661	0.0862	0.0201
Tukey's Quick Test	0.0843	0.1025	0.0182
Haga Test	0.0108	0.0682	0.0574
$\alpha=0.01$			
Student's t	0.1381	0.1662	0.0281
Welch-Aspin's t	0.0145	0.0171	0.0026
Yuen	0.0294	0.0381	0.0087
Tukey's Quick	0.0507	0.0597	0.009
Haga	0.0073	0.0511	0.0438
$\alpha=0.001$			
Student's t	0.0627	0.073	0.0103
Welch-Aspin's t	0.0031	0.0036	0.0005
Yuen	0.0127	0.0163	0.0036
Tukey's Quick	0.0246	0.0282	0.0036
Haga	0.006	0.0429	0.0369

Table 98

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3101	0.3961	0.0859
Welch-Aspin's t	0.0541	0.0644	0.0103
Yuen Test	0.062	0.0811	0.0191
Tukey's Quick Test	0.0883	0.1075	0.0192
Haga Test	0.0113	0.0709	0.0596
$\alpha=0.01$			
Student's t	0.2104	0.2591	0.0487
Welch-Aspin's t	0.0133	0.0157	0.0024
Yuen	0.0274	0.036	0.0086
Tukey's Quick	0.0549	0.065	0.0101
Haga	0.0102	0.0652	0.055
$\alpha=0.001$			
Student's t	0.1212	0.1437	0.0225
Welch-Aspin's t	0.0026	0.0031	0.0005
Yuen	0.0123	0.016	0.0038
Tukey's Quick	0.0337	0.039	0.0053
Haga	0.009	0.0594	0.0504

Table 99

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3101	0.3961	0.0859
Welch-Aspin's t	0.0541	0.0644	0.0103
Yuen Test	0.062	0.0811	0.0191
Tukey's Quick Test	0.0883	0.1075	0.0192
Haga Test	0.0113	0.0709	0.0596
$\alpha=0.01$			
Student's t	0.2104	0.2591	0.0487
Welch-Aspin's t	0.0133	0.0157	0.0024
Yuen	0.0274	0.036	0.0086
Tukey's Quick	0.0549	0.065	0.0101
Haga	0.0102	0.0652	0.055
$\alpha=0.001$			
Student's t	0.1212	0.1437	0.0225
Welch-Aspin's t	0.0026	0.0031	0.0005
Yuen	0.0123	0.016	0.0038
Tukey's Quick	0.0337	0.039	0.0053
Haga	0.009	0.0594	0.0504

Table 100

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1062	0.1153	0.0092
Welch-Aspin's t	0.0792	0.0858	0.0067
Yuen Test	0.0778	0.0886	0.0107
Tukey's Quick Test	0.0775	0.0838	0.0064
Haga Test	0.0064	0.0838	0.0775
$\alpha=0.01$			
Student's t	0.0358	0.0382	0.0023
Welch-Aspin's t	0.0216	0.0231	0.0015
Yuen	0.023	0.0258	0.0028
Tukey's Quick	0.0378	0.0402	0.0025
Haga	0.0025	0.0402	0.0378
$\alpha=0.001$			
Student's t	0.0076	0.008	0.0004
Welch-Aspin's t	0.0039	0.0041	0.0002
Yuen	0.0036	0.0039	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0023	0.0404	0.0381

Table 101

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2013	0.2028	0.0015
Welch-Aspin's t	0.1842	0.1855	0.0013
Yuen Test	0.1637	0.1659	0.0022
Tukey's Quick Test	0.0229	0.023	0.0002
Haga Test	0.0017	0.1608	0.1591
$\alpha=0.01$			
Student's t	0.0751	0.0753	0.0002
Welch-Aspin's t	0.0598	0.06	0.0002
Yuen	0.0539	0.0542	0.0003
Tukey's Quick	0.0148	0.0148	0
Haga	0.0001	0.0287	0.0287
$\alpha=0.001$			
Student's t	0.0172	0.0173	0
Welch-Aspin's t	0.0104	0.0105	0
Yuen	0.0107	0.0108	0
Tukey's Quick	0.0057	0.0057	0
Haga	0	0.0058	0.0058

Table 102

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3027	0.3031	0.0004
Welch-Aspin's t	0.2897	0.2901	0.0004
Yuen Test	0.2534	0.2541	0.0006
Tukey's Quick Test	0.0042	0.0042	0
Haga Test	0.0013	0.2967	0.2954
$\alpha=0.01$			
Student's t	0.056	0.0563	0.0003
Welch-Aspin's t	0.0483	0.0485	0.0002
Yuen	0.0436	0.0441	0.0005
Tukey's Quick	0.0016	0.0017	0
Haga	0.001	0.0764	0.0754
$\alpha=0.001$			
Student's t	0.0336	0.0336	0
Welch-Aspin's t	0.0245	0.0245	0
Yuen	0.0204	0.0204	0
Tukey's Quick	0.0026	0.0026	0
Haga	0	0.0371	0.0371

Table 103

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.306	0.3449	0.0389
Welch-Aspin's t	0.0766	0.0832	0.0066
Yuen Test	0.0834	0.0975	0.0142
Tukey's Quick Test	0.1143	0.1257	0.0114
Haga Test	0.0066	0.0872	0.0806
$\alpha=0.01$			
Student's t	0.1876	0.2051	0.0175
Welch-Aspin's t	0.0208	0.0223	0.0016
Yuen	0.0371	0.0431	0.006
Tukey's Quick	0.0712	0.0767	0.0055
Haga	0.0044	0.0665	0.0622
$\alpha=0.001$			
Student's t	0.0967	0.0967	0
Welch-Aspin's t	0.0815	0.0815	0
Yuen	0.0784	0.0784	0
Tukey's Quick	0.051	0.051	0
Haga	0	0.1224	0.1224

Table 104

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3894	0.4464	0.057
Welch-Aspin's t	0.0752	0.0816	0.0064
Yuen Test	0.0788	0.0921	0.0134
Tukey's Quick Test	0.1189	0.1312	0.0123
Haga Test	0.0069	0.0899	0.083
$\alpha=0.01$			
Student's t	0.2769	0.3079	0.0309
Welch-Aspin's t	0.0192	0.0206	0.0014
Yuen	0.0341	0.0401	0.006
Tukey's Quick	0.0771	0.0831	0.006
Haga	0.006	0.0832	0.0772
$\alpha=0.001$			
Student's t	0.1674	0.1809	0.0135
Welch-Aspin's t	0.0038	0.0041	0.0003
Yuen	0.0155	0.0181	0.0026
Tukey's Quick	0.0492	0.0523	0.0031
Haga	0.0055	0.077	0.0714

Table 105

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3894	0.4464	0.057
Welch-Aspin's t	0.0752	0.0816	0.0064
Yuen Test	0.0788	0.0921	0.0134
Tukey's Quick Test	0.1189	0.1312	0.0123
Haga Test	0.0069	0.0899	0.083
$\alpha=0.01$			
Student's t	0.2769	0.3079	0.0309
Welch-Aspin's t	0.0192	0.0206	0.0014
Yuen	0.0341	0.0401	0.006
Tukey's Quick	0.0771	0.0831	0.006
Haga	0.006	0.0832	0.0772
$\alpha=0.001$			
Student's t	0.1674	0.1809	0.0135
Welch-Aspin's t	0.0038	0.0041	0.0003
Yuen	0.0155	0.0181	0.0026
Tukey's Quick	0.0492	0.0523	0.0031
Haga	0.0055	0.077	0.0714

Table 106

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1883	0.1913	0.0031
Welch-Aspin's t	0.1429	0.1452	0.0022
Yuen Test	0.1229	0.1275	0.0046
Tukey's Quick Test	0.1403	0.1425	0.0021
Haga Test	0.0021	0.1425	0.1403
$\alpha=0.01$			
Student's t	0.0709	0.0716	0.0007
Welch-Aspin's t	0.0423	0.0427	0.0005
Yuen	0.0386	0.0396	0.0011
Tukey's Quick	0.0747	0.0755	0.0008
Haga	0.0008	0.0755	0.0747
$\alpha=0.001$			
Student's t	0.0076	0.008	0.0004
Welch-Aspin's t	0.0039	0.0041	0.0002
Yuen	0.0036	0.0039	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0023	0.0404	0.0381

Table 107

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2013	0.2028	0.0015
Welch-Aspin's t	0.1842	0.1855	0.0013
Yuen Test	0.1637	0.1659	0.0022
Tukey's Quick Test	0.0229	0.023	0.0002
Haga Test	0.0017	0.1608	0.1591
$\alpha=0.01$			
Student's t	0.2246	0.2246	0
Welch-Aspin's t	0.1883	0.1883	0
Yuen	0.1472	0.1472	0
Tukey's Quick	0.0489	0.049	0
Haga	0	0.0971	0.0971
$\alpha=0.001$			
Student's t	0.0714	0.0714	0
Welch-Aspin's t	0.0459	0.0459	0
Yuen	0.0355	0.0355	0
Tukey's Quick	0.024	0.024	0
Haga	0	0.0248	0.0248

Table 108

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6615	0.6615	0
Welch-Aspin's t	0.6467	0.6467	0
Yuen Test	0.5689	0.5689	0
Tukey's Quick Test	0.0174	0.0174	0
Haga Test	0.0001	0.6085	0.6084
$\alpha=0.01$			
Student's t	0.4137	0.4137	0
Welch-Aspin's t	0.3829	0.3829	0
Yuen	0.303	0.303	0
Tukey's Quick	0.0171	0.0171	0
Haga	0	0.4121	0.4121
$\alpha=0.001$			
Student's t	0.1715	0.1715	0
Welch-Aspin's t	0.1363	0.1363	0
Yuen	0.0949	0.0949	0
Tukey's Quick	0.0139	0.0139	0
Haga	0	0.1609	0.1609

Table 109

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4662	0.4803	0.0141
Welch-Aspin's t	0.1385	0.1408	0.0023
Yuen Test	0.1257	0.1318	0.0062
Tukey's Quick Test	0.1951	0.199	0.0039
Haga Test	0.0022	0.1483	0.1461
$\alpha=0.01$			
Student's t	0.315	0.3208	0.0058
Welch-Aspin's t	0.0398	0.0403	0.0005
Yuen	0.0568	0.0594	0.0026
Tukey's Quick	0.1318	0.1335	0.0017
Haga	0.0013	0.1191	0.1178
$\alpha=0.001$			
Student's t	0.1706	0.1723	0.0017
Welch-Aspin's t	0.0086	0.0087	0.0001
Yuen	0.0251	0.0261	0.001
Tukey's Quick	0.0752	0.0758	0.0006
Haga	0.001	0.1044	0.1034

Table 110

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.559	0.5811	0.0222
Welch-Aspin's t	0.137	0.1392	0.0022
Yuen Test	0.1186	0.1246	0.006
Tukey's Quick Test	0.201	0.2054	0.0044
Haga Test	0.0023	0.1515	0.1492
$\alpha=0.01$			
Student's t	0.433	0.4438	0.0108
Welch-Aspin's t	0.0362	0.0366	0.0005
Yuen	0.0508	0.0534	0.0026
Tukey's Quick	0.1402	0.1421	0.002
Haga	0.002	0.1423	0.1403
$\alpha=0.001$			
Student's t	0.2904	0.2947	0.0043
Welch-Aspin's t	0.0074	0.0075	0.0001
Yuen	0.0229	0.0241	0.0012
Tukey's Quick	0.0964	0.0973	0.0009
Haga	0.0017	0.1329	0.1311

Table 111

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6214	0.6218	0.0004
Welch-Aspin's t	0.4298	0.4299	0.0001
Yuen Test	0.362	0.3622	0.0002
Tukey's Quick Test	0.073	0.073	0
Haga Test	0	0.1491	0.1491
$\alpha=0.01$			
Student's t	0.4195	0.4196	0.0001
Welch-Aspin's t	0.1916	0.1916	0
Yuen	0.1479	0.148	0
Tukey's Quick	0.0479	0.0479	0
Haga	0	0.0408	0.0408
$\alpha=0.001$			
Student's t	0.212	0.212	0
Welch-Aspin's t	0.0458	0.0458	0
Yuen	0.0354	0.0354	0
Tukey's Quick	0.0186	0.0186	0
Haga	0	0.0186	0.0186

Table 112

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0427	0.0816	0.0389
Welch-Aspin's t	0.0261	0.0497	0.0236
Yuen Test	0.0329	0.0634	0.0305
Tukey's Quick Test	0.0324	0.0619	0.0294
Haga Test	0.0294	0.0619	0.0324
$\alpha=0.01$			
Student's t	0.0147	0.0278	0.0131
Welch-Aspin's t	0.0054	0.0101	0.0047
Yuen	0.0096	0.0188	0.0091
Tukey's Quick	0.0248	0.0469	0.0221
Haga	0.0221	0.0469	0.0248
$\alpha=0.001$			
Student's t	0.0147	0.0278	0.0131
Welch-Aspin's t	0.0054	0.0101	0.0047
Yuen	0.0096	0.0188	0.0091
Tukey's Quick	0.0248	0.0469	0.0221
Haga	0.0221	0.0469	0.0248

Table 113

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0327	0.0598	0.0271
Welch-Aspin's t	0.0276	0.0503	0.0227
Yuen Test	0.0303	0.0558	0.0255
Tukey's Quick Test	0.0001	0.0002	0.0001
Haga Test	0.0375	0.0814	0.0439
$\alpha=0.01$			
Student's t	0.0085	0.0152	0.0067
Welch-Aspin's t	0.0056	0.01	0.0044
Yuen	0.0071	0.0127	0.0056
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0036	0.0083	0.0047
$\alpha=0.001$			
Student's t	0.0013	0.0025	0.0011
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0009	0.0017	0.0008
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0002	0.0005	0.0003

Table 114

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0318	0.0559	0.0241
Welch-Aspin's t	0.0286	0.0501	0.0216
Yuen Test	0.0301	0.0539	0.0238
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0521	0.1165	0.0643
$\alpha=0.01$			
Student's t	0.0075	0.0129	0.0055
Welch-Aspin's t	0.0058	0.0099	0.0042
Yuen	0.0068	0.0117	0.0049
Tukey's Quick	n/a	n/a	n/a
Haga	0.0201	0.0454	0.0253
$\alpha=0.001$			
Student's t	0.0011	0.0017	0.0007
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0008	0.0014	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	0.0033	0.0078	0.0045

Table 115

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1625	0.3122	0.1497
Welch-Aspin's t	0.0261	0.0499	0.0238
Yuen Test	0.0324	0.0625	0.0302
Tukey's Quick Test	0.0366	0.0698	0.0332
Haga Test	0.0295	0.0619	0.0325
$\alpha=0.01$			
Student's t	0.098	0.1875	0.0895
Welch-Aspin's t	0.0052	0.0099	0.0047
Yuen	0.0082	0.0159	0.0077
Tukey's Quick	0.0312	0.0595	0.0283
Haga	0.0271	0.057	0.0299
$\alpha=0.001$			
Student's t	0.05	0.0955	0.0455
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.003	0.0058	0.0028
Tukey's Quick	0.0256	0.0487	0.0231
Haga	0.026	0.0545	0.0286

Table 116

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2266	0.4365	0.21
Welch-Aspin's t	0.0263	0.0501	0.0238
Yuen Test	0.0325	0.0626	0.0302
Tukey's Quick Test	0.0369	0.0703	0.0334
Haga Test	0.0295	0.0621	0.0326
$\alpha=0.01$			
Student's t	0.1607	0.3088	0.1481
Welch-Aspin's t	0.0053	0.01	0.0047
Yuen	0.0078	0.015	0.0072
Tukey's Quick	0.0318	0.0607	0.0288
Haga	0.0288	0.0607	0.0318
$\alpha=0.001$			
Student's t	0.1022	0.1955	0.0933
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0023	0.0047	0.0023
Tukey's Quick	0.028	0.0532	0.0252
Haga	0.0282	0.0594	0.0312

Table 117

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1625	0.3122	0.1497
Welch-Aspin's t	0.0261	0.0499	0.0238
Yuen Test	0.0324	0.0625	0.0302
Tukey's Quick Test	0.0366	0.0698	0.0332
Haga Test	0.0295	0.0619	0.0325
$\alpha=0.01$			
Student's t	0.0308	0.0559	0.025
Welch-Aspin's t	0.0055	0.0099	0.0043
Yuen	0.0071	0.0128	0.0057
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0005	0.0011	0.0006
$\alpha=0.001$			
Student's t	0.0089	0.0157	0.0068
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0009	0.0016	0.0007
Tukey's Quick	0.0001	0.0001	0.0001
Haga	0.0001	0.0001	0.0001

Table 118

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0464	0.0823	0.0359
Welch-Aspin's t	0.0283	0.0501	0.0218
Yuen Test	0.0352	0.0641	0.0289
Tukey's Quick Test	0.035	0.062	0.027
Haga Test	0.027	0.062	0.035
$\alpha=0.01$			
Student's t	0.016	0.0281	0.0121
Welch-Aspin's t	0.0058	0.0101	0.0043
Yuen	0.0104	0.0188	0.0085
Tukey's Quick	0.0268	0.0473	0.0205
Haga	0.0205	0.0473	0.0268
$\alpha=0.001$			
Student's t	0.004	0.0069	0.0029
Welch-Aspin's t	0.0008	0.0014	0.0006
Yuen	0.0027	0.0052	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	0.0206	0.0475	0.0269

Table 119

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0385	0.0614	0.0229
Welch-Aspin's t	0.0324	0.0515	0.0191
Yuen Test	0.0349	0.0569	0.022
Tukey's Quick Test	0.0002	0.0002	0.0001
Haga Test	0.0324	0.0824	0.05
$\alpha=0.01$			
Student's t	0.0102	0.0159	0.0056
Welch-Aspin's t	0.0068	0.0104	0.0036
Yuen	0.0083	0.0132	0.0049
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.003	0.0086	0.0056
$\alpha=0.001$			
Student's t	0.0017	0.0026	0.0009
Welch-Aspin's t	0.0007	0.0011	0.0003
Yuen	0.0011	0.0017	0.0006
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0002	0.0005	0.0003

Table 120

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.039	0.0587	0.0197
Welch-Aspin's t	0.0352	0.0529	0.0177
Yuen Test	0.0362	0.0555	0.0192
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0443	0.1184	0.0741
$\alpha=0.01$			
Student's t	0.0095	0.0138	0.0043
Welch-Aspin's t	0.0074	0.0107	0.0033
Yuen	0.0082	0.0123	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	0.0165	0.0469	0.0303
$\alpha=0.001$			
Student's t	0.0013	0.0019	0.0006
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.001	0.0015	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0026	0.0082	0.0056

Table 121

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1717	0.3129	0.1412
Welch-Aspin's t	0.0281	0.05	0.0219
Yuen Test	0.0339	0.0622	0.0282
Tukey's Quick Test	0.0392	0.07	0.0308
Haga Test	0.0272	0.0621	0.0349
$\alpha=0.01$			
Student's t	0.1053	0.1893	0.084
Welch-Aspin's t	0.0059	0.0102	0.0043
Yuen	0.0089	0.0162	0.0074
Tukey's Quick	0.034	0.0603	0.0262
Haga	0.0251	0.0577	0.0326
$\alpha=0.001$			
Student's t	0.0542	0.0961	0.0419
Welch-Aspin's t	0.0006	0.001	0.0005
Yuen	0.0031	0.0059	0.0028
Tukey's Quick	0.0278	0.049	0.0212
Haga	0.0237	0.0547	0.031

Table 122

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2394	0.4388	0.1994
Welch-Aspin's t	0.0286	0.0505	0.0219
Yuen Test	0.0343	0.0626	0.0283
Tukey's Quick Test	0.0398	0.071	0.0312
Haga Test	0.0275	0.0627	0.0352
$\alpha=0.01$			
Student's t	0.17	0.3092	0.1392
Welch-Aspin's t	0.0059	0.0102	0.0044
Yuen	0.0082	0.0151	0.0069
Tukey's Quick	0.0345	0.061	0.0265
Haga	0.0265	0.061	0.0345
$\alpha=0.001$			
Student's t	0.1085	0.1952	0.0867
Welch-Aspin's t	0.0006	0.001	0.0005
Yuen	0.0026	0.0048	0.0022
Tukey's Quick	0.0298	0.053	0.0233
Haga	0.026	0.0592	0.0332

Table 123

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0877	0.1441	0.0564
Welch-Aspin's t	0.0323	0.0514	0.019
Yuen Test	0.035	0.057	0.022
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0076	0.0204	0.0128
$\alpha=0.01$			
Student's t	0.0357	0.0568	0.0212
Welch-Aspin's t	0.0069	0.0104	0.0036
Yuen	0.0083	0.0132	0.0049
Tukey's Quick	0.0002	0.0003	0.0001
Haga	0.0004	0.0011	0.0007
$\alpha=0.001$			
Student's t	0.0104	0.0162	0.0057
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0011	0.0017	0.0006
Tukey's Quick	0.0001	0.0002	0
Haga	0	0.0002	0.0001

Table 124

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0498	0.083	0.0332
Welch-Aspin's t	0.0306	0.0507	0.02
Yuen Test	0.0375	0.0646	0.0271
Tukey's Quick Test	0.0378	0.0628	0.025
Haga Test	0.025	0.0628	0.0378
$\alpha=0.01$			
Student's t	0.0174	0.0284	0.011
Welch-Aspin's t	0.0064	0.0104	0.004
Yuen	0.0109	0.0189	0.008
Tukey's Quick	0.029	0.0478	0.0188
Haga	0.0188	0.0478	0.029
$\alpha=0.001$			
Student's t	0.0043	0.007	0.0028
Welch-Aspin's t	0.0009	0.0015	0.0006
Yuen	0.003	0.0052	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	0.019	0.0474	0.0283

Table 125

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0447	0.064	0.0193
Welch-Aspin's t	0.0377	0.0537	0.016
Yuen Test	0.0398	0.0589	0.0191
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0284	0.0851	0.0567
$\alpha=0.01$			
Student's t	0.0121	0.0167	0.0046
Welch-Aspin's t	0.0081	0.0111	0.003
Yuen	0.0095	0.0137	0.0042
Tukey's Quick	0.0002	0.0003	0.0001
Haga	0.0026	0.0092	0.0066
$\alpha=0.001$			
Student's t	0.0021	0.0028	0.0007
Welch-Aspin's t	0.0009	0.0011	0.0003
Yuen	0.0013	0.0018	0.0005
Tukey's Quick	0.0002	0.0002	0.0001
Haga	0.0001	0.0005	0.0004

Table 126

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.047	0.0626	0.0156
Welch-Aspin's t	0.0425	0.0564	0.0138
Yuen Test	0.0428	0.0587	0.0159
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0376	0.1232	0.0856
$\alpha=0.01$			
Student's t	0.0122	0.0155	0.0032
Welch-Aspin's t	0.0096	0.012	0.0024
Yuen	0.0102	0.0134	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	0.0136	0.0495	0.0359
$\alpha=0.001$			
Student's t	0.0019	0.0023	0.0004
Welch-Aspin's t	0.0011	0.0013	0.0002
Yuen	0.0014	0.0017	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0021	0.0092	0.0071

Table 127

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1821	0.314	0.1319
Welch-Aspin's t	0.0303	0.0502	0.0198
Yuen Test	0.0361	0.0626	0.0265
Tukey's Quick Test	0.0423	0.0706	0.0283
Haga Test	0.0249	0.0625	0.0375
$\alpha=0.01$			
Student's t	0.1116	0.1894	0.0779
Welch-Aspin's t	0.0062	0.0101	0.0039
Yuen	0.0093	0.016	0.0068
Tukey's Quick	0.0359	0.06	0.024
Haga	0.023	0.0575	0.0345
$\alpha=0.001$			
Student's t	0.0586	0.0976	0.039
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0034	0.0059	0.0025
Tukey's Quick	0.0303	0.05	0.0196
Haga	0.022	0.0558	0.0338

Table 128

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2522	0.4409	0.1887
Welch-Aspin's t	0.0306	0.0507	0.0201
Yuen Test	0.0362	0.0629	0.0267
Tukey's Quick Test	0.0427	0.0714	0.0287
Haga Test	0.0252	0.063	0.0378
$\alpha=0.01$			
Student's t	0.1806	0.3113	0.1308
Welch-Aspin's t	0.0062	0.0101	0.004
Yuen	0.0087	0.0152	0.0064
Tukey's Quick	0.0366	0.0614	0.0248
Haga	0.0248	0.0614	0.0366
$\alpha=0.001$			
Student's t	0.1158	0.1965	0.0807
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0026	0.0047	0.0021
Tukey's Quick	0.0321	0.0535	0.0214
Haga	0.0239	0.0597	0.0358

Table 129

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0998	0.1484	0.0486
Welch-Aspin's t	0.0378	0.054	0.0162
Yuen Test	0.0396	0.0587	0.0192
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0064	0.0214	0.015
$\alpha=0.01$			
Student's t	0.0414	0.0596	0.0182
Welch-Aspin's t	0.008	0.0111	0.003
Yuen	0.0094	0.0135	0.0042
Tukey's Quick	0.0002	0.0003	0.0001
Haga	0.0003	0.0012	0.0009
$\alpha=0.001$			
Student's t	0.0126	0.0174	0.0048
Welch-Aspin's t	0.0008	0.0011	0.0003
Yuen	0.0013	0.0018	0.0005
Tukey's Quick	0.0001	0.0002	0
Haga	0	0.0002	0.0001

Table 130

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0549	0.0849	0.0301
Welch-Aspin's t	0.0336	0.0518	0.0182
Yuen Test	0.04	0.0653	0.0253
Tukey's Quick Test	0.0413	0.0641	0.0229
Haga Test	0.0229	0.0641	0.0413
$\alpha=0.01$			
Student's t	0.0189	0.0289	0.01
Welch-Aspin's t	0.0069	0.0105	0.0036
Yuen	0.0118	0.019	0.0073
Tukey's Quick	0.0315	0.0487	0.0172
Haga	0.0172	0.0487	0.0315
$\alpha=0.001$			
Student's t	0.0049	0.0073	0.0024
Welch-Aspin's t	0.001	0.0015	0.0005
Yuen	0.0032	0.0053	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0169	0.0487	0.0318

Table 131

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0537	0.0691	0.0154
Welch-Aspin's t	0.0456	0.0583	0.0127
Yuen Test	0.0466	0.0623	0.0156
Tukey's Quick Test	0.0002	0.0003	0
Haga Test	0.0235	0.0893	0.0658
$\alpha=0.01$			
Student's t	0.0152	0.0187	0.0035
Welch-Aspin's t	0.0102	0.0125	0.0022
Yuen	0.0115	0.0149	0.0034
Tukey's Quick	0.0003	0.0003	0.0001
Haga	0.002	0.0101	0.0081
$\alpha=0.001$			
Student's t	0.0028	0.0033	0.0005
Welch-Aspin's t	0.0011	0.0013	0.0002
Yuen	0.0016	0.0019	0.0004
Tukey's Quick	0.0002	0.0002	0
Haga	0.0001	0.0006	0.0005

Table 132

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0603	0.0718	0.0115
Welch-Aspin's t	0.0549	0.0651	0.0102
Yuen Test	0.0537	0.0656	0.0119
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.03	0.1333	0.1034
$\alpha=0.01$			
Student's t	0.0163	0.0186	0.0023
Welch-Aspin's t	0.0128	0.0145	0.0017
Yuen	0.0133	0.0156	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	0.0104	0.0549	0.0446
$\alpha=0.001$			
Student's t	0.0027	0.0029	0.0002
Welch-Aspin's t	0.0016	0.0017	0.0002
Yuen	0.0018	0.0021	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0014	0.0107	0.0092

Table 133

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1964	0.3173	0.1209
Welch-Aspin's t	0.0338	0.052	0.0182
Yuen Test	0.0393	0.064	0.0247
Tukey's Quick Test	0.0464	0.0723	0.0259
Haga Test	0.0228	0.064	0.0413
$\alpha=0.01$			
Student's t	0.1214	0.1922	0.0708
Welch-Aspin's t	0.0069	0.0104	0.0035
Yuen	0.01	0.0164	0.0064
Tukey's Quick	0.0401	0.0618	0.0217
Haga	0.0207	0.0592	0.0385
$\alpha=0.001$			
Student's t	0.0638	0.0989	0.0351
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0036	0.006	0.0024
Tukey's Quick	0.0329	0.0506	0.0177
Haga	0.0199	0.0566	0.0367

Table 134

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2683	0.4427	0.1744
Welch-Aspin's t	0.0338	0.0518	0.018
Yuen Test	0.0392	0.0636	0.0244
Tukey's Quick Test	0.0466	0.0727	0.0261
Haga Test	0.0228	0.0644	0.0416
$\alpha=0.01$			
Student's t	0.1941	0.3132	0.119
Welch-Aspin's t	0.0067	0.0102	0.0035
Yuen	0.0093	0.0151	0.0058
Tukey's Quick	0.0404	0.0625	0.0221
Haga	0.0221	0.0625	0.0404
$\alpha=0.001$			
Student's t	0.1256	0.1994	0.0737
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0028	0.0046	0.0018
Tukey's Quick	0.0358	0.0551	0.0193
Haga	0.0217	0.0614	0.0397

Table 135

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1167	0.1568	0.04
Welch-Aspin's t	0.0457	0.0587	0.013
Yuen Test	0.047	0.0627	0.0158
Tukey's Quick Test	0.0003	0.0003	0.0001
Haga Test	0.0051	0.0231	0.018
$\alpha=0.01$			
Student's t	0.0503	0.0646	0.0143
Welch-Aspin's t	0.0102	0.0125	0.0023
Yuen	0.0115	0.0147	0.0032
Tukey's Quick	0.0003	0.0004	0.0001
Haga	0.0003	0.0014	0.0012
$\alpha=0.001$			
Student's t	0.0158	0.0195	0.0037
Welch-Aspin's t	0.0011	0.0013	0.0002
Yuen	0.0016	0.002	0.0004
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002

Table 136

Normal Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0657	0.0898	0.024
Welch-Aspin's t	0.0407	0.055	0.0143
Yuen Test	0.0459	0.067	0.0211
Tukey's Quick Test	0.0495	0.0677	0.0181
Haga Test	0.0181	0.0677	0.0495
$\alpha=0.01$			
Student's t	0.0235	0.0314	0.0078
Welch-Aspin's t	0.0088	0.0115	0.0027
Yuen	0.0136	0.0199	0.0063
Tukey's Quick	0.0388	0.0521	0.0133
Haga	0.0133	0.0521	0.0388
$\alpha=0.001$			
Student's t	0.0061	0.008	0.0019
Welch-Aspin's t	0.0012	0.0016	0.0004
Yuen	0.0039	0.0055	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	0.0135	0.0526	0.039

Table 137

Normal Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0761	0.0856	0.0095
Welch-Aspin's t	0.0653	0.0731	0.0078
Yuen Test	0.0642	0.0748	0.0105
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0.0163	0.1047	0.0885
$\alpha=0.01$			
Student's t	0.0152	0.0187	0.0035
Welch-Aspin's t	0.0102	0.0125	0.0022
Yuen	0.0115	0.0149	0.0034
Tukey's Quick	0.0003	0.0003	0.0001
Haga	0.002	0.0101	0.0081
$\alpha=0.001$			
Student's t	0.0046	0.0049	0.0003
Welch-Aspin's t	0.002	0.0021	0.0001
Yuen	0.0025	0.0027	0.0003
Tukey's Quick	0.0004	0.0004	0
Haga	0.0001	0.001	0.0009

Table 138

Normal Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0941	0.1001	0.0061
Welch-Aspin's t	0.0863	0.0916	0.0053
Yuen Test	0.0814	0.0881	0.0068
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0183	0.1627	0.1444
$\alpha=0.01$			
Student's t	0.0286	0.0297	0.0011
Welch-Aspin's t	0.0229	0.0238	0.0008
Yuen	0.0222	0.0235	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	0.006	0.0739	0.0679
$\alpha=0.001$			
Student's t	0.0053	0.0054	0.0001
Welch-Aspin's t	0.0032	0.0032	0.0001
Yuen	0.0033	0.0034	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0165	0.0157

Table 139

Normal Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2269	0.3278	0.1009
Welch-Aspin's t	0.0405	0.0548	0.0144
Yuen Test	0.0448	0.0655	0.0207
Tukey's Quick Test	0.0552	0.076	0.0208
Haga Test	0.0181	0.0675	0.0494
$\alpha=0.01$			
Student's t	0.1433	0.2012	0.0579
Welch-Aspin's t	0.0085	0.0113	0.0027
Yuen	0.0115	0.0168	0.0053
Tukey's Quick	0.0481	0.0654	0.0173
Haga	0.0165	0.0628	0.0463
$\alpha=0.001$			
Student's t	0.0765	0.1048	0.0283
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.004	0.0059	0.002
Tukey's Quick	0.0402	0.0543	0.014
Haga	0.0159	0.0603	0.0444

Table 140

Normal Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3058	0.4531	0.1474
Welch-Aspin's t	0.0411	0.0556	0.0145
Yuen Test	0.0453	0.066	0.0207
Tukey's Quick Test	0.0563	0.0775	0.0212
Haga Test	0.0185	0.0687	0.0502
$\alpha=0.01$			
Student's t	0.2251	0.3245	0.0994
Welch-Aspin's t	0.0087	0.0114	0.0028
Yuen	0.0105	0.0154	0.0049
Tukey's Quick	0.049	0.0667	0.0177
Haga	0.0177	0.0667	0.049
$\alpha=0.001$			
Student's t	0.1477	0.208	0.0603
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0031	0.0047	0.0017
Tukey's Quick	0.0431	0.0584	0.0152
Haga	0.0172	0.0649	0.0477

Table 141

Normal Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.157	0.1836	0.0266
Welch-Aspin's t	0.0653	0.0731	0.0078
Yuen Test	0.0638	0.0742	0.0104
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0.0032	0.0291	0.0259
$\alpha=0.01$			
Student's t	0.0722	0.081	0.0089
Welch-Aspin's t	0.0159	0.0172	0.0013
Yuen	0.0168	0.019	0.0022
Tukey's Quick	0.0004	0.0005	0
Haga	0.0001	0.002	0.0019
$\alpha=0.001$			
Student's t	0.0239	0.0261	0.0022
Welch-Aspin's t	0.002	0.0021	0.0001
Yuen	0.0024	0.0026	0.0002
Tukey's Quick	0.0003	0.0004	0
Haga	0	0.0004	0.0003

Table 142

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0271	0.0547	0.0276
Welch-Aspin's t	0.0237	0.0479	0.0242
Yuen Test	0.0254	0.0513	0.0258
Tukey's Quick Test	0.0158	0.032	0.0162
Haga Test	0.0162	0.032	0.0158
$\alpha=0.01$			
Student's t	0.007	0.0139	0.0069
Welch-Aspin's t	0.0054	0.0107	0.0053
Yuen	0.006	0.0119	0.0059
Tukey's Quick	0.004	0.008	0.004
Haga	0.004	0.008	0.004
$\alpha=0.001$			
Student's t	0.0011	0.0023	0.0012
Welch-Aspin's t	0.0007	0.0015	0.0008
Yuen	0.0007	0.0014	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	0.004	0.008	0.004

Table 143

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0253	0.0506	0.0254
Welch-Aspin's t	0.025	0.0502	0.0251
Yuen Test	0.027	0.0541	0.0271
Tukey's Quick Test	0.0235	0.047	0.0235
Haga Test	0.024	0.0481	0.0241
$\alpha=0.01$			
Student's t	0.0054	0.011	0.0055
Welch-Aspin's t	0.0053	0.0107	0.0054
Yuen	0.0065	0.0129	0.0064
Tukey's Quick	0.0033	0.0067	0.0033
Haga	0.0033	0.0067	0.0034
$\alpha=0.001$			
Student's t	0.0007	0.0014	0.0007
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.001	0.0019	0.0009
Tukey's Quick	0.0004	0.0009	0.0005
Haga	0.0005	0.0009	0.0004

Table 144

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0252	0.0504	0.0252
Welch-Aspin's t	0.0251	0.0503	0.0251
Yuen Test	0.0264	0.0529	0.0265
Tukey's Quick Test	0.0251	0.05	0.0248
Haga Test	0.0142	0.0286	0.0144
$\alpha=0.01$			
Student's t	0.0052	0.0105	0.0052
Welch-Aspin's t	0.0052	0.0104	0.0052
Yuen	0.006	0.012	0.0059
Tukey's Quick	0.0038	0.0076	0.0038
Haga	0.0039	0.0077	0.0039
$\alpha=0.001$			
Student's t	0.0006	0.0012	0.0006
Welch-Aspin's t	0.0006	0.0012	0.0006
Yuen	0.0008	0.0016	0.0007
Tukey's Quick	0.0003	0.0005	0.0003
Haga	0.0005	0.0011	0.0005

Table 145

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.0\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0251	0.0505	0.0254
Welch-Aspin's t	0.0333	0.0669	0.0336
Yuen Test	0.0442	0.0885	0.0443
Tukey's Quick Test	0.0249	0.0498	0.0249
Haga Test	0.0067	0.0134	0.0067
$\alpha=0.01$			
Student's t	0.0053	0.0104	0.0051
Welch-Aspin's t	0.012	0.0241	0.0121
Yuen	0.0155	0.031	0.0155
Tukey's Quick	0.0038	0.0075	0.0037
Haga	0.002	0.0041	0.0021
$\alpha=0.001$			
Student's t	0.0006	0.0011	0.0006
Welch-Aspin's t	0.0031	0.0062	0.0031
Yuen	0.0034	0.0067	0.0033
Tukey's Quick	0.0003	0.0005	0.0002
Haga	0.0011	0.0021	0.001

Table 146

Uniform Distribution, $n_1=5, n_2=25, Effect Size=0.0\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0247	0.0495	0.0247
Welch-Aspin's t	0.0357	0.0712	0.0355
Yuen Test	0.053	0.1061	0.0531
Tukey's Quick Test	0.0225	0.0449	0.0224
Haga Test	0.0076	0.0152	0.0076
$\alpha=0.01$			
Student's t	0.0045	0.009	0.0045
Welch-Aspin's t	0.014	0.028	0.014
Yuen	0.0241	0.0482	0.0241
Tukey's Quick	0.0039	0.0078	0.004
Haga	0.0051	0.0101	0.005
$\alpha=0.001$			
Student's t	0.0003	0.0007	0.0004
Welch-Aspin's t	0.0049	0.0098	0.0049
Yuen	0.0083	0.0165	0.0082
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0033	0.0067	0.0033

Table 147

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0253	0.0507	0.0254
Welch-Aspin's t	0.0256	0.0513	0.0257
Yuen Test	0.0281	0.0562	0.0282
Tukey's Quick Test	0.0192	0.0384	0.0192
Haga Test	0.0126	0.0254	0.0128
$\alpha=0.01$			
Student's t	0.0051	0.0104	0.0053
Welch-Aspin's t	0.0055	0.011	0.0055
Yuen	0.0069	0.0138	0.0069
Tukey's Quick	0.0038	0.0076	0.0038
Haga	0.0023	0.0045	0.0023
$\alpha=0.001$			
Student's t	0.0007	0.0013	0.0006
Welch-Aspin's t	0.0008	0.0015	0.0007
Yuen	0.0011	0.0023	0.0011
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0004	0.0008	0.0004

Table 148

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.046	0.0611	0.0151
Welch-Aspin's t	0.0409	0.0539	0.013
Yuen Test	0.037	0.0538	0.0168
Tukey's Quick Test	0.0278	0.0365	0.0087
Haga Test	0.0087	0.0365	0.0278
$\alpha=0.01$			
Student's t	0.0123	0.016	0.0038
Welch-Aspin's t	0.0094	0.0123	0.0029
Yuen	0.0087	0.0125	0.0039
Tukey's Quick	0.007	0.0092	0.0021
Haga	0.0021	0.0092	0.007
$\alpha=0.001$			
Student's t	0.0021	0.0028	0.0007
Welch-Aspin's t	0.0014	0.0018	0.0004
Yuen	0.0011	0.0016	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0022	0.0093	0.0071

Table 149

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.074	0.0811	0.0071
Welch-Aspin's t	0.0737	0.0806	0.007
Yuen Test	0.0599	0.0708	0.0109
Tukey's Quick Test	0.1022	0.1062	0.004
Haga Test	0.0042	0.107	0.1028
$\alpha=0.01$			
Student's t	0.02	0.0213	0.0012
Welch-Aspin's t	0.0197	0.0209	0.0012
Yuen	0.0163	0.0186	0.0023
Tukey's Quick	0.0167	0.0172	0.0005
Haga	0.0005	0.0172	0.0167
$\alpha=0.001$			
Student's t	0.0028	0.0029	0.0001
Welch-Aspin's t	0.0027	0.0028	0.0001
Yuen	0.0025	0.0028	0.0003
Tukey's Quick	0.0022	0.0022	0.0001
Haga	0.0001	0.0022	0.0022

Table 150

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1001	0.1045	0.0043
Welch-Aspin's t	0.1	0.1043	0.0043
Yuen Test	0.0755	0.0831	0.0076
Tukey's Quick Test	0.2203	0.2215	0.0013
Haga Test	0.0008	0.1379	0.1371
$\alpha=0.01$			
Student's t	0.0288	0.0295	0.0007
Welch-Aspin's t	0.0287	0.0293	0.0007
Yuen	0.021	0.0224	0.0014
Tukey's Quick	0.0462	0.0464	0.0002
Haga	0.0002	0.0465	0.0463
$\alpha=0.001$			
Student's t	0.0046	0.0046	0.0001
Welch-Aspin's t	0.0045	0.0046	0.0001
Yuen	0.0033	0.0035	0.0002
Tukey's Quick	0.004	0.004	0
Haga	0	0.0077	0.0076

Table 151

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0544	0.0648	0.0104
Welch-Aspin's t	0.0592	0.0765	0.0173
Yuen Test	0.0689	0.0952	0.0263
Tukey's Quick Test	0.0618	0.0694	0.0076
Haga Test	0.0022	0.0194	0.0172
$\alpha=0.01$			
Student's t	0.0129	0.0148	0.0019
Welch-Aspin's t	0.0218	0.0276	0.0058
Yuen	0.0263	0.035	0.0087
Tukey's Quick	0.01	0.0111	0.0011
Haga	0.0006	0.0062	0.0055
$\alpha=0.001$			
Student's t	0.0016	0.0018	0.0002
Welch-Aspin's t	0.0063	0.0076	0.0013
Yuen	0.0063	0.008	0.0018
Tukey's Quick	0.0008	0.0009	0.0001
Haga	0.0003	0.0034	0.0031

Table 152

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.058	0.067	0.009
Welch-Aspin's t	0.0618	0.0808	0.019
Yuen Test	0.0807	0.1132	0.0325
Tukey's Quick Test	0.0709	0.0747	0.0038
Haga Test	0.0021	0.0229	0.0208
$\alpha=0.01$			
Student's t	0.0135	0.0147	0.0013
Welch-Aspin's t	0.0247	0.032	0.0073
Yuen	0.0383	0.0521	0.0137
Tukey's Quick	0.0133	0.014	0.0006
Haga	0.0013	0.0157	0.0145
$\alpha=0.001$			
Student's t	0.0014	0.0014	0.0001
Welch-Aspin's t	0.0087	0.0111	0.0023
Yuen	0.0147	0.0188	0.0041
Tukey's Quick	0.0016	0.0017	0.0001
Haga	0.0008	0.0109	0.0101

Table 153

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0846	0.0904	0.0058
Welch-Aspin's t	0.0835	0.0896	0.0061
Yuen Test	0.0675	0.0776	0.0101
Tukey's Quick Test	0.1114	0.1132	0.0018
Haga Test	0.0016	0.0721	0.0705
$\alpha=0.01$			
Student's t	0.0233	0.0242	0.0009
Welch-Aspin's t	0.0232	0.0243	0.0011
Yuen	0.0195	0.0216	0.0021
Tukey's Quick	0.0252	0.0256	0.0004
Haga	0.0003	0.0151	0.0149
$\alpha=0.001$			
Student's t	0.0035	0.0036	0.0001
Welch-Aspin's t	0.0037	0.0038	0.0001
Yuen	0.0034	0.0038	0.0003
Tukey's Quick	0.0027	0.0028	0
Haga	0	0.0028	0.0028

Table 154

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0956	0.1013	0.0057
Welch-Aspin's t	0.0869	0.0918	0.0049
Yuen Test	0.0613	0.0701	0.0088
Tukey's Quick Test	0.0599	0.0632	0.0033
Haga Test	0.0033	0.0632	0.0599
$\alpha=0.01$			
Student's t	0.0263	0.0278	0.0015
Welch-Aspin's t	0.0203	0.0215	0.0012
Yuen	0.0146	0.0165	0.0019
Tukey's Quick	0.0152	0.0161	0.0009
Haga	0.0009	0.0161	0.0152
$\alpha=0.001$			
Student's t	0.0044	0.0047	0.0003
Welch-Aspin's t	0.0028	0.003	0.0002
Yuen	0.0018	0.002	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0009	0.0161	0.0152

Table 155

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2505	0.2512	0.0007
Welch-Aspin's t	0.2496	0.2503	0.0007
Yuen Test	0.1604	0.1626	0.0022
Tukey's Quick Test	0.4135	0.4137	0.0002
Haga Test	0.0002	0.4142	0.414
$\alpha=0.01$			
Student's t	0.0928	0.0929	0.0001
Welch-Aspin's t	0.0918	0.0919	0.0001
Yuen	0.0521	0.0525	0.0004
Tukey's Quick	0.1107	0.1107	0
Haga	0	0.1107	0.1107
$\alpha=0.001$			
Student's t	0.0191	0.0191	0
Welch-Aspin's t	0.0184	0.0184	0
Yuen	0.0097	0.0097	0.0001
Tukey's Quick	0.0199	0.0199	0
Haga	0	0.0199	0.0199

Table 156

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.401	0.4011	0.0001
Welch-Aspin's t	0.4006	0.4008	0.0001
Yuen Test	0.2474	0.2481	0.0007
Tukey's Quick Test	0.7938	0.7938	0
Haga Test	0	0.6798	0.6798
$\alpha=0.01$			
Student's t	0.1845	0.1845	0
Welch-Aspin's t	0.184	0.184	0
Yuen	0.0942	0.0943	0.0001
Tukey's Quick	0.4221	0.4221	0
Haga	0	0.4222	0.4222
$\alpha=0.001$			
Student's t	0.0489	0.0489	0
Welch-Aspin's t	0.0485	0.0485	0
Yuen	0.0207	0.0207	0
Tukey's Quick	0.0869	0.0869	0
Haga	0	0.1382	0.1382

Table 157

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.5\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1414	0.1435	0.0022
Welch-Aspin's t	0.1243	0.1297	0.0054
Yuen Test	0.1213	0.1317	0.0104
Tukey's Quick Test	0.1547	0.1558	0.0011
Haga Test	0.0003	0.0491	0.0487
$\alpha=0.01$			
Student's t	0.0422	0.0425	0.0003
Welch-Aspin's t	0.0476	0.0491	0.0015
Yuen	0.0514	0.0545	0.0031
Tukey's Quick	0.0305	0.0307	0.0002
Haga	0.0001	0.0186	0.0185
$\alpha=0.001$			
Student's t	0.0065	0.0065	0
Welch-Aspin's t	0.0151	0.0154	0.0003
Yuen	0.0141	0.0146	0.0005
Tukey's Quick	0.0034	0.0034	0
Haga	0	0.011	0.011

Table 158

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1604	0.1617	0.0013
Welch-Aspin's t	0.1275	0.1335	0.006
Yuen Test	0.1356	0.1487	0.013
Tukey's Quick Test	0.187	0.1873	0.0002
Haga Test	0.0003	0.0588	0.0585
$\alpha=0.01$			
Student's t	0.0507	0.0508	0.0001
Welch-Aspin's t	0.051	0.0532	0.0022
Yuen	0.0686	0.0734	0.0048
Tukey's Quick	0.042	0.0421	0
Haga	0.0002	0.0434	0.0432
$\alpha=0.001$			
Student's t	0.0079	0.0079	0
Welch-Aspin's t	0.0185	0.0191	0.0006
Yuen	0.0295	0.0308	0.0012
Tukey's Quick	0.0073	0.0073	0
Haga	0.0001	0.0317	0.0316

Table 159

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3104	0.3107	0.0003
Welch-Aspin's t	0.3038	0.3042	0.0004
Yuen Test	0.193	0.1947	0.0016
Tukey's Quick Test	0.5067	0.5067	0
Haga Test	0.0001	0.3819	0.3818
$\alpha=0.01$			
Student's t	0.126	0.1261	0
Welch-Aspin's t	0.1206	0.1207	0
Yuen	0.0687	0.069	0.0003
Tukey's Quick	0.1842	0.1842	0
Haga	0	0.1211	0.1211
$\alpha=0.001$			
Student's t	0.0291	0.0291	0
Welch-Aspin's t	0.0278	0.0278	0
Yuen	0.0151	0.0151	0
Tukey's Quick	0.0289	0.0289	0
Haga	0	0.0289	0.0289

Table 160

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1771	0.1791	0.002
Welch-Aspin's t	0.1648	0.1666	0.0018
Yuen Test	0.0963	0.1003	0.0041
Tukey's Quick Test	0.1167	0.1179	0.0012
Haga Test	0.0012	0.1179	0.1167
$\alpha=0.01$			
Student's t	0.0539	0.0544	0.0005
Welch-Aspin's t	0.0425	0.0429	0.0004
Yuen	0.0239	0.0248	0.0009
Tukey's Quick	0.0315	0.0319	0.0003
Haga	0.0003	0.0319	0.0315
$\alpha=0.001$			
Student's t	0.0091	0.0092	0.0001
Welch-Aspin's t	0.0059	0.006	0
Yuen	0.0031	0.0032	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0312	0.0309

Table 161

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5485	0.5485	0
Welch-Aspin's t	0.5475	0.5475	0
Yuen Test	0.3371	0.3374	0.0003
Tukey's Quick Test	0.7744	0.7744	0
Haga Test	0	0.7749	0.7749
$\alpha=0.01$			
Student's t	0.2857	0.2857	0
Welch-Aspin's t	0.2837	0.2837	0
Yuen	0.1356	0.1356	0.0001
Tukey's Quick	0.3766	0.3766	0
Haga	0	0.3766	0.3766
$\alpha=0.001$			
Student's t	0.0853	0.0853	0
Welch-Aspin's t	0.0834	0.0834	0
Yuen	0.0307	0.0307	0
Tukey's Quick	0.1071	0.1071	0
Haga	0	0.1071	0.1071

Table 162

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7887	0.7887	0
Welch-Aspin's t	0.7885	0.7885	0
Yuen Test	0.535	0.5351	0
Tukey's Quick Test	0.9845	0.9845	0
Haga Test	0	0.9652	0.9652
$\alpha=0.01$			
Student's t	0.5501	0.5501	0
Welch-Aspin's t	0.5495	0.5495	0
Yuen	0.2787	0.2787	0
Tukey's Quick	0.8733	0.8733	0
Haga	0	0.8734	0.8734
$\alpha=0.001$			
Student's t	0.2521	0.2521	0
Welch-Aspin's t	0.251	0.251	0
Yuen	0.0867	0.0867	0
Tukey's Quick	0.4726	0.4726	0
Haga	0	0.5873	0.5873

Table 163

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2942	0.2946	0.0003
Welch-Aspin's t	0.2347	0.2358	0.0012
Yuen Test	0.1918	0.195	0.0033
Tukey's Quick Test	0.3089	0.309	0.0001
Haga Test	0.0001	0.1111	0.111
$\alpha=0.01$			
Student's t	0.1114	0.1114	0
Welch-Aspin's t	0.0924	0.0927	0.0003
Yuen	0.0875	0.0884	0.0008
Tukey's Quick	0.075	0.075	0
Haga	0	0.0488	0.0488
$\alpha=0.001$			
Student's t	0.0252	0.0252	0
Welch-Aspin's t	0.027	0.027	0.0001
Yuen	0.028	0.0281	0.0002
Tukey's Quick	0.0119	0.0119	0
Haga	0	0.0308	0.0308

Table 164

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3402	0.3403	0.0001
Welch-Aspin's t	0.2387	0.2401	0.0014
Yuen Test	0.2076	0.2114	0.0039
Tukey's Quick Test	0.3738	0.3738	0
Haga Test	0	0.1302	0.1302
$\alpha=0.01$			
Student's t	0.1418	0.1418	0
Welch-Aspin's t	0.0948	0.0952	0.0004
Yuen	0.1092	0.1104	0.0012
Tukey's Quick	0.0994	0.0994	0
Haga	0	0.1005	0.1005
$\alpha=0.001$			
Student's t	0.0313	0.0313	0
Welch-Aspin's t	0.0342	0.0343	0.0001
Yuen	0.051	0.0512	0.0003
Tukey's Quick	0.0221	0.0221	0
Haga	0	0.0762	0.0762

Table 165

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6578	0.6578	0
Welch-Aspin's t	0.6492	0.6492	0
Yuen Test	0.4104	0.4105	0.0002
Tukey's Quick Test	0.8769	0.8769	0
Haga Test	0	0.7964	0.7964
$\alpha=0.01$			
Student's t	0.3932	0.3932	0
Welch-Aspin's t	0.3769	0.3769	0
Yuen	0.1848	0.1848	0
Tukey's Quick	0.5735	0.5735	0
Haga	0	0.4535	0.4535
$\alpha=0.001$			
Student's t	0.1435	0.1435	0
Welch-Aspin's t	0.1311	0.1311	0
Yuen	0.0512	0.0512	0
Tukey's Quick	0.1715	0.1715	0
Haga	0	0.1715	0.1715

Table 166

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1771	0.1791	0.002
Welch-Aspin's t	0.1648	0.1666	0.0018
Yuen Test	0.0963	0.1003	0.0041
Tukey's Quick Test	0.1167	0.1179	0.0012
Haga Test	0.0012	0.1179	0.1167
$\alpha=0.01$			
Student's t	0.0539	0.0544	0.0005
Welch-Aspin's t	0.0425	0.0429	0.0004
Yuen	0.0239	0.0248	0.0009
Tukey's Quick	0.0315	0.0319	0.0003
Haga	0.0003	0.0319	0.0315
$\alpha=0.001$			
Student's t	0.0226	0.0226	0
Welch-Aspin's t	0.0148	0.0148	0
Yuen	0.0057	0.0058	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.074	0.0739

Table 167

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8895	0.8895	0
Welch-Aspin's t	0.889	0.889	0
Yuen Test	0.6438	0.6439	0
Tukey's Quick Test	0.974	0.974	0
Haga Test	0	0.9742	0.9742
$\alpha=0.01$			
Student's t	0.63	0.63	0
Welch-Aspin's t	0.6272	0.6272	0
Yuen	0.3131	0.3131	0
Tukey's Quick	0.7516	0.7516	0
Haga	0	0.7516	0.7516
$\alpha=0.001$			
Student's t	0.3489	0.3489	0
Welch-Aspin's t	0.3447	0.3447	0
Yuen	0.1083	0.1083	0
Tukey's Quick	0.4466	0.4466	0
Haga	0	0.4466	0.4466

Table 168

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.988	0.988	0
Welch-Aspin's t	0.988	0.988	0
Yuen Test	0.8749	0.8749	0
Tukey's Quick Test	0.9999	0.9999	0
Haga Test	0	0.9996	0.9996
$\alpha=0.01$			
Student's t	0.9403	0.9403	0
Welch-Aspin's t	0.9401	0.9401	0
Yuen	0.6641	0.6641	0
Tukey's Quick	0.997	0.997	0
Haga	0	0.997	0.997
$\alpha=0.001$			
Student's t	0.7597	0.7597	0
Welch-Aspin's t	0.7585	0.7585	0
Yuen	0.3339	0.3339	0
Tukey's Quick	0.9377	0.9377	0
Haga	0	0.9664	0.9664

Table 169

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5759	0.5759	0
Welch-Aspin's t	0.4637	0.4638	0.0001
Yuen Test	0.3118	0.3122	0.0005
Tukey's Quick Test	0.5914	0.5914	0
Haga Test	0	0.2687	0.2687
$\alpha=0.01$			
Student's t	0.1114	0.1114	0
Welch-Aspin's t	0.0924	0.0927	0.0003
Yuen	0.0875	0.0884	0.0008
Tukey's Quick	0.075	0.075	0
Haga	0	0.0488	0.0488
$\alpha=0.001$			
Student's t	0.0832	0.0832	0
Welch-Aspin's t	0.0672	0.0672	0
Yuen	0.0583	0.0583	0
Tukey's Quick	0.0385	0.0385	0
Haga	0	0.0913	0.0913

Table 170

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6447	0.6447	0
Welch-Aspin's t	0.4712	0.4712	0.0001
Yuen Test	0.3255	0.3259	0.0004
Tukey's Quick Test	0.6957	0.6957	0
Haga Test	0	0.306	0.306
$\alpha=0.01$			
Student's t	0.3756	0.3756	0
Welch-Aspin's t	0.1926	0.1926	0
Yuen	0.1781	0.1781	0.0001
Tukey's Quick	0.2453	0.2453	0
Haga	0	0.2465	0.2465
$\alpha=0.001$			
Student's t	0.1286	0.1286	0
Welch-Aspin's t	0.068	0.068	0
Yuen	0.0897	0.0897	0
Tukey's Quick	0.07	0.07	0
Haga	0	0.1968	0.1968

Table 171

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9509	0.9509	0
Welch-Aspin's t	0.949	0.949	0
Yuen Test	0.7458	0.7458	0
Tukey's Quick Test	0.9942	0.9942	0
Haga Test	0	0.9867	0.9867
$\alpha=0.01$			
Student's t	0.8264	0.8264	0
Welch-Aspin's t	0.8129	0.8129	0
Yuen	0.4655	0.4655	0
Tukey's Quick	0.942	0.942	0
Haga	0	0.896	0.896
$\alpha=0.001$			
Student's t	0.5327	0.5327	0
Welch-Aspin's t	0.4954	0.4954	0
Yuen	0.178	0.178	0
Tukey's Quick	0.6401	0.6401	0
Haga	0	0.6401	0.6401

Table 172

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7843	0.7844	0
Welch-Aspin's t	0.7688	0.7688	0
Yuen Test	0.3636	0.3637	0
Tukey's Quick Test	0.6414	0.6414	0
Haga Test	0	0.6414	0.6414
$\alpha=0.01$			
Student's t	0.4224	0.4224	0
Welch-Aspin's t	0.3822	0.3822	0
Yuen	0.1064	0.1064	0
Tukey's Quick	0.2885	0.2885	0
Haga	0	0.2885	0.2885
$\alpha=0.001$			
Student's t	0.1031	0.1031	0
Welch-Aspin's t	0.0708	0.0708	0
Yuen	0.0157	0.0157	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.2896	0.2896

Table 173

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen Test	0.9819	0.9819	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9977	0.9977	0
Welch-Aspin's t	0.9976	0.9976	0
Yuen	0.8787	0.8787	0
Tukey's Quick	0.9993	0.9993	0
Haga	0	0.9993	0.9993
$\alpha=0.001$			
Student's t	0.9635	0.9635	0
Welch-Aspin's t	0.9622	0.9622	0
Yuen	0.5385	0.5385	0
Tukey's Quick	0.9841	0.9841	0
Haga	0	0.9841	0.9841

Table 174

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9998	0.9998	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9958	0.9958	0
Tukey's Quick	1	1	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.944	0.944	0
Tukey's Quick	1	1	0
Haga	0	1	1

Table 175

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9637	0.9637	0
Welch-Aspin's t	0.924	0.924	0
Yuen Test	0.593	0.593	0
Tukey's Quick Test	0.9684	0.9684	0
Haga Test	0	0.7951	0.7951
$\alpha=0.01$			
Student's t	0.8273	0.8273	0
Welch-Aspin's t	0.5926	0.5926	0
Yuen	0.3391	0.3391	0
Tukey's Quick	0.686	0.686	0
Haga	0	0.5637	0.5637
$\alpha=0.001$			
Student's t	0.4694	0.4694	0
Welch-Aspin's t	0.2186	0.2186	0
Yuen	0.1593	0.1593	0
Tukey's Quick	0.2416	0.2416	0
Haga	0	0.4414	0.4414

Table 176

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9811	0.9811	0
Welch-Aspin's t	0.9394	0.9394	0
Yuen Test	0.5934	0.5934	0
Tukey's Quick Test	0.9874	0.9874	0
Haga Test	0	0.8726	0.8726
$\alpha=0.01$			
Student's t	0.9022	0.9022	0
Welch-Aspin's t	0.575	0.575	0
Yuen	0.3439	0.3439	0
Tukey's Quick	0.8062	0.8062	0
Haga	0	0.8072	0.8072
$\alpha=0.001$			
Student's t	0.6402	0.6402	0
Welch-Aspin's t	0.2	0.2	0
Yuen	0.1907	0.1907	0
Tukey's Quick	0.3781	0.3781	0
Haga	0	0.7276	0.7276

Table 177

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9958	0.9958	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen	0.9532	0.9532	0
Tukey's Quick	1	1	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9958	0.9958	0
Welch-Aspin's t	0.9942	0.9942	0
Yuen	0.718	0.718	0
Tukey's Quick	0.9988	0.9988	0
Haga	0	0.9988	0.9988

Table 178

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0453	0.0612	0.0159
Welch-Aspin's t	0.0402	0.054	0.0138
Yuen Test	0.0363	0.0538	0.0175
Tukey's Quick Test	0.0272	0.0364	0.0092
Haga Test	0.0092	0.0364	0.0272
$\alpha=0.01$			
Student's t	0.0118	0.0159	0.0041
Welch-Aspin's t	0.0092	0.0123	0.0032
Yuen	0.0085	0.0125	0.004
Tukey's Quick	0.0068	0.0092	0.0023
Haga	0.0023	0.0092	0.0068
$\alpha=0.001$			
Student's t	0.002	0.0027	0.0007
Welch-Aspin's t	0.0013	0.0017	0.0004
Yuen	0.0011	0.0016	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0022	0.0091	0.0069

Table 179

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0709	0.0784	0.0075
Welch-Aspin's t	0.0704	0.0778	0.0074
Yuen Test	0.0583	0.0697	0.0114
Tukey's Quick Test	0.0895	0.0941	0.0045
Haga Test	0.0048	0.0956	0.0908
$\alpha=0.01$			
Student's t	0.0186	0.02	0.0014
Welch-Aspin's t	0.0182	0.0196	0.0014
Yuen	0.0155	0.0179	0.0024
Tukey's Quick	0.0147	0.0154	0.0007
Haga	0.0007	0.0154	0.0147
$\alpha=0.001$			
Student's t	0.0027	0.0028	0.0001
Welch-Aspin's t	0.0026	0.0027	0.0001
Yuen	0.0024	0.0028	0.0003
Tukey's Quick	0.0021	0.0022	0.0001
Haga	0.0001	0.0022	0.0021

Table 180

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0943	0.099	0.0048
Welch-Aspin's t	0.0941	0.0988	0.0048
Yuen Test	0.0717	0.0796	0.0079
Tukey's Quick Test	0.1754	0.1769	0.0015
Haga Test	0.001	0.1132	0.1122
$\alpha=0.01$			
Student's t	0.0268	0.0275	0.0007
Welch-Aspin's t	0.0266	0.0274	0.0007
Yuen	0.0198	0.0214	0.0016
Tukey's Quick	0.0378	0.038	0.0002
Haga	0.0002	0.0383	0.0381
$\alpha=0.001$			
Student's t	0.0042	0.0043	0.0001
Welch-Aspin's t	0.0042	0.0042	0.0001
Yuen	0.0031	0.0033	0.0002
Tukey's Quick	0.0033	0.0033	0
Haga	0	0.0062	0.0062

Table 181

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.2\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0623	0.0763	0.0141
Welch-Aspin's t	0.0573	0.0763	0.019
Yuen Test	0.0698	0.0995	0.0296
Tukey's Quick Test	0.0674	0.0807	0.0133
Haga Test	0.0036	0.0237	0.0201
$\alpha=0.01$			
Student's t	0.0165	0.0194	0.0029
Welch-Aspin's t	0.0217	0.0284	0.0066
Yuen	0.028	0.038	0.0101
Tukey's Quick	0.0124	0.0144	0.002
Haga	0.0011	0.0084	0.0073
$\alpha=0.001$			
Student's t	0.0023	0.0026	0.0003
Welch-Aspin's t	0.0066	0.0084	0.0018
Yuen	0.0071	0.0094	0.0022
Tukey's Quick	0.0012	0.0013	0.0001
Haga	0.0006	0.0047	0.0041

Table 182

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0701	0.0838	0.0137
Welch-Aspin's t	0.0595	0.0801	0.0206
Yuen Test	0.0794	0.1151	0.0357
Tukey's Quick Test	0.0813	0.0924	0.011
Haga Test	0.0041	0.0287	0.0246
$\alpha=0.01$			
Student's t	0.0189	0.0212	0.0024
Welch-Aspin's t	0.0239	0.032	0.0081
Yuen	0.039	0.0548	0.0159
Tukey's Quick	0.0172	0.0191	0.002
Haga	0.0026	0.0205	0.0179
$\alpha=0.001$			
Student's t	0.0026	0.0027	0.0002
Welch-Aspin's t	0.0086	0.0113	0.0027
Yuen	0.0159	0.0212	0.0053
Tukey's Quick	0.0026	0.0028	0.0002
Haga	0.0017	0.0144	0.0127

Table 183

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0863	0.0934	0.0071
Welch-Aspin's t	0.0777	0.0844	0.0067
Yuen Test	0.0644	0.0753	0.0109
Tukey's Quick Test	0.0909	0.0944	0.0035
Haga Test	0.0023	0.0599	0.0576
$\alpha=0.01$			
Student's t	0.0244	0.0256	0.0012
Welch-Aspin's t	0.0211	0.0223	0.0012
Yuen	0.0188	0.0214	0.0025
Tukey's Quick	0.0218	0.0225	0.0007
Haga	0.0004	0.0138	0.0134
$\alpha=0.001$			
Student's t	0.0039	0.004	0.0001
Welch-Aspin's t	0.0035	0.0036	0.0001
Yuen	0.0035	0.0038	0.0004
Tukey's Quick	0.0027	0.0027	0.0001
Haga	0.0001	0.0027	0.0027

Table 184

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0906	0.097	0.0064
Welch-Aspin's t	0.0822	0.0877	0.0055
Yuen Test	0.0594	0.0687	0.0093
Tukey's Quick Test	0.0566	0.0602	0.0036
Haga Test	0.0036	0.0602	0.0566
$\alpha=0.01$			
Student's t	0.0253	0.0269	0.0017
Welch-Aspin's t	0.0196	0.0208	0.0013
Yuen	0.0141	0.0161	0.0021
Tukey's Quick	0.0146	0.0156	0.001
Haga	0.001	0.0156	0.0146
$\alpha=0.001$			
Student's t	0.0042	0.0045	0.0003
Welch-Aspin's t	0.0028	0.003	0.0002
Yuen	0.0018	0.0021	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0009	0.0155	0.0146

Table 185

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2315	0.2323	0.0008
Welch-Aspin's t	0.2304	0.2312	0.0008
Yuen Test	0.1497	0.1522	0.0025
Tukey's Quick Test	0.3722	0.3725	0.0003
Haga Test	0.0003	0.3737	0.3733
$\alpha=0.01$			
Student's t	0.0833	0.0834	0.0001
Welch-Aspin's t	0.0822	0.0823	0.0001
Yuen	0.048	0.0485	0.0005
Tukey's Quick	0.0945	0.0946	0
Haga	0	0.0946	0.0946
$\alpha=0.001$			
Student's t	0.0168	0.0168	0
Welch-Aspin's t	0.0162	0.0162	0
Yuen	0.0088	0.0088	0.0001
Tukey's Quick	0.0167	0.0167	0
Haga	0	0.0167	0.0167

Table 186

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.369	0.3692	0.0002
Welch-Aspin's t	0.3684	0.3686	0.0002
Yuen Test	0.2293	0.2301	0.0009
Tukey's Quick Test	0.7441	0.7441	0
Haga Test	0	0.6241	0.6241
$\alpha=0.01$			
Student's t	0.1628	0.1629	0
Welch-Aspin's t	0.1622	0.1622	0
Yuen	0.0842	0.0843	0.0001
Tukey's Quick	0.3652	0.3652	0
Haga	0	0.3655	0.3655
$\alpha=0.001$			
Student's t	0.0419	0.0419	0
Welch-Aspin's t	0.0414	0.0414	0
Yuen	0.0182	0.0182	0
Tukey's Quick	0.0678	0.0678	0
Haga	0	0.1104	0.1104

Table 187

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.5\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1486	0.1521	0.0035
Welch-Aspin's t	0.114	0.1209	0.0069
Yuen Test	0.1167	0.1297	0.013
Tukey's Quick Test	0.1482	0.1504	0.0022
Haga Test	0.0007	0.0505	0.0499
$\alpha=0.01$			
Student's t	0.0483	0.0488	0.0005
Welch-Aspin's t	0.0438	0.0459	0.0021
Yuen	0.0509	0.0548	0.0039
Tukey's Quick	0.0325	0.0328	0.0003
Haga	0.0002	0.0208	0.0206
$\alpha=0.001$			
Student's t	0.0083	0.0084	0
Welch-Aspin's t	0.0143	0.0147	0.0004
Yuen	0.0149	0.0157	0.0007
Tukey's Quick	0.0042	0.0042	0
Haga	0.0001	0.0126	0.0126

Table 188

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1728	0.1755	0.0027
Welch-Aspin's t	0.1147	0.1224	0.0077
Yuen Test	0.1275	0.1435	0.016
Tukey's Quick Test	0.1778	0.1785	0.0007
Haga Test	0.0006	0.0593	0.0588
$\alpha=0.01$			
Student's t	0.0608	0.0611	0.0003
Welch-Aspin's t	0.046	0.0488	0.0028
Yuen	0.0657	0.072	0.0063
Tukey's Quick	0.044	0.0441	0.0001
Haga	0.0003	0.045	0.0447
$\alpha=0.001$			
Student's t	0.0115	0.0115	0
Welch-Aspin's t	0.0165	0.0174	0.0008
Yuen	0.0295	0.0313	0.0017
Tukey's Quick	0.0089	0.0089	0
Haga	0.0002	0.0336	0.0335

Table 189

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2957	0.2962	0.0006
Welch-Aspin's t	0.2716	0.2722	0.0006
Yuen Test	0.1752	0.1772	0.002
Tukey's Quick Test	0.4162	0.4163	0.0001
Haga Test	0.0001	0.3005	0.3004
$\alpha=0.01$			
Student's t	0.1215	0.1216	0.0001
Welch-Aspin's t	0.1038	0.1039	0.0001
Yuen	0.0621	0.0624	0.0004
Tukey's Quick	0.1391	0.1391	0
Haga	0	0.0911	0.0911
$\alpha=0.001$			
Student's t	0.0286	0.0286	0
Welch-Aspin's t	0.0227	0.0227	0
Yuen	0.0138	0.0139	0
Tukey's Quick	0.0226	0.0226	0
Haga	0	0.0226	0.0226

Table 190

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1647	0.167	0.0023
Welch-Aspin's t	0.1525	0.1545	0.002
Yuen Test	0.0916	0.0962	0.0046
Tukey's Quick Test	0.1073	0.1087	0.0013
Haga Test	0.0013	0.1087	0.1073
$\alpha=0.01$			
Student's t	0.0497	0.0503	0.0006
Welch-Aspin's t	0.0393	0.0397	0.0005
Yuen	0.0226	0.0236	0.001
Tukey's Quick	0.029	0.0293	0.0003
Haga	0.0003	0.0293	0.029
$\alpha=0.001$			
Student's t	0.0086	0.0087	0.0001
Welch-Aspin's t	0.0057	0.0057	0
Yuen	0.0029	0.003	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0292	0.0289

Table 191

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.508	0.508	0.0001
Welch-Aspin's t	0.5066	0.5067	0.0001
Yuen Test	0.3101	0.3105	0.0004
Tukey's Quick Test	0.7296	0.7297	0
Haga Test	0	0.7306	0.7306
$\alpha=0.01$			
Student's t	0.2529	0.2529	0
Welch-Aspin's t	0.2506	0.2507	0
Yuen	0.1215	0.1215	0.0001
Tukey's Quick	0.3281	0.3281	0
Haga	0	0.3282	0.3282
$\alpha=0.001$			
Student's t	0.0719	0.0719	0
Welch-Aspin's t	0.0699	0.0699	0
Yuen	0.0269	0.0269	0
Tukey's Quick	0.0869	0.0869	0
Haga	0	0.0869	0.0869

Table 192

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7472	0.7472	0
Welch-Aspin's t	0.7468	0.7468	0
Yuen Test	0.4952	0.4953	0
Tukey's Quick Test	0.9749	0.9749	0
Haga Test	0	0.948	0.948
$\alpha=0.01$			
Student's t	0.4973	0.4973	0
Welch-Aspin's t	0.4962	0.4962	0
Yuen	0.2479	0.2479	0
Tukey's Quick	0.8313	0.8313	0
Haga	0	0.8315	0.8315
$\alpha=0.001$			
Student's t	0.2125	0.2125	0
Welch-Aspin's t	0.2109	0.2109	0
Yuen	0.0734	0.0734	0
Tukey's Quick	0.3997	0.3997	0
Haga	0	0.5143	0.5143

Table 193

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2921	0.2927	0.0006
Welch-Aspin's t	0.2047	0.2066	0.0019
Yuen Test	0.1777	0.1823	0.0046
Tukey's Quick Test	0.2765	0.2768	0.0003
Haga Test	0.0001	0.1045	0.1044
$\alpha=0.01$			
Student's t	0.1163	0.1164	0.0001
Welch-Aspin's t	0.0803	0.0808	0.0005
Yuen	0.0835	0.0848	0.0013
Tukey's Quick	0.0715	0.0715	0
Haga	0	0.0478	0.0478
$\alpha=0.001$			
Student's t	0.0252	0.0252	0
Welch-Aspin's t	0.027	0.027	0.0001
Yuen	0.028	0.0281	0.0002
Tukey's Quick	0.0119	0.0119	0
Haga	0	0.0308	0.0308

Table 194

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3412	0.3416	0.0003
Welch-Aspin's t	0.2063	0.2085	0.0022
Yuen Test	0.1897	0.1955	0.0058
Tukey's Quick Test	0.3297	0.3298	0
Haga Test	0.0001	0.1199	0.1198
$\alpha=0.01$			
Student's t	0.1517	0.1517	0
Welch-Aspin's t	0.0814	0.0821	0.0007
Yuen	0.0996	0.1015	0.0019
Tukey's Quick	0.0936	0.0936	0
Haga	0	0.0943	0.0943
$\alpha=0.001$			
Student's t	0.0384	0.0384	0
Welch-Aspin's t	0.0288	0.029	0.0002
Yuen	0.0475	0.0479	0.0004
Tukey's Quick	0.0232	0.0232	0
Haga	0	0.0729	0.0729

Table 195

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6216	0.6216	0
Welch-Aspin's t	0.5909	0.5909	0
Yuen Test	0.3678	0.368	0.0003
Tukey's Quick Test	0.8173	0.8173	0
Haga Test	0	0.7149	0.7149
$\alpha=0.01$			
Student's t	0.3623	0.3623	0
Welch-Aspin's t	0.3201	0.3201	0
Yuen	0.1594	0.1594	0
Tukey's Quick	0.474	0.474	0
Haga	0	0.3604	0.3604
$\alpha=0.001$			
Student's t	0.1302	0.1302	0
Welch-Aspin's t	0.1014	0.1014	0
Yuen	0.0435	0.0435	0
Tukey's Quick	0.1245	0.1245	0
Haga	0	0.1245	0.1245

Table 196

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3178	0.3183	0.0005
Welch-Aspin's t	0.301	0.3015	0.0005
Yuen Test	0.1516	0.1532	0.0016
Tukey's Quick Test	0.2196	0.2199	0.0003
Haga Test	0.0003	0.2199	0.2196
$\alpha=0.01$			
Student's t	0.1098	0.11	0.0001
Welch-Aspin's t	0.0901	0.0902	0.0001
Yuen	0.039	0.0393	0.0003
Tukey's Quick	0.0657	0.0658	0.0001
Haga	0.0001	0.0658	0.0657
$\alpha=0.001$			
Student's t	0.0201	0.0201	0
Welch-Aspin's t	0.0133	0.0133	0
Yuen	0.0052	0.0053	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0665	0.0664

Table 197

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8559	0.8559	0
Welch-Aspin's t	0.8551	0.8551	0
Yuen Test	0.5993	0.5993	0
Tukey's Quick Test	0.9615	0.9615	0
Haga Test	0	0.9618	0.9618
$\alpha=0.01$			
Student's t	0.63	0.63	0
Welch-Aspin's t	0.6272	0.6272	0
Yuen	0.3131	0.3131	0
Tukey's Quick	0.7516	0.7516	0
Haga	0	0.7516	0.7516
$\alpha=0.001$			
Student's t	0.2954	0.2954	0
Welch-Aspin's t	0.2903	0.2903	0
Yuen	0.0916	0.0916	0
Tukey's Quick	0.3792	0.3792	0
Haga	0	0.3792	0.3792

Table 198

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9797	0.9797	0
Welch-Aspin's t	0.9796	0.9796	0
Yuen Test	0.8397	0.8397	0
Tukey's Quick Test	0.9997	0.9997	0
Haga Test	0	0.9992	0.9992
$\alpha=0.01$			
Student's t	0.9102	0.9102	0
Welch-Aspin's t	0.9097	0.9097	0
Yuen	0.6072	0.6072	0
Tukey's Quick	0.9939	0.9939	0
Haga	0	0.9939	0.9939
$\alpha=0.001$			
Student's t	0.6915	0.6915	0
Welch-Aspin's t	0.6894	0.6894	0
Yuen	0.284	0.284	0
Tukey's Quick	0.9017	0.9017	0
Haga	0	0.9435	0.9435

Table 199

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5518	0.5518	0
Welch-Aspin's t	0.3952	0.3954	0.0002
Yuen Test	0.2803	0.2811	0.0008
Tukey's Quick Test	0.5273	0.5273	0
Haga Test	0	0.236	0.236
$\alpha=0.01$			
Student's t	0.2887	0.2887	0
Welch-Aspin's t	0.1607	0.1608	0
Yuen	0.1411	0.1413	0.0002
Tukey's Quick	0.1716	0.1716	0
Haga	0	0.1217	0.1217
$\alpha=0.001$			
Student's t	0.085	0.085	0
Welch-Aspin's t	0.0556	0.0556	0
Yuen	0.0545	0.0546	0
Tukey's Quick	0.0376	0.0376	0
Haga	0	0.0842	0.0842

Table 200

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.623	0.623	0
Welch-Aspin's t	0.3991	0.3993	0.0002
Yuen Test	0.2895	0.2904	0.0008
Tukey's Quick Test	0.6195	0.6195	0
Haga Test	0	0.2646	0.2646
$\alpha=0.01$			
Student's t	0.3708	0.3708	0
Welch-Aspin's t	0.1572	0.1572	0.0001
Yuen	0.1575	0.1577	0.0002
Tukey's Quick	0.215	0.215	0
Haga	0	0.2156	0.2156
$\alpha=0.001$			
Student's t	0.1361	0.1361	0
Welch-Aspin's t	0.0544	0.0544	0
Yuen	0.0796	0.0796	0
Tukey's Quick	0.0658	0.0658	0
Haga	0	0.1733	0.1733

Table 201

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.93	0.93	0
Welch-Aspin's t	0.9188	0.9188	0
Yuen Test	0.6873	0.6873	0
Tukey's Quick Test	0.9882	0.9882	0
Haga Test	0	0.9731	0.9731
$\alpha=0.01$			
Student's t	0.7819	0.7819	0
Welch-Aspin's t	0.7407	0.7407	0
Yuen	0.3993	0.3993	0
Tukey's Quick	0.8993	0.8993	0
Haga	0	0.8324	0.8324
$\alpha=0.001$			
Student's t	0.5327	0.5327	0
Welch-Aspin's t	0.4954	0.4954	0
Yuen	0.178	0.178	0
Tukey's Quick	0.6401	0.6401	0
Haga	0	0.6401	0.6401

Table 202

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7367	0.7367	0
Welch-Aspin's t	0.7189	0.7189	0
Yuen Test	0.3363	0.3364	0.0001
Tukey's Quick Test	0.5887	0.5887	0
Haga Test	0	0.5887	0.5887
$\alpha=0.01$			
Student's t	0.374	0.374	0
Welch-Aspin's t	0.3338	0.3338	0
Yuen	0.0965	0.0965	0
Tukey's Quick	0.2516	0.2516	0
Haga	0	0.2516	0.2516
$\alpha=0.001$			
Student's t	0.0876	0.0876	0
Welch-Aspin's t	0.0597	0.0597	0
Yuen	0.014	0.014	0
Tukey's Quick	0	0	0
Haga	0	0.2511	0.2511

Table 203

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9996	0.9996	0
Yuen Test	0.9691	0.9691	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9944	0.9944	0
Welch-Aspin's t	0.9941	0.9941	0
Yuen	0.8336	0.8336	0
Tukey's Quick	0.9981	0.9981	0
Haga	0	0.9981	0.9981
$\alpha=0.001$			
Student's t	0.9339	0.9339	0
Welch-Aspin's t	0.9313	0.9313	0
Yuen	0.4694	0.4694	0
Tukey's Quick	0.9677	0.9677	0
Haga	0	0.9677	0.9677

Table 204

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9993	0.9993	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9902	0.9902	0
Tukey's Quick	1	1	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9996	0.9996	0
Yuen	0.9065	0.9065	0
Tukey's Quick	1	1	0
Haga	0	1	1

Table 205

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9467	0.9467	0
Welch-Aspin's t	0.8611	0.8611	0
Yuen Test	0.5288	0.5288	0
Tukey's Quick Test	0.9451	0.9451	0
Haga Test	0	0.7198	0.7198
$\alpha=0.01$			
Student's t	0.7907	0.7907	0
Welch-Aspin's t	0.4796	0.4796	0
Yuen	0.2953	0.2953	0
Tukey's Quick	0.6048	0.6048	0
Haga	0	0.4868	0.4868
$\alpha=0.001$			
Student's t	0.4398	0.4398	0
Welch-Aspin's t	0.1677	0.1677	0
Yuen	0.1394	0.1394	0
Tukey's Quick	0.2086	0.2086	0
Haga	0	0.3778	0.3778

Table 206

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.97	0.97	0
Welch-Aspin's t	0.8786	0.8786	0
Yuen Test	0.5284	0.5284	0
Tukey's Quick Test	0.9796	0.9796	0
Haga Test	0	0.7951	0.7951
$\alpha=0.01$			
Student's t	0.8741	0.8741	0
Welch-Aspin's t	0.4603	0.4603	0
Yuen	0.2975	0.2975	0
Tukey's Quick	0.716	0.716	0
Haga	0	0.7167	0.7167
$\alpha=0.001$			
Student's t	0.61	0.61	0
Welch-Aspin's t	0.1522	0.1522	0
Yuen	0.1633	0.1633	0
Tukey's Quick	0.3185	0.3185	0
Haga	0	0.6312	0.6312

Table 207

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9896	0.9896	0
Tukey's Quick Test	1	1	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9995	0.9995	0
Welch-Aspin's t	0.9992	0.9992	0
Yuen	0.9137	0.9137	0
Tukey's Quick	1	1	0
Haga	0	0.9998	0.9998
$\alpha=0.001$			
Student's t	0.9899	0.9899	0
Welch-Aspin's t	0.9808	0.9808	0
Yuen	0.6156	0.6156	0
Tukey's Quick	0.996	0.996	0
Haga	0	0.996	0.996

Table 208

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0496	0.0869	0.0374
Welch-Aspin's t	0.0394	0.0694	0.0301
Yuen Test	0.0499	0.09	0.0402
Tukey's Quick Test	0.0318	0.056	0.0241
Haga Test	0.0241	0.056	0.0318
$\alpha=0.01$			
Student's t	0.0205	0.0354	0.015
Welch-Aspin's t	0.0145	0.0253	0.0108
Yuen	0.0158	0.0282	0.0124
Tukey's Quick	0.016	0.0275	0.0115
Haga	0.0115	0.0275	0.016
$\alpha=0.001$			
Student's t	0.0058	0.0101	0.0042
Welch-Aspin's t	0.0038	0.0066	0.0028
Yuen	0.0025	0.0044	0.0019
Tukey's Quick	n/a	n/a	n/a
Haga	0.0114	0.0273	0.0159

Table 209

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0425	0.0627	0.0201
Welch-Aspin's t	0.0377	0.0555	0.0178
Yuen Test	0.0416	0.0662	0.0246
Tukey's Quick Test	0.0009	0.0013	0.0004
Haga Test	0.0212	0.0589	0.0378
$\alpha=0.01$			
Student's t	0.0122	0.0176	0.0053
Welch-Aspin's t	0.0095	0.0136	0.0041
Yuen	0.0127	0.0199	0.0072
Tukey's Quick	0.0008	0.0011	0.0003
Haga	0.0016	0.0052	0.0035
$\alpha=0.001$			
Student's t	0.0025	0.0035	0.001
Welch-Aspin's t	0.0015	0.0022	0.0007
Yuen	0.0027	0.0043	0.0016
Tukey's Quick	0.0004	0.0006	0.0002
Haga	0.0002	0.0007	0.0004

Table 210

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0452	0.0616	0.0164
Welch-Aspin's t	0.042	0.057	0.015
Yuen Test	0.0415	0.0616	0.0201
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0307	0.0921	0.0613
$\alpha=0.01$			
Student's t	0.0119	0.0156	0.0036
Welch-Aspin's t	0.01	0.0131	0.0031
Yuen	0.0113	0.0163	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	0.0098	0.0317	0.022
$\alpha=0.001$			
Student's t	0.0019	0.0025	0.0006
Welch-Aspin's t	0.0013	0.0017	0.0004
Yuen	0.002	0.0029	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.0043	0.0031

Table 211

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1475	0.2563	0.1088
Welch-Aspin's t	0.0381	0.0667	0.0286
Yuen Test	0.0545	0.1002	0.0457
Tukey's Quick Test	0.0495	0.0871	0.0376
Haga Test	0.0245	0.0575	0.033
$\alpha=0.01$			
Student's t	0.0846	0.1467	0.0621
Welch-Aspin's t	0.0139	0.0247	0.0108
Yuen	0.0266	0.0488	0.0221
Tukey's Quick	0.0286	0.0501	0.0215
Haga	0.0184	0.0432	0.0248
$\alpha=0.001$			
Student's t	0.0422	0.0727	0.0305
Welch-Aspin's t	0.0037	0.0067	0.0029
Yuen	0.0123	0.0228	0.0105
Tukey's Quick	0.0155	0.0267	0.0111
Haga	0.0155	0.0367	0.0212

Table 212

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2001	0.3502	0.1501
Welch-Aspin's t	0.0371	0.0649	0.0278
Yuen Test	0.0508	0.093	0.0422
Tukey's Quick Test	0.0518	0.0913	0.0395
Haga Test	0.0252	0.059	0.0338
$\alpha=0.01$			
Student's t	0.1299	0.2244	0.0945
Welch-Aspin's t	0.0122	0.0216	0.0095
Yuen	0.0252	0.0463	0.0211
Tukey's Quick	0.0309	0.0539	0.023
Haga	0.023	0.0539	0.0309
$\alpha=0.001$			
Student's t	0.0746	0.1278	0.0532
Welch-Aspin's t	0.0034	0.006	0.0026
Yuen	0.0117	0.0214	0.0098
Tukey's Quick	0.0193	0.0333	0.014
Haga	0.0209	0.0493	0.0284

Table 213

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0876	0.1324	0.0448
Welch-Aspin's t	0.0377	0.0556	0.0179
Yuen Test	0.0417	0.0668	0.0251
Tukey's Quick Test	0.001	0.0015	0.0005
Haga Test	0.0039	0.0117	0.0078
$\alpha=0.01$			
Student's t	0.0351	0.0513	0.0162
Welch-Aspin's t	0.0093	0.0134	0.0041
Yuen	0.0125	0.0198	0.0073
Tukey's Quick	0.0008	0.0011	0.0004
Haga	0.0004	0.0012	0.0008
$\alpha=0.001$			
Student's t	0.0104	0.0148	0.0044
Welch-Aspin's t	0.0015	0.0021	0.0006
Yuen	0.0027	0.0042	0.0015
Tukey's Quick	0.0004	0.0006	0.0002
Haga	0.0002	0.0006	0.0004

Table 214

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0625	0.0916	0.0291
Welch-Aspin's t	0.0491	0.0726	0.0235
Yuen Test	0.0581	0.0916	0.0335
Tukey's Quick Test	0.0402	0.059	0.0188
Haga Test	0.0188	0.059	0.0402
$\alpha=0.01$			
Student's t	0.0253	0.0368	0.0115
Welch-Aspin's t	0.0176	0.026	0.0085
Yuen	0.0186	0.0286	0.01
Tukey's Quick	0.0202	0.0288	0.0086
Haga	0.0086	0.0288	0.0202
$\alpha=0.001$			
Student's t	0.0075	0.0108	0.0033
Welch-Aspin's t	0.0048	0.0071	0.0023
Yuen	0.0031	0.0047	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	0.0087	0.0288	0.0201

Table 215

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0701	0.0811	0.011
Welch-Aspin's t	0.0626	0.0723	0.0096
Yuen Test	0.0591	0.0754	0.0163
Tukey's Quick Test	0.0015	0.0017	0.0003
Haga Test	0.0132	0.069	0.0558
$\alpha=0.01$			
Student's t	0.0217	0.0246	0.0028
Welch-Aspin's t	0.0169	0.019	0.0022
Yuen	0.0188	0.0235	0.0047
Tukey's Quick	0.0013	0.0015	0.0002
Haga	0.0009	0.0068	0.0059
$\alpha=0.001$			
Student's t	0.0046	0.0051	0.0005
Welch-Aspin's t	0.0029	0.0032	0.0003
Yuen	0.0041	0.0051	0.001
Tukey's Quick	0.0007	0.0009	0.0001
Haga	0.0001	0.0009	0.0008

Table 216

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0877	0.0944	0.0068
Welch-Aspin's t	0.0818	0.088	0.0062
Yuen Test	0.0672	0.0782	0.011
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0174	0.1139	0.0964
$\alpha=0.01$			
Student's t	0.0262	0.0276	0.0014
Welch-Aspin's t	0.0222	0.0234	0.0012
Yuen	0.0196	0.0222	0.0026
Tukey's Quick	n/a	n/a	n/a
Haga	0.005	0.0433	0.0382
$\alpha=0.001$			
Student's t	0.005	0.0051	0.0002
Welch-Aspin's t	0.0035	0.0036	0.0001
Yuen	0.0037	0.0041	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0068	0.0064

Table 217

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1821	0.2679	0.0858
Welch-Aspin's t	0.0467	0.0699	0.0232
Yuen Test	0.0625	0.1015	0.0391
Tukey's Quick Test	0.0609	0.0914	0.0305
Haga Test	0.0194	0.0606	0.0412
$\alpha=0.01$			
Student's t	0.1069	0.1547	0.0479
Welch-Aspin's t	0.0167	0.0252	0.0085
Yuen	0.0304	0.0494	0.0189
Tukey's Quick	0.0356	0.0523	0.0167
Haga	0.0142	0.0452	0.0311
$\alpha=0.001$			
Student's t	0.0537	0.0768	0.0231
Welch-Aspin's t	0.0046	0.007	0.0025
Yuen	0.0143	0.0231	0.0089
Tukey's Quick	0.0198	0.0283	0.0085
Haga	0.012	0.0389	0.0269

Table 218

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2445	0.3622	0.1176
Welch-Aspin's t	0.0458	0.0682	0.0224
Yuen Test	0.058	0.0945	0.0365
Tukey's Quick Test	0.0635	0.0957	0.0321
Haga Test	0.0201	0.0621	0.042
$\alpha=0.01$			
Student's t	0.1625	0.2355	0.0731
Welch-Aspin's t	0.0146	0.0223	0.0078
Yuen	0.0285	0.0466	0.0181
Tukey's Quick	0.0383	0.0566	0.0183
Haga	0.0183	0.0566	0.0383
$\alpha=0.001$			
Student's t	0.0951	0.1355	0.0404
Welch-Aspin's t	0.0042	0.0063	0.0021
Yuen	0.0132	0.022	0.0087
Tukey's Quick	0.0245	0.0352	0.0107
Haga	0.0164	0.0521	0.0356

Table 219

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1377	0.1627	0.025
Welch-Aspin's t	0.0624	0.0717	0.0094
Yuen Test	0.0596	0.0758	0.0162
Tukey's Quick Test	0.0015	0.0018	0.0003
Haga Test	0.0021	0.0147	0.0126
$\alpha=0.01$			
Student's t	0.0597	0.0682	0.0085
Welch-Aspin's t	0.0168	0.019	0.0021
Yuen	0.0189	0.0236	0.0047
Tukey's Quick	0.0014	0.0016	0.0002
Haga	0.0002	0.0016	0.0014
$\alpha=0.001$			
Student's t	0.0187	0.021	0.0023
Welch-Aspin's t	0.0028	0.0031	0.0003
Yuen	0.0041	0.0051	0.001
Tukey's Quick	0.0007	0.0008	0.0001
Haga	0.0001	0.0008	0.0007

Table 220

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0764	0.0992	0.0228
Welch-Aspin's t	0.0599	0.0785	0.0186
Yuen Test	0.0674	0.0952	0.0278
Tukey's Quick Test	0.0495	0.0643	0.0148
Haga Test	0.0148	0.0643	0.0495
$\alpha=0.01$			
Student's t	0.0317	0.0407	0.0089
Welch-Aspin's t	0.0218	0.0284	0.0066
Yuen	0.0223	0.0302	0.008
Tukey's Quick	0.0256	0.0322	0.0066
Haga	0.0066	0.0322	0.0256
$\alpha=0.001$			
Student's t	0.0097	0.0121	0.0024
Welch-Aspin's t	0.0062	0.0079	0.0017
Yuen	0.0037	0.0049	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	0.0066	0.0325	0.0259

Table 221

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1105	0.1163	0.0058
Welch-Aspin's t	0.0998	0.1049	0.0051
Yuen Test	0.0825	0.093	0.0105
Tukey's Quick Test	0.0023	0.0025	0.0002
Haga Test	0.0082	0.0882	0.08
$\alpha=0.01$			
Student's t	0.0364	0.0377	0.0013
Welch-Aspin's t	0.0284	0.0294	0.001
Yuen	0.0267	0.0295	0.0028
Tukey's Quick	0.0021	0.0022	0.0001
Haga	0.0004	0.0101	0.0097
$\alpha=0.001$			
Student's t	0.0081	0.0084	0.0002
Welch-Aspin's t	0.005	0.0051	0.0002
Yuen	0.0061	0.0066	0.0005
Tukey's Quick	0.0013	0.0014	0.0001
Haga	0.0001	0.0014	0.0014

Table 222

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1552	0.1578	0.0025
Welch-Aspin's t	0.1464	0.1487	0.0023
Yuen Test	0.1051	0.1106	0.0055
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0089	0.1544	0.1455
$\alpha=0.01$			
Student's t	0.0537	0.0542	0.0005
Welch-Aspin's t	0.0464	0.0468	0.0004
Yuen	0.0334	0.0347	0.0013
Tukey's Quick	0.0001	0.0001	0
Haga	0.0024	0.0655	0.0631
$\alpha=0.001$			
Student's t	0.0116	0.0117	0.0001
Welch-Aspin's t	0.0083	0.0083	0
Yuen	0.0069	0.0071	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0125	0.0123

Table 223

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.8\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2226	0.2884	0.0658
Welch-Aspin's t	0.0566	0.0751	0.0184
Yuen Test	0.0711	0.1043	0.0332
Tukey's Quick Test	0.0732	0.0973	0.024
Haga Test	0.0152	0.0655	0.0503
$\alpha=0.01$			
Student's t	0.1324	0.1692	0.0368
Welch-Aspin's t	0.02	0.0268	0.0067
Yuen	0.035	0.0514	0.0164
Tukey's Quick	0.0443	0.0572	0.0128
Haga	0.0109	0.0496	0.0387
$\alpha=0.001$			
Student's t	0.0673	0.0846	0.0173
Welch-Aspin's t	0.0055	0.0075	0.002
Yuen	0.0163	0.0238	0.0074
Tukey's Quick	0.025	0.0311	0.0062
Haga	0.0091	0.0426	0.0335

Table 224

Uniform Distribution, $n_1=5, n_2=25, Effect Size=0.8\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2936	0.385	0.0914
Welch-Aspin's t	0.0556	0.0734	0.0178
Yuen Test	0.0662	0.0974	0.0312
Tukey's Quick Test	0.0759	0.1017	0.0258
Haga Test	0.0158	0.067	0.0512
$\alpha=0.01$			
Student's t	0.2	0.256	0.056
Welch-Aspin's t	0.0179	0.0241	0.0062
Yuen	0.0323	0.0477	0.0154
Tukey's Quick	0.0476	0.0617	0.0141
Haga	0.0141	0.0617	0.0476
$\alpha=0.001$			
Student's t	0.1187	0.149	0.0303
Welch-Aspin's t	0.005	0.0066	0.0016
Yuen	0.0147	0.0221	0.0075
Tukey's Quick	0.0305	0.0385	0.0081
Haga	0.0127	0.0561	0.0434

Table 225

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.204	0.2175	0.0135
Welch-Aspin's t	0.0998	0.1047	0.005
Yuen Test	0.0829	0.0935	0.0106
Tukey's Quick Test	0.0027	0.0028	0.0002
Haga Test	0.0012	0.0213	0.0202
$\alpha=0.01$			
Student's t	0.0953	0.0995	0.0042
Welch-Aspin's t	0.0282	0.0293	0.0011
Yuen	0.0268	0.0296	0.0028
Tukey's Quick	0.0022	0.0023	0.0001
Haga	0.0001	0.0025	0.0024
$\alpha=0.001$			
Student's t	0.0326	0.0337	0.001
Welch-Aspin's t	0.005	0.0051	0.0002
Yuen	0.0062	0.0068	0.0006
Tukey's Quick	0.0012	0.0013	0.0001
Haga	0.0001	0.0013	0.0012

Table 226

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0986	0.1146	0.016
Welch-Aspin's t	0.0761	0.0894	0.0133
Yuen Test	0.0807	0.1019	0.0212
Tukey's Quick Test	0.0634	0.0737	0.0103
Haga Test	0.0103	0.0737	0.0634
$\alpha=0.01$			
Student's t	0.0409	0.0472	0.0063
Welch-Aspin's t	0.0274	0.0321	0.0047
Yuen	0.0272	0.0332	0.006
Tukey's Quick	0.0341	0.0385	0.0044
Haga	0.0044	0.0385	0.0341
$\alpha=0.001$			
Student's t	0.0125	0.014	0.0016
Welch-Aspin's t	0.0076	0.0087	0.0011
Yuen	0.0047	0.0055	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	0.0044	0.0384	0.0341

Table 227

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1876	0.1898	0.0022
Welch-Aspin's t	0.1708	0.1727	0.0019
Yuen Test	0.1228	0.1282	0.0055
Tukey's Quick Test	0.0045	0.0046	0.0001
Haga Test	0.0039	0.1272	0.1233
$\alpha=0.01$			
Student's t	0.0694	0.0699	0.0005
Welch-Aspin's t	0.0551	0.0554	0.0004
Yuen	0.042	0.0435	0.0014
Tukey's Quick	0.0041	0.0041	0
Haga	0.0002	0.0178	0.0176
$\alpha=0.001$			
Student's t	0.0169	0.017	0.0001
Welch-Aspin's t	0.0103	0.0104	0.0001
Yuen	0.01	0.0104	0.0003
Tukey's Quick	0.0026	0.0026	0
Haga	0	0.0027	0.0027

Table 228

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2898	0.2904	0.0006
Welch-Aspin's t	0.2764	0.2769	0.0005
Yuen Test	0.1767	0.1787	0.002
Tukey's Quick Test	0.0002	0.0002	0
Haga Test	0.0033	0.2363	0.233
$\alpha=0.01$			
Student's t	0.1202	0.1203	0.0001
Welch-Aspin's t	0.1056	0.1056	0.0001
Yuen	0.0616	0.0621	0.0004
Tukey's Quick	0.0001	0.0001	0
Haga	0.0008	0.1146	0.1138
$\alpha=0.001$			
Student's t	0.031	0.031	0
Welch-Aspin's t	0.0225	0.0225	0
Yuen	0.0137	0.0138	0.0001
Tukey's Quick	0.0001	0.0001	0
Haga	0.0001	0.0262	0.0261

Table 229

Uniform Distribution, $n_1=5, n_2=15, Effect Size=1.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2837	0.3296	0.0459
Welch-Aspin's t	0.0725	0.0858	0.0134
Yuen Test	0.0827	0.1095	0.0268
Tukey's Quick Test	0.0934	0.1111	0.0177
Haga Test	0.0107	0.0761	0.0653
$\alpha=0.01$			
Student's t	0.1723	0.1975	0.0252
Welch-Aspin's t	0.0253	0.0301	0.0048
Yuen	0.0405	0.0534	0.0129
Tukey's Quick	0.0574	0.0664	0.009
Haga	0.0075	0.0579	0.0505
$\alpha=0.001$			
Student's t	0.0895	0.101	0.0115
Welch-Aspin's t	0.0068	0.0083	0.0015
Yuen	0.0188	0.0247	0.0058
Tukey's Quick	0.0335	0.0375	0.0041
Haga	0.0061	0.0502	0.0441

Table 230

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3699	0.4326	0.0627
Welch-Aspin's t	0.0721	0.0846	0.0125
Yuen Test	0.0779	0.1025	0.0246
Tukey's Quick Test	0.0973	0.1157	0.0184
Haga Test	0.0109	0.0777	0.0668
$\alpha=0.01$			
Student's t	0.259	0.2967	0.0377
Welch-Aspin's t	0.0224	0.0271	0.0047
Yuen	0.0372	0.0496	0.0124
Tukey's Quick	0.0616	0.0715	0.0099
Haga	0.0099	0.0715	0.0616
$\alpha=0.001$			
Student's t	0.1585	0.1784	0.0199
Welch-Aspin's t	0.0063	0.0076	0.0012
Yuen	0.0172	0.0233	0.0061
Tukey's Quick	0.0405	0.046	0.0055
Haga	0.0088	0.0655	0.0567

Table 231

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3202	0.3255	0.0053
Welch-Aspin's t	0.1725	0.1744	0.0018
Yuen Test	0.1241	0.1296	0.0055
Tukey's Quick Test	0.0048	0.0049	0.0001
Haga Test	0.0005	0.0363	0.0358
$\alpha=0.01$			
Student's t	0.167	0.1687	0.0016
Welch-Aspin's t	0.0551	0.0555	0.0004
Yuen	0.0419	0.0435	0.0015
Tukey's Quick	0.0042	0.0043	0
Haga	0	0.0048	0.0048
$\alpha=0.001$			
Student's t	0.0631	0.0635	0.0004
Welch-Aspin's t	0.0102	0.0103	0.0001
Yuen	0.0096	0.0099	0.0003
Tukey's Quick	0.0024	0.0025	0
Haga	0	0.0025	0.0024

Table 232

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1593	0.1666	0.0072
Welch-Aspin's t	0.1214	0.1276	0.0062
Yuen Test	0.1124	0.1238	0.0115
Tukey's Quick Test	0.1029	0.1076	0.0047
Haga Test	0.0047	0.1076	0.1029
$\alpha=0.01$			
Student's t	0.0668	0.0694	0.0026
Welch-Aspin's t	0.043	0.0451	0.0021
Yuen	0.0397	0.0426	0.003
Tukey's Quick	0.0574	0.0591	0.0018
Haga	0.0018	0.0591	0.0574
$\alpha=0.001$			
Student's t	0.0209	0.0215	0.0006
Welch-Aspin's t	0.012	0.0124	0.0004
Yuen	0.0074	0.0078	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0018	0.0596	0.0579

Table 233

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4251	0.4253	0.0002
Welch-Aspin's t	0.3974	0.3976	0.0002
Yuen Test	0.245	0.2463	0.0012
Tukey's Quick Test	0.0146	0.0146	0
Haga Test	0.0007	0.2589	0.2582
$\alpha=0.01$			
Student's t	0.2006	0.2006	0
Welch-Aspin's t	0.1648	0.1649	0
Yuen	0.0928	0.0931	0.0003
Tukey's Quick	0.0138	0.0138	0
Haga	0	0.0529	0.0528
$\alpha=0.001$			
Student's t	0.0613	0.0613	0
Welch-Aspin's t	0.0387	0.0387	0
Yuen	0.0238	0.0239	0
Tukey's Quick	0.0096	0.0096	0
Haga	0	0.0102	0.0102

Table 234

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6517	0.6518	0
Welch-Aspin's t	0.6361	0.6361	0
Yuen Test	0.3956	0.3958	0.0002
Tukey's Quick Test	0.001	0.001	0
Haga Test	0.0003	0.4792	0.4789
$\alpha=0.01$			
Student's t	0.3944	0.3944	0
Welch-Aspin's t	0.3626	0.3626	0
Yuen	0.1761	0.1762	0
Tukey's Quick	0.0011	0.0011	0
Haga	0	0.2965	0.2964
$\alpha=0.001$			
Student's t	0.1538	0.1538	0
Welch-Aspin's t	0.12	0.12	0
Yuen	0.0479	0.0479	0
Tukey's Quick	0.0011	0.0011	0
Haga	0	0.0988	0.0988

Table 235

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4295	0.4496	0.0202
Welch-Aspin's t	0.1151	0.1216	0.0065
Yuen Test	0.1113	0.1269	0.0156
Tukey's Quick Test	0.1463	0.1548	0.0085
Haga Test	0.0049	0.1103	0.1054
$\alpha=0.01$			
Student's t	0.2806	0.2912	0.0106
Welch-Aspin's t	0.0385	0.0409	0.0024
Yuen	0.0541	0.0617	0.0076
Tukey's Quick	0.0944	0.0984	0.0041
Haga	0.0032	0.0869	0.0837
$\alpha=0.001$			
Student's t	0.1507	0.1551	0.0043
Welch-Aspin's t	0.0105	0.0112	0.0007
Yuen	0.0246	0.0279	0.0034
Tukey's Quick	0.0573	0.0588	0.0015
Haga	0.0025	0.0761	0.0736

Table 236

Uniform Distribution, $n_1=5, n_2=25, Effect Size=2.0\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5332	0.5607	0.0276
Welch-Aspin's t	0.1151	0.1214	0.0063
Yuen Test	0.1052	0.1204	0.0152
Tukey's Quick Test	0.151	0.1604	0.0093
Haga Test	0.0053	0.1122	0.1069
$\alpha=0.01$			
Student's t	0.4013	0.417	0.0157
Welch-Aspin's t	0.0353	0.0376	0.0023
Yuen	0.0484	0.0557	0.0073
Tukey's Quick	0.0994	0.1039	0.0045
Haga	0.0045	0.1039	0.0994
$\alpha=0.001$			
Student's t	0.2626	0.2702	0.0075
Welch-Aspin's t	0.0093	0.0099	0.0007
Yuen	0.0219	0.0256	0.0037
Tukey's Quick	0.0684	0.0706	0.0022
Haga	0.0038	0.0965	0.0927

Table 237

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6063	0.6069	0.0006
Welch-Aspin's t	0.4031	0.4033	0.0002
Yuen Test	0.2466	0.2478	0.0012
Tukey's Quick Test	0.0163	0.0163	0
Haga Test	0.0001	0.096	0.0959
$\alpha=0.01$			
Student's t	0.3948	0.395	0.0002
Welch-Aspin's t	0.1672	0.1673	0.0001
Yuen	0.0939	0.0942	0.0003
Tukey's Quick	0.0144	0.0144	0
Haga	0	0.0166	0.0166
$\alpha=0.001$			
Student's t	0.0631	0.0635	0.0004
Welch-Aspin's t	0.0102	0.0103	0.0001
Yuen	0.0096	0.0099	0.0003
Tukey's Quick	0.0024	0.0025	0
Haga	0	0.0025	0.0024

Table 238

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0494	0.0957	0.0463
Welch-Aspin's t	0.0337	0.0653	0.0316
Yuen Test	0.0429	0.0837	0.0409
Tukey's Quick Test	0.0321	0.0623	0.0302
Haga Test	0.0302	0.0623	0.0321
$\alpha=0.01$			
Student's t	0.0218	0.0426	0.0208
Welch-Aspin's t	0.0101	0.0198	0.0097
Yuen	0.0139	0.0269	0.0131
Tukey's Quick	0.026	0.0506	0.0246
Haga	0.0246	0.0506	0.026
$\alpha=0.001$			
Student's t	0.0079	0.0154	0.0075
Welch-Aspin's t	0.002	0.0039	0.0018
Yuen	0.0043	0.0086	0.0042
Tukey's Quick	n/a	n/a	n/a
Haga	0.0243	0.0507	0.0264

Table 239

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0339	0.0618	0.0279
Welch-Aspin's t	0.0288	0.0524	0.0236
Yuen Test	0.0342	0.0643	0.0301
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0.0415	0.0884	0.0469
$\alpha=0.01$			
Student's t	0.0098	0.0179	0.0081
Welch-Aspin's t	0.0068	0.0123	0.0055
Yuen	0.0098	0.0184	0.0086
Tukey's Quick	0.0001	0.0001	0
Haga	0.0041	0.0089	0.0048
$\alpha=0.001$			
Student's t	0.0021	0.0038	0.0018
Welch-Aspin's t	0.001	0.0019	0.0009
Yuen	0.0018	0.0033	0.0015
Tukey's Quick	0.0001	0.0001	0.0001
Haga	0.0003	0.0006	0.0003

Table 240

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0321	0.0569	0.0249
Welch-Aspin's t	0.029	0.0513	0.0224
Yuen Test	0.0317	0.0581	0.0264
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0562	0.1209	0.0647
$\alpha=0.01$			
Student's t	0.0082	0.0144	0.0061
Welch-Aspin's t	0.0065	0.0112	0.0048
Yuen	0.0083	0.0151	0.0067
Tukey's Quick	n/a	n/a	n/a
Haga	0.0221	0.0485	0.0264
$\alpha=0.001$			
Student's t	0.0015	0.0025	0.001
Welch-Aspin's t	0.0009	0.0014	0.0006
Yuen	0.0014	0.0025	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	0.0042	0.0094	0.0052

Table 241

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1543	0.2984	0.144
Welch-Aspin's t	0.0343	0.0658	0.0316
Yuen Test	0.0427	0.0835	0.0408
Tukey's Quick Test	0.0365	0.0701	0.0337
Haga Test	0.03	0.0626	0.0326
$\alpha=0.01$			
Student's t	0.0972	0.1873	0.0901
Welch-Aspin's t	0.0103	0.0199	0.0096
Yuen	0.0117	0.023	0.0113
Tukey's Quick	0.031	0.0598	0.0288
Haga	0.0277	0.0576	0.0298
$\alpha=0.001$			
Student's t	0.0561	0.1081	0.052
Welch-Aspin's t	0.0018	0.0034	0.0016
Yuen	0.0044	0.0085	0.0041
Tukey's Quick	0.0266	0.0513	0.0247
Haga	0.0267	0.0554	0.0287

Table 242

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2155	0.4174	0.2019
Welch-Aspin's t	0.0338	0.0656	0.0318
Yuen Test	0.0425	0.0832	0.0407
Tukey's Quick Test	0.0362	0.0701	0.034
Haga Test	0.0302	0.0624	0.0322
$\alpha=0.01$			
Student's t	0.1529	0.2947	0.1418
Welch-Aspin's t	0.0102	0.0197	0.0095
Yuen	0.0115	0.022	0.0106
Tukey's Quick	0.0314	0.0606	0.0292
Haga	0.0292	0.0606	0.0314
$\alpha=0.001$			
Student's t	0.1013	0.1946	0.0933
Welch-Aspin's t	0.0018	0.0034	0.0016
Yuen	0.0033	0.0064	0.0031
Tukey's Quick	0.028	0.0541	0.0261
Haga	0.0288	0.0597	0.031

Table 243

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0761	0.1407	0.0645
Welch-Aspin's t	0.0285	0.0521	0.0235
Yuen Test	0.0342	0.0643	0.0301
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0.0106	0.023	0.0123
$\alpha=0.01$			
Student's t	0.0314	0.0577	0.0264
Welch-Aspin's t	0.0069	0.0126	0.0057
Yuen	0.0098	0.0185	0.0087
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0006	0.0012	0.0006
$\alpha=0.001$			
Student's t	0.0101	0.0185	0.0084
Welch-Aspin's t	0.001	0.0019	0.0008
Yuen	0.0017	0.0032	0.0015
Tukey's Quick	0.0001	0.0001	0.0001
Haga	0.0001	0.0001	0.0001

Table 244

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0521	0.0956	0.0434
Welch-Aspin's t	0.0356	0.0652	0.0296
Yuen Test	0.0447	0.0843	0.0396
Tukey's Quick Test	0.0338	0.0621	0.0283
Haga Test	0.0283	0.0621	0.0338
$\alpha=0.01$			
Student's t	0.0233	0.0428	0.0195
Welch-Aspin's t	0.0107	0.0197	0.009
Yuen	0.0144	0.0272	0.0128
Tukey's Quick	0.0277	0.0509	0.0232
Haga	0.0232	0.0509	0.0277
$\alpha=0.001$			
Student's t	0.0084	0.0153	0.0069
Welch-Aspin's t	0.0021	0.0038	0.0018
Yuen	0.0045	0.0085	0.0039
Tukey's Quick	n/a	n/a	n/a
Haga	0.0227	0.0507	0.0279

Table 245

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0389	0.0634	0.0245
Welch-Aspin's t	0.033	0.0537	0.0207
Yuen Test	0.0378	0.0651	0.0273
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0.038	0.0893	0.0512
$\alpha=0.01$			
Student's t	0.0115	0.0185	0.007
Welch-Aspin's t	0.0079	0.0128	0.0048
Yuen	0.0109	0.0188	0.0078
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0036	0.009	0.0054
$\alpha=0.001$			
Student's t	0.0025	0.004	0.0015
Welch-Aspin's t	0.0012	0.0019	0.0007
Yuen	0.002	0.0034	0.0014
Tukey's Quick	0.0001	0.0001	0
Haga	0.0002	0.0005	0.0003

Table 246

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0386	0.0588	0.0201
Welch-Aspin's t	0.035	0.053	0.018
Yuen Test	0.0363	0.0593	0.023
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0502	0.1227	0.0724
$\alpha=0.01$			
Student's t	0.0103	0.0151	0.0048
Welch-Aspin's t	0.0081	0.0118	0.0037
Yuen	0.0096	0.0153	0.0057
Tukey's Quick	n/a	n/a	n/a
Haga	0.0194	0.0494	0.0299
$\alpha=0.001$			
Student's t	0.0018	0.0026	0.0008
Welch-Aspin's t	0.0012	0.0016	0.0004
Yuen	0.0016	0.0026	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	0.0034	0.0094	0.006

Table 247

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1627	0.2994	0.1367
Welch-Aspin's t	0.0358	0.0662	0.0305
Yuen Test	0.0443	0.0837	0.0394
Tukey's Quick Test	0.0379	0.0701	0.0322
Haga Test	0.0286	0.0626	0.0339
$\alpha=0.01$			
Student's t	0.1025	0.1881	0.0856
Welch-Aspin's t	0.0108	0.0199	0.0091
Yuen	0.0123	0.0233	0.011
Tukey's Quick	0.0328	0.0602	0.0274
Haga	0.0264	0.058	0.0316
$\alpha=0.001$			
Student's t	0.0593	0.1088	0.0495
Welch-Aspin's t	0.0018	0.0034	0.0015
Yuen	0.0044	0.0085	0.004
Tukey's Quick	0.0281	0.0515	0.0234
Haga	0.0253	0.0557	0.0304

Table 248

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2265	0.4184	0.1918
Welch-Aspin's t	0.0359	0.0659	0.03
Yuen Test	0.0446	0.0839	0.0394
Tukey's Quick Test	0.0382	0.0702	0.0319
Haga Test	0.0284	0.0624	0.034
$\alpha=0.01$			
Student's t	0.1618	0.2968	0.135
Welch-Aspin's t	0.0109	0.0201	0.0092
Yuen	0.0119	0.0223	0.0104
Tukey's Quick	0.0335	0.0615	0.028
Haga	0.028	0.0615	0.0335
$\alpha=0.001$			
Student's t	0.1065	0.195	0.0884
Welch-Aspin's t	0.0018	0.0034	0.0015
Yuen	0.0033	0.0064	0.0031
Tukey's Quick	0.0299	0.0546	0.0247
Haga	0.0273	0.0602	0.0329

Table 249

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0858	0.1424	0.0566
Welch-Aspin's t	0.0328	0.0534	0.0206
Yuen Test	0.0375	0.0649	0.0274
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0.0098	0.0236	0.0138
$\alpha=0.01$			
Student's t	0.0366	0.059	0.0224
Welch-Aspin's t	0.008	0.0127	0.0047
Yuen	0.0111	0.0186	0.0075
Tukey's Quick	0.0001	0.0001	0.0001
Haga	0.0004	0.0011	0.0007
$\alpha=0.001$			
Student's t	0.0117	0.0187	0.007
Welch-Aspin's t	0.0013	0.002	0.0007
Yuen	0.002	0.0034	0.0014
Tukey's Quick	0.0001	0.0001	0.0001
Haga	0.0001	0.0001	0.0001

Table 250

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0548	0.0959	0.0412
Welch-Aspin's t	0.0373	0.0653	0.028
Yuen Test	0.0466	0.0842	0.0376
Tukey's Quick Test	0.0354	0.0621	0.0267
Haga Test	0.0267	0.0621	0.0354
$\alpha=0.01$			
Student's t	0.0248	0.0433	0.0185
Welch-Aspin's t	0.0115	0.02	0.0085
Yuen	0.0151	0.0277	0.0126
Tukey's Quick	0.0297	0.0516	0.0219
Haga	0.0219	0.0516	0.0297
$\alpha=0.001$			
Student's t	0.0087	0.0154	0.0067
Welch-Aspin's t	0.002	0.0038	0.0018
Yuen	0.0046	0.0086	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	0.022	0.0515	0.0295

Table 251

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0441	0.065	0.0209
Welch-Aspin's t	0.0375	0.0552	0.0177
Yuen Test	0.0413	0.0657	0.0245
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0.0345	0.0901	0.0556
$\alpha=0.01$			
Student's t	0.0132	0.019	0.0058
Welch-Aspin's t	0.0093	0.0133	0.004
Yuen	0.0119	0.0188	0.0068
Tukey's Quick	0.0001	0.0002	0
Haga	0.0031	0.0091	0.006
$\alpha=0.001$			
Student's t	0.0029	0.0042	0.0013
Welch-Aspin's t	0.0014	0.002	0.0006
Yuen	0.0022	0.0035	0.0013
Tukey's Quick	0.0001	0.0001	0
Haga	0.0002	0.0006	0.0004

Table 252

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0468	0.063	0.0162
Welch-Aspin's t	0.0424	0.0569	0.0145
Yuen Test	0.0419	0.0616	0.0197
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0445	0.1255	0.0809
$\alpha=0.01$			
Student's t	0.0127	0.0165	0.0038
Welch-Aspin's t	0.0101	0.0131	0.003
Yuen	0.0113	0.0162	0.0049
Tukey's Quick	n/a	n/a	n/a
Haga	0.0171	0.0509	0.0337
$\alpha=0.001$			
Student's t	0.0022	0.0028	0.0006
Welch-Aspin's t	0.0013	0.0017	0.0004
Yuen	0.0019	0.0027	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	0.0029	0.0098	0.0069

Table 253

Uniform Distribution, $n_1=5, n_2=15, Effect Size=0.8\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1714	0.3005	0.1291
Welch-Aspin's t	0.038	0.0663	0.0284
Yuen Test	0.0462	0.0842	0.038
Tukey's Quick Test	0.04	0.0703	0.0303
Haga Test	0.027	0.063	0.0359
$\alpha=0.01$			
Student's t	0.1078	0.1889	0.0811
Welch-Aspin's t	0.0115	0.02	0.0085
Yuen	0.0128	0.0231	0.0103
Tukey's Quick	0.0345	0.0603	0.0258
Haga	0.0248	0.058	0.0332
$\alpha=0.001$			
Student's t	0.0627	0.1093	0.0467
Welch-Aspin's t	0.0019	0.0034	0.0015
Yuen	0.0043	0.0083	0.0039
Tukey's Quick	0.0297	0.0518	0.0221
Haga	0.0239	0.056	0.0321

Table 254

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2379	0.4194	0.1815
Welch-Aspin's t	0.0378	0.066	0.0282
Yuen Test	0.0462	0.0836	0.0374
Tukey's Quick Test	0.0403	0.0704	0.0301
Haga Test	0.0267	0.0626	0.0359
$\alpha=0.01$			
Student's t	0.17	0.2974	0.1273
Welch-Aspin's t	0.0115	0.02	0.0085
Yuen	0.0123	0.0221	0.0098
Tukey's Quick	0.0354	0.0616	0.0263
Haga	0.0263	0.0616	0.0354
$\alpha=0.001$			
Student's t	0.1123	0.1957	0.0834
Welch-Aspin's t	0.002	0.0034	0.0015
Yuen	0.0034	0.0063	0.0029
Tukey's Quick	0.0313	0.0543	0.0231
Haga	0.0256	0.06	0.0344

Table 255

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0965	0.146	0.0495
Welch-Aspin's t	0.0377	0.0552	0.0175
Yuen Test	0.0411	0.0658	0.0246
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0.0086	0.024	0.0155
$\alpha=0.01$			
Student's t	0.0413	0.0609	0.0196
Welch-Aspin's t	0.0092	0.0133	0.0041
Yuen	0.012	0.019	0.007
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0004	0.0013	0.0008
$\alpha=0.001$			
Student's t	0.0136	0.0197	0.0061
Welch-Aspin's t	0.0013	0.0019	0.0006
Yuen	0.002	0.0032	0.0012
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001

Table 256

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0592	0.0974	0.0382
Welch-Aspin's t	0.0406	0.0667	0.0262
Yuen Test	0.049	0.085	0.036
Tukey's Quick Test	0.0386	0.0634	0.0248
Haga Test	0.0248	0.0634	0.0386
$\alpha=0.01$			
Student's t	0.0263	0.0433	0.017
Welch-Aspin's t	0.0122	0.0202	0.008
Yuen	0.0154	0.0272	0.0118
Tukey's Quick	0.0315	0.0516	0.0201
Haga	0.0201	0.0516	0.0315
$\alpha=0.001$			
Student's t	0.0094	0.0157	0.0063
Welch-Aspin's t	0.0024	0.004	0.0016
Yuen	0.0049	0.0085	0.0037
Tukey's Quick	n/a	n/a	n/a
Haga	0.0205	0.0522	0.0317

Table 257

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0522	0.0694	0.0171
Welch-Aspin's t	0.0446	0.0591	0.0144
Yuen Test	0.0464	0.0678	0.0213
Tukey's Quick Test	0.0001	0.0002	0
Haga Test	0.0301	0.0927	0.0626
$\alpha=0.01$			
Student's t	0.016	0.0207	0.0046
Welch-Aspin's t	0.0112	0.0144	0.0032
Yuen	0.0136	0.0194	0.0058
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0026	0.0097	0.0071
$\alpha=0.001$			
Student's t	0.0036	0.0046	0.001
Welch-Aspin's t	0.0018	0.0022	0.0004
Yuen	0.0026	0.0036	0.001
Tukey's Quick	0.0001	0.0002	0
Haga	0.0001	0.0006	0.0005

Table 258

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0587	0.0711	0.0123
Welch-Aspin's t	0.0535	0.0645	0.011
Yuen Test	0.0493	0.0654	0.0161
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0381	0.13	0.0919
$\alpha=0.01$			
Student's t	0.0169	0.0196	0.0027
Welch-Aspin's t	0.0135	0.0156	0.0021
Yuen	0.0138	0.0178	0.0039
Tukey's Quick	n/a	n/a	n/a
Haga	0.0139	0.054	0.0401
$\alpha=0.001$			
Student's t	0.0031	0.0036	0.0004
Welch-Aspin's t	0.0019	0.0021	0.0003
Yuen	0.0024	0.003	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	0.0024	0.0109	0.0085

Table 259

Uniform Distribution, $n_1=5, n_2=15, Effect Size=1.2\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1833	0.3025	0.1193
Welch-Aspin's t	0.0404	0.0663	0.026
Yuen Test	0.0484	0.0834	0.0351
Tukey's Quick Test	0.0427	0.0707	0.0279
Haga Test	0.0248	0.0632	0.0383
$\alpha=0.01$			
Student's t	0.1157	0.1909	0.0752
Welch-Aspin's t	0.0122	0.0202	0.008
Yuen	0.0132	0.0232	0.01
Tukey's Quick	0.0368	0.0607	0.0239
Haga	0.023	0.0585	0.0355
$\alpha=0.001$			
Student's t	0.0669	0.1101	0.0432
Welch-Aspin's t	0.0021	0.0035	0.0014
Yuen	0.0047	0.0085	0.0038
Tukey's Quick	0.0317	0.0521	0.0204
Haga	0.0222	0.0564	0.0342

Table 260

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2547	0.4229	0.1682
Welch-Aspin's t	0.0403	0.0664	0.0261
Yuen Test	0.0486	0.084	0.0353
Tukey's Quick Test	0.0431	0.0711	0.028
Haga Test	0.0247	0.0632	0.0385
$\alpha=0.01$			
Student's t	0.1819	0.3005	0.1186
Welch-Aspin's t	0.0124	0.0203	0.0079
Yuen	0.0128	0.0221	0.0093
Tukey's Quick	0.0375	0.0618	0.0243
Haga	0.0243	0.0618	0.0375
$\alpha=0.001$			
Student's t	0.12	0.1976	0.0776
Welch-Aspin's t	0.002	0.0034	0.0014
Yuen	0.0035	0.0064	0.0029
Tukey's Quick	0.0331	0.0547	0.0216
Haga	0.0238	0.0602	0.0364

Table 261

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1126	0.1537	0.0411
Welch-Aspin's t	0.045	0.0593	0.0143
Yuen Test	0.0468	0.0683	0.0215
Tukey's Quick Test	0.0001	0.0002	0
Haga Test	0.0075	0.0253	0.0178
$\alpha=0.01$			
Student's t	0.0493	0.0654	0.0161
Welch-Aspin's t	0.0113	0.0147	0.0034
Yuen	0.0137	0.0196	0.006
Tukey's Quick	0.0001	0.0002	0
Haga	0.0003	0.0014	0.001
$\alpha=0.001$			
Student's t	0.0164	0.0214	0.005
Welch-Aspin's t	0.0017	0.0022	0.0005
Yuen	0.0025	0.0036	0.0011
Tukey's Quick	0.0001	0.0002	0
Haga	0	0.0002	0.0001

Table 262

Uniform Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0671	0.0998	0.0327
Welch-Aspin's t	0.0459	0.0683	0.0224
Yuen Test	0.054	0.086	0.032
Tukey's Quick Test	0.0437	0.0649	0.0212
Haga Test	0.0212	0.0649	0.0437
$\alpha=0.01$			
Student's t	0.0301	0.0446	0.0145
Welch-Aspin's t	0.0138	0.0205	0.0067
Yuen	0.0171	0.0278	0.0107
Tukey's Quick	0.0362	0.0532	0.017
Haga	0.017	0.0532	0.0362
$\alpha=0.001$			
Student's t	0.0111	0.0164	0.0053
Welch-Aspin's t	0.0027	0.0041	0.0015
Yuen	0.0053	0.0087	0.0034
Tukey's Quick	n/a	n/a	n/a
Haga	0.0171	0.0539	0.0368

Table 263

Uniform Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0734	0.0847	0.0112
Welch-Aspin's t	0.0631	0.0725	0.0094
Yuen Test	0.0592	0.0754	0.0161
Tukey's Quick Test	0.0002	0.0002	0
Haga Test	0.0233	0.101	0.0777
$\alpha=0.01$			
Student's t	0.0235	0.0266	0.003
Welch-Aspin's t	0.0165	0.0185	0.0021
Yuen	0.018	0.0223	0.0044
Tukey's Quick	0.0002	0.0002	0
Haga	0.0019	0.0114	0.0096
$\alpha=0.001$			
Student's t	0.0055	0.0062	0.0007
Welch-Aspin's t	0.0027	0.003	0.0003
Yuen	0.0033	0.0041	0.0008
Tukey's Quick	0.0002	0.0002	0
Haga	0.0001	0.0008	0.0007

Table 264

Uniform Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0908	0.0977	0.0069
Welch-Aspin's t	0.0832	0.0893	0.0061
Yuen Test	0.0683	0.0791	0.0108
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0278	0.1467	0.119
$\alpha=0.01$			
Student's t	0.0284	0.0298	0.0014
Welch-Aspin's t	0.0229	0.0239	0.0011
Yuen	0.02	0.0225	0.0025
Tukey's Quick	n/a	n/a	n/a
Haga	0.0095	0.0641	0.0546
$\alpha=0.001$			
Student's t	0.0058	0.006	0.0002
Welch-Aspin's t	0.0036	0.0037	0.0001
Yuen	0.0036	0.004	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0015	0.0139	0.0124

Table 265

Uniform Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2098	0.3127	0.1028
Welch-Aspin's t	0.0466	0.0693	0.0227
Yuen Test	0.0534	0.0851	0.0317
Tukey's Quick Test	0.0491	0.0735	0.0244
Haga Test	0.0217	0.0659	0.0442
$\alpha=0.01$			
Student's t	0.1324	0.1969	0.0645
Welch-Aspin's t	0.0141	0.0209	0.0068
Yuen	0.0146	0.0235	0.0089
Tukey's Quick	0.0424	0.0632	0.0207
Haga	0.0199	0.0607	0.0409
$\alpha=0.001$			
Student's t	0.0769	0.1137	0.0368
Welch-Aspin's t	0.0024	0.0035	0.0011
Yuen	0.0049	0.0083	0.0034
Tukey's Quick	0.0366	0.0538	0.0171
Haga	0.0187	0.0581	0.0394

Table 266

Uniform Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2859	0.4321	0.1461
Welch-Aspin's t	0.0461	0.0688	0.0227
Yuen Test	0.0535	0.0852	0.0316
Tukey's Quick Test	0.049	0.0734	0.0244
Haga Test	0.0215	0.0654	0.0439
$\alpha=0.01$			
Student's t	0.2077	0.3094	0.1016
Welch-Aspin's t	0.0143	0.0211	0.0067
Yuen	0.0143	0.0228	0.0085
Tukey's Quick	0.0432	0.0641	0.0209
Haga	0.0209	0.0641	0.0432
$\alpha=0.001$			
Student's t	0.138	0.204	0.066
Welch-Aspin's t	0.0023	0.0035	0.0012
Yuen	0.0037	0.0064	0.0026
Tukey's Quick	0.0385	0.0568	0.0183
Haga	0.0202	0.0624	0.0422

Table 267

Uniform Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1503	0.1786	0.0283
Welch-Aspin's t	0.0629	0.0723	0.0094
Yuen Test	0.0592	0.0755	0.0163
Tukey's Quick Test	0.0002	0.0002	0
Haga Test	0.0054	0.0291	0.0237
$\alpha=0.01$			
Student's t	0.0688	0.0793	0.0105
Welch-Aspin's t	0.0166	0.0186	0.0021
Yuen	0.0178	0.0221	0.0043
Tukey's Quick	0.0002	0.0002	0
Haga	0.0002	0.0017	0.0014
$\alpha=0.001$			
Student's t	0.0242	0.0273	0.0031
Welch-Aspin's t	0.0027	0.003	0.0003
Yuen	0.0033	0.004	0.0007
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002

Table 268

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0193	0.0386	0.0193
Welch-Aspin's t	0.0132	0.0265	0.0133
Yuen Test	0.018	0.0363	0.0182
Tukey's Quick Test	0.0157	0.0314	0.0157
Haga Test	0.0157	0.0314	0.0157
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$\alpha=0.01$			
Student's t	0.0033	0.0066	0.0033
Welch-Aspin's t	0.0018	0.0037	0.0018
Yuen	0.0038	0.0075	0.0037
Tukey's Quick	0.0039	0.0078	0.004
Haga	0.004	0.0078	0.0039
<hr/>			
$\alpha=0.001$			
Student's t	0.0004	0.0007	0.0004
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	0.0005	0.001	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0039	0.0079	0.004

Table 269

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0227	0.0456	0.0228
Welch-Aspin's t	0.0211	0.0423	0.0212
Yuen Test	0.0204	0.041	0.0206
Tukey's Quick Test	0.0236	0.0469	0.0232
Haga Test	0.0238	0.048	0.0242
$\alpha=0.01$			
Student's t	0.0037	0.0072	0.0035
Welch-Aspin's t	0.0029	0.0057	0.0028
Yuen	0.0034	0.0068	0.0033
Tukey's Quick	0.0034	0.0066	0.0033
Haga	0.0033	0.0066	0.0034
$\alpha=0.001$			
Student's t	0.0002	0.0005	0.0003
Welch-Aspin's t	0.0001	0.0003	0.0001
Yuen	0.0003	0.0006	0.0003
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0004	0.0008	0.0004

Table 270

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0239	0.0474	0.0235
Welch-Aspin's t	0.0231	0.0459	0.0228
Yuen Test	0.0222	0.0443	0.0221
Tukey's Quick Test	0.025	0.0501	0.025
Haga Test	0.0143	0.0284	0.0141
$\alpha=0.01$			
Student's t	0.0041	0.0081	0.004
Welch-Aspin's t	0.0037	0.0073	0.0036
Yuen	0.0037	0.0074	0.0037
Tukey's Quick	0.0039	0.0078	0.0039
Haga	0.004	0.0079	0.0039
$\alpha=0.001$			
Student's t	0.0003	0.0005	0.0003
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	0.0003	0.0006	0.0003
Tukey's Quick	0.0003	0.0005	0.0003
Haga	0.0005	0.0011	0.0005

Table 271

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0363	0.0447	0.0085
Welch-Aspin's t	0.0066	0.0701	0.0635
Yuen Test	0.0219	0.0679	0.046
Tukey's Quick Test	0.0247	0.0496	0.0248
Haga Test	0.0068	0.0135	0.0067
$\alpha=0.01$			
Student's t	0.0095	0.01	0.0005
Welch-Aspin's t	0.0012	0.0189	0.0177
Yuen	0.0077	0.0183	0.0106
Tukey's Quick	0.0036	0.0073	0.0037
Haga	0.002	0.0039	0.0019
$\alpha=0.001$			
Student's t	0.0017	0.0017	0
Welch-Aspin's t	0.0002	0.0021	0.0019
Yuen	0.0022	0.0033	0.0011
Tukey's Quick	0.0003	0.0005	0.0003
Haga	0.0011	0.0021	0.001

Table 272

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0406	0.0462	0.0056
Welch-Aspin's t	0.0056	0.0961	0.0905
Yuen Test	0.0232	0.0929	0.0698
Tukey's Quick Test	0.0229	0.0456	0.0228
Haga Test	0.0077	0.0153	0.0076
$\alpha=0.01$			
Student's t	0.0127	0.0128	0.0001
Welch-Aspin's t	0.001	0.04	0.0389
Yuen	0.0094	0.0353	0.0259
Tukey's Quick	0.0039	0.0079	0.004
Haga	0.0051	0.0103	0.0051
$\alpha=0.001$			
Student's t	0.0027	0.0027	0
Welch-Aspin's t	0.0002	0.0102	0.0101
Yuen	0.0034	0.0082	0.0048
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0033	0.0066	0.0033

Table 273

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0279	0.0464	0.0185
Welch-Aspin's t	0.0133	0.0489	0.0356
Yuen Test	0.0166	0.0461	0.0295
Tukey's Quick Test	0.0192	0.0385	0.0193
Haga Test	0.0128	0.0253	0.0125
$\alpha=0.01$			
Student's t	0.0058	0.008	0.0022
Welch-Aspin's t	0.0013	0.0092	0.0079
Yuen	0.0026	0.0086	0.006
Tukey's Quick	0.0039	0.0077	0.0038
Haga	0.0023	0.0045	0.0023
$\alpha=0.001$			
Student's t	0	0.0001	0
Welch-Aspin's t	n/a	n/a	n/a
Yuen	0.0002	0.0003	0.0001
Tukey's Quick	0.0004	0.0007	0.0003
Haga	0.0003	0.0007	0.0004

Table 274

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0261	0.0404	0.0143
Welch-Aspin's t	0.0182	0.0278	0.0096
Yuen Test	0.0228	0.0372	0.0145
Tukey's Quick Test	0.022	0.0335	0.0114
Haga Test	0.0114	0.0335	0.022
$\alpha=0.01$			
Student's t	0.0046	0.007	0.0024
Welch-Aspin's t	0.0026	0.004	0.0013
Yuen	0.005	0.008	0.003
Tukey's Quick	0.0056	0.0084	0.0028
Haga	0.0028	0.0084	0.0056
$\alpha=0.001$			
Student's t	0.0005	0.0009	0.0003
Welch-Aspin's t	0.0003	0.0004	0.0002
Yuen	0.0006	0.001	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0029	0.0085	0.0056

Table 275

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0367	0.0504	0.0137
Welch-Aspin's t	0.0346	0.0472	0.0126
Yuen Test	0.0334	0.0455	0.0121
Tukey's Quick Test	0.0555	0.0642	0.0087
Haga Test	0.0091	0.0654	0.0563
$\alpha=0.01$			
Student's t	0.0068	0.0087	0.0019
Welch-Aspin's t	0.0055	0.007	0.0015
Yuen	0.0062	0.008	0.0018
Tukey's Quick	0.0084	0.0096	0.0012
Haga	0.0012	0.0096	0.0084
$\alpha=0.001$			
Student's t	0.0005	0.0006	0.0001
Welch-Aspin's t	0.0003	0.0004	0.0001
Yuen	0.0006	0.0008	0.0002
Tukey's Quick	0.0011	0.0013	0.0001
Haga	0.0001	0.0013	0.0011

Table 276

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0421	0.0547	0.0125
Welch-Aspin's t	0.0411	0.0532	0.0121
Yuen Test	0.041	0.0522	0.0111
Tukey's Quick Test	0.0916	0.0965	0.0048
Haga Test	0.0029	0.0577	0.0548
$\alpha=0.01$			
Student's t	0.0084	0.0102	0.0017
Welch-Aspin's t	0.0078	0.0093	0.0015
Yuen	0.0081	0.0097	0.0016
Tukey's Quick	0.0169	0.0176	0.0007
Haga	0.0008	0.0178	0.0171
$\alpha=0.001$			
Student's t	0.0007	0.0008	0.0001
Welch-Aspin's t	0.0006	0.0006	0.0001
Yuen	0.0007	0.0009	0.0001
Tukey's Quick	0.0013	0.0013	0
Haga	0.0001	0.0026	0.0025

Table 277

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0464	0.0508	0.0044
Welch-Aspin's t	0.0094	0.0554	0.0459
Yuen Test	0.0275	0.0587	0.0312
Tukey's Quick Test	0.035	0.0439	0.0089
Haga Test	0.0026	0.0119	0.0094
$\alpha=0.01$			
Student's t	0.0133	0.0135	0.0002
Welch-Aspin's t	0.0016	0.0128	0.0113
Yuen	0.0096	0.016	0.0064
Tukey's Quick	0.0051	0.0065	0.0013
Haga	0.0007	0.0035	0.0028
$\alpha=0.001$			
Student's t	0.0023	0.0023	0
Welch-Aspin's t	0.0003	0.0012	0.0009
Yuen	0.0028	0.0034	0.0006
Tukey's Quick	0.0003	0.0004	0.0001
Haga	0.0003	0.0018	0.0014

Table 278

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0507	0.0532	0.0024
Welch-Aspin's t	0.008	0.0773	0.0693
Yuen Test	0.0297	0.0796	0.0499
Tukey's Quick Test	0.0315	0.0356	0.0042
Haga Test	0.0026	0.0131	0.0105
$\alpha=0.01$			
Student's t	0.0168	0.0169	0
Welch-Aspin's t	0.0014	0.0283	0.0268
Yuen	0.0116	0.0277	0.0161
Tukey's Quick	0.0055	0.0062	0.0007
Haga	0.0015	0.0086	0.0071
$\alpha=0.001$			
Student's t	0.0036	0.0036	0
Welch-Aspin's t	0.0003	0.0061	0.0059
Yuen	0.0042	0.0067	0.0025
Tukey's Quick	0.0006	0.0007	0.0001
Haga	0.0009	0.0056	0.0047

Table 279

Exponential Distribution, $n_1=15, n_2=25, Effect\ Size=0.2\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0442	0.054	0.0098
Welch-Aspin's t	0.0239	0.0452	0.0213
Yuen Test	0.0286	0.045	0.0164
Tukey's Quick Test	0.0506	0.0543	0.0037
Haga Test	0.0034	0.0375	0.0341
$\alpha=0.01$			
Student's t	0.0102	0.011	0.0009
Welch-Aspin's t	0.0029	0.0067	0.0039
Yuen	0.0049	0.0077	0.0028
Tukey's Quick	0.0105	0.0112	0.0007
Haga	0.0005	0.0069	0.0064
$\alpha=0.001$			
Student's t	0.0012	0.0012	0
Welch-Aspin's t	0.0001	0.0004	0.0003
Yuen	0.0005	0.0008	0.0003
Tukey's Quick	0.001	0.0011	0.0001
Haga	0.0001	0.0011	0.0011

Table 280

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0407	0.0497	0.009
Welch-Aspin's t	0.0294	0.0354	0.006
Yuen Test	0.032	0.0422	0.0102
Tukey's Quick Test	0.0356	0.0426	0.007
Haga Test	0.007	0.0426	0.0356
$\alpha=0.01$			
Student's t	0.0076	0.0091	0.0015
Welch-Aspin's t	0.0043	0.0052	0.0009
Yuen	0.007	0.0092	0.0022
Tukey's Quick	0.009	0.0108	0.0018
Haga	0.0018	0.0108	0.009
$\alpha=0.001$			
Student's t	0.0009	0.0011	0.0002
Welch-Aspin's t	0.0005	0.0006	0.0001
Yuen	0.0009	0.0012	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0018	0.0109	0.0091

Table 281

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0691	0.075	0.0059
Welch-Aspin's t	0.0661	0.0713	0.0053
Yuen Test	0.065	0.0704	0.0054
Tukey's Quick Test	0.1414	0.1433	0.0019
Haga Test	0.0021	0.1467	0.1446
$\alpha=0.01$			
Student's t	0.0155	0.0161	0.0006
Welch-Aspin's t	0.0132	0.0137	0.0005
Yuen	0.0137	0.0144	0.0007
Tukey's Quick	0.028	0.0283	0.0003
Haga	0.0003	0.0284	0.0281
$\alpha=0.001$			
Student's t	0.0016	0.0016	0
Welch-Aspin's t	0.001	0.001	0
Yuen	0.0016	0.0016	0.0001
Tukey's Quick	0.0044	0.0044	0
Haga	0	0.0044	0.0044

Table 282

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.089	0.0933	0.0042
Welch-Aspin's t	0.0877	0.0918	0.004
Yuen Test	0.0919	0.0955	0.0036
Tukey's Quick Test	0.2764	0.2768	0.0004
Haga Test	0.0003	0.2085	0.2083
$\alpha=0.01$			
Student's t	0.0226	0.0231	0.0005
Welch-Aspin's t	0.0212	0.0217	0.0004
Yuen	0.0225	0.023	0.0005
Tukey's Quick	0.0817	0.0818	0.0001
Haga	0.0001	0.0838	0.0837
$\alpha=0.001$			
Student's t	0.0027	0.0028	0
Welch-Aspin's t	0.0022	0.0022	0
Yuen	0.0026	0.0027	0
Tukey's Quick	0.0093	0.0093	0
Haga	0	0.0168	0.0168

Table 283

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0663	0.0678	0.0015
Welch-Aspin's t	0.0153	0.0416	0.0262
Yuen Test	0.0393	0.0555	0.0162
Tukey's Quick Test	0.0572	0.0593	0.0021
Haga Test	0.0006	0.0161	0.0155
$\alpha=0.01$			
Student's t	0.0204	0.0204	0.0001
Welch-Aspin's t	0.0027	0.0077	0.005
Yuen	0.0141	0.0169	0.0029
Tukey's Quick	0.0087	0.009	0.0003
Haga	0.0002	0.0049	0.0047
$\alpha=0.001$			
Student's t	0.0037	0.0037	0
Welch-Aspin's t	0.0004	0.0008	0.0003
Yuen	0.004	0.0042	0.0002
Tukey's Quick	0.0006	0.0006	0
Haga	0.0001	0.0025	0.0024

Table 284

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0711	0.0717	0.0006
Welch-Aspin's t	0.0132	0.0557	0.0425
Yuen Test	0.0425	0.0689	0.0264
Tukey's Quick Test	0.0523	0.0527	0.0004
Haga Test	0.0005	0.0182	0.0177
$\alpha=0.01$			
Student's t	0.0245	0.0245	0
Welch-Aspin's t	0.0024	0.0161	0.0136
Yuen	0.0168	0.0236	0.0068
Tukey's Quick	0.0089	0.009	0.0001
Haga	0.0003	0.0119	0.0116
$\alpha=0.001$			
Student's t	0.0056	0.0056	0
Welch-Aspin's t	0.0004	0.0026	0.0022
Yuen	0.006	0.0068	0.0008
Tukey's Quick	0.0009	0.0009	0
Haga	0.0001	0.0077	0.0076

Table 285

Exponential Distribution, $n_1=15, n_2=25, Effect\ Size=0.5\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0814	0.0846	0.0032
Welch-Aspin's t	0.0516	0.0602	0.0086
Yuen Test	0.0597	0.0658	0.0061
Tukey's Quick Test	0.1589	0.1592	0.0003
Haga Test	0.0005	0.1229	0.1224
$\alpha=0.01$			
Student's t	0.0225	0.0227	0.0002
Welch-Aspin's t	0.0078	0.0091	0.0012
Yuen	0.0117	0.0125	0.0009
Tukey's Quick	0.0417	0.0418	0.0001
Haga	0.0001	0.0262	0.0261
$\alpha=0.001$			
Student's t	0.0032	0.0032	0
Welch-Aspin's t	0.0004	0.0005	0.0001
Yuen	0.0013	0.0013	0.0001
Tukey's Quick	0.0041	0.0041	0
Haga	0	0.0042	0.0042

Table 286

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0608	0.0663	0.0055
Welch-Aspin's t	0.0455	0.0491	0.0036
Yuen Test	0.043	0.0501	0.0071
Tukey's Quick Test	0.0555	0.0596	0.0042
Haga Test	0.0042	0.0596	0.0555
$\alpha=0.01$			
Student's t	0.0124	0.0133	0.0009
Welch-Aspin's t	0.0071	0.0076	0.0005
Yuen	0.0097	0.0112	0.0015
Tukey's Quick	0.015	0.0161	0.0011
Haga	0.0011	0.0161	0.015
$\alpha=0.001$			
Student's t	0.0015	0.0016	0.0001
Welch-Aspin's t	0.0007	0.0008	0.0001
Yuen	0.0012	0.0014	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.001	0.0159	0.0148

Table 287

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1183	0.1206	0.0023
Welch-Aspin's t	0.1148	0.1168	0.002
Yuen Test	0.1151	0.1173	0.0022
Tukey's Quick Test	0.2597	0.2601	0.0004
Haga Test	0.0005	0.2719	0.2714
$\alpha=0.01$			
Student's t	0.0322	0.0324	0.0002
Welch-Aspin's t	0.0286	0.0288	0.0001
Yuen	0.0288	0.0291	0.0003
Tukey's Quick	0.0685	0.0685	0
Haga	0.0001	0.0688	0.0687
$\alpha=0.001$			
Student's t	0.0042	0.0042	0
Welch-Aspin's t	0.0029	0.0029	0
Yuen	0.0036	0.0036	0
Tukey's Quick	0.0131	0.0131	0
Haga	0	0.0131	0.0131

Table 288

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1654	0.1666	0.0013
Welch-Aspin's t	0.1639	0.1651	0.0012
Yuen Test	0.1778	0.1788	0.001
Tukey's Quick Test	0.452	0.4521	0
Haga Test	0	0.4378	0.4377
$\alpha=0.01$			
Student's t	0.0535	0.0536	0.0001
Welch-Aspin's t	0.0514	0.0514	0.0001
Yuen	0.0551	0.0552	0.0001
Tukey's Quick	0.2188	0.2188	0
Haga	0	0.2329	0.2329
$\alpha=0.001$			
Student's t	0.0086	0.0086	0
Welch-Aspin's t	0.0074	0.0074	0
Yuen	0.0083	0.0083	0
Tukey's Quick	0.039	0.039	0
Haga	0	0.0642	0.0642

Table 289

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0926	0.0931	0.0005
Welch-Aspin's t	0.0252	0.0386	0.0133
Yuen Test	0.0549	0.0626	0.0077
Tukey's Quick Test	0.0919	0.0924	0.0005
Haga Test	0.0002	0.0255	0.0254
$\alpha=0.01$			
Student's t	0.03	0.03	0
Welch-Aspin's t	0.0042	0.0063	0.0021
Yuen	0.0198	0.021	0.0012
Tukey's Quick	0.014	0.014	0.0001
Haga	0	0.0076	0.0075
$\alpha=0.001$			
Student's t	0.0059	0.0059	0
Welch-Aspin's t	0.0007	0.0008	0.0001
Yuen	0.0056	0.0057	0.0001
Tukey's Quick	0.001	0.001	0
Haga	0	0.004	0.0039

Table 290

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0978	0.098	0.0001
Welch-Aspin's t	0.0216	0.0448	0.0232
Yuen Test	0.0592	0.0714	0.0122
Tukey's Quick Test	0.084	0.084	0
Haga Test	0.0001	0.0289	0.0288
$\alpha=0.01$			
Student's t	0.0358	0.0358	0
Welch-Aspin's t	0.0039	0.01	0.0061
Yuen	0.0237	0.0261	0.0024
Tukey's Quick	0.015	0.015	0
Haga	0	0.0194	0.0194
$\alpha=0.001$			
Student's t	0.0086	0.0086	0
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.0087	0.009	0.0002
Tukey's Quick	0.0015	0.0015	0
Haga	0	0.0124	0.0124

Table 291

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1383	0.1391	0.0009
Welch-Aspin's t	0.0999	0.1029	0.003
Yuen Test	0.1147	0.1167	0.002
Tukey's Quick Test	0.2991	0.2992	0
Haga Test	0.0001	0.291	0.2909
$\alpha=0.01$			
Student's t	0.0451	0.0452	0
Welch-Aspin's t	0.0195	0.0198	0.0003
Yuen	0.0266	0.0268	0.0002
Tukey's Quick	0.1202	0.1202	0
Haga	0	0.0854	0.0854
$\alpha=0.001$			
Student's t	0.0077	0.0077	0
Welch-Aspin's t	0.0013	0.0013	0
Yuen	0.0032	0.0032	0
Tukey's Quick	0.0163	0.0163	0
Haga	0	0.0168	0.0168

Table 292

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0992	0.102	0.0028
Welch-Aspin's t	0.0781	0.0799	0.0018
Yuen Test	0.0646	0.069	0.0044
Tukey's Quick Test	0.0912	0.0933	0.0022
Haga Test	0.0022	0.0933	0.0912
$\alpha=0.01$			
Student's t	0.0226	0.0231	0.0004
Welch-Aspin's t	0.0135	0.0137	0.0002
Yuen	0.0148	0.0157	0.001
Tukey's Quick	0.0269	0.0274	0.0005
Haga	0.0005	0.0274	0.0269
$\alpha=0.001$			
Student's t	0.0028	0.0029	0.0001
Welch-Aspin's t	0.0014	0.0015	0
Yuen	0.0019	0.002	0.0001
Tukey's Quick	0	0	0
Haga	0.0006	0.0276	0.027

Table 293

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2134	0.2139	0.0006
Welch-Aspin's t	0.2095	0.2099	0.0005
Yuen Test	0.2162	0.2168	0.0006
Tukey's Quick Test	0.4211	0.4211	0
Haga Test	0.0001	0.4618	0.4618
$\alpha=0.01$			
Student's t	0.0747	0.0747	0
Welch-Aspin's t	0.0689	0.0689	0
Yuen	0.0681	0.0682	0.0001
Tukey's Quick	0.1595	0.1595	0
Haga	0	0.1609	0.1609
$\alpha=0.001$			
Student's t	0.0131	0.0131	0
Welch-Aspin's t	0.0099	0.0099	0
Yuen	0.0105	0.0105	0
Tukey's Quick	0.0397	0.0397	0
Haga	0	0.0397	0.0397

Table 294

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3119	0.3121	0.0002
Welch-Aspin's t	0.3105	0.3106	0.0002
Yuen Test	0.3452	0.3454	0.0002
Tukey's Quick Test	0.5758	0.5758	0
Haga Test	0	0.718	0.718
$\alpha=0.01$			
Student's t	0.1319	0.132	0
Welch-Aspin's t	0.129	0.129	0
Yuen	0.1437	0.1437	0
Tukey's Quick	0.4309	0.4309	0
Haga	0	0.5014	0.5014
$\alpha=0.001$			
Student's t	0.031	0.031	0
Welch-Aspin's t	0.0281	0.0281	0
Yuen	0.0311	0.0311	0
Tukey's Quick	0.1409	0.1409	0
Haga	0	0.2096	0.2096

Table 295

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1393	0.1394	0.0001
Welch-Aspin's t	0.0476	0.0522	0.0047
Yuen Test	0.085	0.0877	0.0026
Tukey's Quick Test	0.1592	0.1593	0.0001
Haga Test	0	0.0484	0.0484
$\alpha=0.01$			
Student's t	0.0496	0.0496	0
Welch-Aspin's t	0.0086	0.0091	0.0005
Yuen	0.031	0.0314	0.0004
Tukey's Quick	0.0269	0.0269	0
Haga	0	0.0147	0.0147
$\alpha=0.001$			
Student's t	0.0108	0.0108	0
Welch-Aspin's t	0.0014	0.0014	0
Yuen	0.0091	0.0092	0
Tukey's Quick	0.002	0.002	0
Haga	0	0.0077	0.0077

Table 296

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1451	0.1451	0
Welch-Aspin's t	0.0414	0.05	0.0086
Yuen Test	0.0917	0.0951	0.0034
Tukey's Quick Test	0.1468	0.1468	0
Haga Test	0	0.0564	0.0564
$\alpha=0.01$			
Student's t	0.0579	0.0579	0
Welch-Aspin's t	0.0076	0.0092	0.0015
Yuen	0.038	0.0385	0.0005
Tukey's Quick	0.0294	0.0294	0
Haga	0	0.0381	0.0381
$\alpha=0.001$			
Student's t	0.015	0.015	0
Welch-Aspin's t	0.0014	0.0015	0.0001
Yuen	0.014	0.014	0
Tukey's Quick	0.003	0.003	0
Haga	0	0.0245	0.0245

Table 297

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2477	0.2479	0.0002
Welch-Aspin's t	0.2068	0.2074	0.0007
Yuen Test	0.2359	0.2362	0.0004
Tukey's Quick Test	0.4327	0.4327	0
Haga Test	0	0.5623	0.5622
$\alpha=0.01$			
Student's t	0.099	0.099	0
Welch-Aspin's t	0.0562	0.0562	0
Yuen	0.0691	0.0692	0
Tukey's Quick	0.2796	0.2796	0
Haga	0	0.2504	0.2504
$\alpha=0.001$			
Student's t	0.0226	0.0226	0
Welch-Aspin's t	0.0059	0.0059	0
Yuen	0.0104	0.0104	0
Tukey's Quick	0.0678	0.0678	0
Haga	0	0.0711	0.0711

Table 298

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2076	0.2083	0.0008
Welch-Aspin's t	0.1772	0.1777	0.0005
Yuen Test	0.1265	0.1281	0.0016
Tukey's Quick Test	0.1853	0.1859	0.0006
Haga Test	0.0006	0.1859	0.1853
$\alpha=0.01$			
Student's t	0.0646	0.0647	0.0001
Welch-Aspin's t	0.0429	0.0429	0.0001
Yuen	0.0314	0.0317	0.0004
Tukey's Quick	0.0733	0.0734	0.0001
Haga	0.0001	0.0734	0.0733
$\alpha=0.001$			
Student's t	0.0098	0.0098	0
Welch-Aspin's t	0.0051	0.0051	0
Yuen	0.0042	0.0042	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0729	0.0727

Table 299

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4707	0.4708	0
Welch-Aspin's t	0.4673	0.4673	0
Yuen Test	0.4953	0.4953	0
Tukey's Quick Test	0.6259	0.6259	0
Haga Test	0	0.7639	0.7639
$\alpha=0.01$			
Student's t	0.2456	0.2456	0
Welch-Aspin's t	0.2375	0.2375	0
Yuen	0.2395	0.2395	0
Tukey's Quick	0.4126	0.4126	0
Haga	0	0.4277	0.4277
$\alpha=0.001$			
Student's t	0.0749	0.0749	0
Welch-Aspin's t	0.0654	0.0654	0
Yuen	0.0593	0.0593	0
Tukey's Quick	0.1613	0.1613	0
Haga	0	0.1614	0.1614

Table 300

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6576	0.6576	0
Welch-Aspin's t	0.6564	0.6564	0
Yuen Test	0.7173	0.7173	0
Tukey's Quick Test	0.6635	0.6635	0
Haga Test	0	0.9614	0.9614
$\alpha=0.01$			
Student's t	0.4243	0.4243	0
Welch-Aspin's t	0.4215	0.4215	0
Yuen	0.4733	0.4733	0
Tukey's Quick	0.6469	0.6469	0
Haga	0	0.8811	0.8811
$\alpha=0.001$			
Student's t	0.1826	0.1826	0
Welch-Aspin's t	0.1765	0.1765	0
Yuen	0.1963	0.1963	0
Tukey's Quick	0.4763	0.4763	0
Haga	0	0.6346	0.6346

Table 301

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2747	0.2747	0
Welch-Aspin's t	0.1488	0.1491	0.0004
Yuen Test	0.1852	0.1854	0.0002
Tukey's Quick Test	0.3198	0.3198	0
Haga Test	0	0.1473	0.1473
$\alpha=0.01$			
Student's t	0.1206	0.1206	0
Welch-Aspin's t	0.0315	0.0315	0
Yuen	0.0718	0.0718	0
Tukey's Quick	0.0874	0.0874	0
Haga	0	0.0507	0.0507
$\alpha=0.001$			
Student's t	0.0322	0.0322	0
Welch-Aspin's t	0.0052	0.0052	0
Yuen	0.0224	0.0224	0
Tukey's Quick	0.007	0.007	0
Haga	0	0.0271	0.0271

Table 302

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2829	0.2829	0
Welch-Aspin's t	0.14	0.1405	0.0005
Yuen Test	0.2047	0.2048	0.0001
Tukey's Quick Test	0.2674	0.2674	0
Haga Test	0	0.1883	0.1883
$\alpha=0.01$			
Student's t	0.1326	0.1326	0
Welch-Aspin's t	0.0287	0.0287	0
Yuen	0.0884	0.0884	0
Tukey's Quick	0.1	0.1	0
Haga	0	0.132	0.132
$\alpha=0.001$			
Student's t	0.0414	0.0414	0
Welch-Aspin's t	0.0053	0.0053	0
Yuen	0.034	0.034	0
Tukey's Quick	0.0111	0.0111	0
Haga	0	0.0881	0.0881

Table 303

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5391	0.5391	0
Welch-Aspin's t	0.5343	0.5343	0
Yuen Test	0.5942	0.5942	0
Tukey's Quick Test	0.5412	0.5412	0
Haga Test	0	0.9035	0.9035
$\alpha=0.01$			
Student's t	0.3099	0.3099	0
Welch-Aspin's t	0.2576	0.2576	0
Yuen	0.2903	0.2903	0
Tukey's Quick	0.5146	0.5146	0
Haga	0	0.6818	0.6818
$\alpha=0.001$			
Student's t	0.115	0.115	0
Welch-Aspin's t	0.059	0.059	0
Yuen	0.0716	0.0716	0
Tukey's Quick	0.3166	0.3166	0
Haga	0	0.3642	0.3642

Table 304

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0291	0.0418	0.0127
Welch-Aspin's t	0.02	0.0286	0.0086
Yuen Test	0.0246	0.0378	0.0132
Tukey's Quick Test	0.0244	0.0343	0.0099
Haga Test	0.0099	0.0343	0.0244
$\alpha=0.01$			
Student's t	0.0053	0.0074	0.0021
Welch-Aspin's t	0.0029	0.004	0.0011
Yuen	0.0055	0.0083	0.0028
Tukey's Quick	0.0063	0.0087	0.0024
Haga	0.0024	0.0087	0.0063
$\alpha=0.001$			
Student's t	0.0006	0.0008	0.0002
Welch-Aspin's t	0.0003	0.0004	0.0001
Yuen	0.0007	0.0011	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0024	0.0086	0.0062

Table 305

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0482	0.0579	0.0098
Welch-Aspin's t	0.0451	0.0541	0.009
Yuen Test	0.0397	0.0492	0.0095
Tukey's Quick Test	0.0552	0.0641	0.0088
Haga Test	0.0091	0.0652	0.0561
$\alpha=0.01$			
Student's t	0.0089	0.0103	0.0014
Welch-Aspin's t	0.0072	0.0082	0.0011
Yuen	0.0071	0.0086	0.0015
Tukey's Quick	0.0091	0.0102	0.0011
Haga	0.0011	0.0102	0.0092
$\alpha=0.001$			
Student's t	0.0007	0.0008	0.0001
Welch-Aspin's t	0.0004	0.0004	0
Yuen	0.0007	0.0008	0.0001
Tukey's Quick	0.0013	0.0015	0.0001
Haga	0.0001	0.0015	0.0013

Table 306

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0612	0.0688	0.0076
Welch-Aspin's t	0.0597	0.067	0.0073
Yuen Test	0.0523	0.0603	0.008
Tukey's Quick Test	0.0793	0.0854	0.0062
Haga Test	0.0033	0.0514	0.048
$\alpha=0.01$			
Student's t	0.013	0.014	0.001
Welch-Aspin's t	0.0118	0.0127	0.0009
Yuen	0.0106	0.0117	0.0012
Tukey's Quick	0.0154	0.0162	0.0008
Haga	0.0008	0.0164	0.0156
$\alpha=0.001$			
Student's t	0.0012	0.0012	0
Welch-Aspin's t	0.0009	0.0009	0
Yuen	0.001	0.0011	0.0001
Tukey's Quick	0.0013	0.0013	0.0001
Haga	0.0001	0.0026	0.0025

Table 307

Exponential Distribution, $n_1=5, n_2=15, Effect\ Size=0.2\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0605	0.0649	0.0044
Welch-Aspin's t	0.0114	0.0519	0.0405
Yuen Test	0.0311	0.0605	0.0294
Tukey's Quick Test	0.0415	0.0525	0.011
Haga Test	0.0029	0.0149	0.012
$\alpha=0.01$			
Student's t	0.0181	0.0183	0.0002
Welch-Aspin's t	0.002	0.0123	0.0103
Yuen	0.0111	0.0173	0.0063
Tukey's Quick	0.0069	0.0084	0.0016
Haga	0.0008	0.0047	0.0039
$\alpha=0.001$			
Student's t	0.0033	0.0033	0
Welch-Aspin's t	0.0003	0.0013	0.001
Yuen	0.0033	0.0039	0.0006
Tukey's Quick	0.0005	0.0006	0.0001
Haga	0.0004	0.0025	0.002

Table 308

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0695	0.0721	0.0027
Welch-Aspin's t	0.0099	0.0692	0.0593
Yuen Test	0.0332	0.0791	0.0458
Tukey's Quick Test	0.0386	0.046	0.0073
Haga Test	0.0031	0.017	0.0139
$\alpha=0.01$			
Student's t	0.0246	0.0247	0.0001
Welch-Aspin's t	0.0018	0.0251	0.0232
Yuen	0.0135	0.0288	0.0154
Tukey's Quick	0.0077	0.0088	0.0012
Haga	0.0019	0.0115	0.0096
$\alpha=0.001$			
Student's t	0.0058	0.0058	0
Welch-Aspin's t	0.0003	0.0056	0.0053
Yuen	0.0049	0.0074	0.0025
Tukey's Quick	0.0009	0.001	0.0001
Haga	0.0011	0.0075	0.0064

Table 309

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0637	0.0706	0.007
Welch-Aspin's t	0.034	0.0488	0.0149
Yuen Test	0.0357	0.0486	0.0129
Tukey's Quick Test	0.048	0.0529	0.005
Haga Test	0.0035	0.0361	0.0326
$\alpha=0.01$			
Student's t	0.0157	0.0164	0.0007
Welch-Aspin's t	0.0042	0.007	0.0027
Yuen	0.0062	0.0084	0.0023
Tukey's Quick	0.0109	0.0118	0.0009
Haga	0.0006	0.0073	0.0067
$\alpha=0.001$			
Student's t	0.002	0.0021	0
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	0.0007	0.0009	0.0002
Tukey's Quick	0.0012	0.0013	0.0001
Haga	0.0001	0.0014	0.0013

Table 310

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0433	0.0512	0.0079
Welch-Aspin's t	0.0308	0.0361	0.0053
Yuen Test	0.0332	0.0425	0.0093
Tukey's Quick Test	0.0379	0.044	0.0061
Haga Test	0.0061	0.044	0.0379
$\alpha=0.01$			
Student's t	0.0081	0.0094	0.0013
Welch-Aspin's t	0.0045	0.0052	0.0007
Yuen	0.0074	0.0093	0.0019
Tukey's Quick	0.0097	0.0111	0.0014
Haga	0.0014	0.0111	0.0097
$\alpha=0.001$			
Student's t	0.001	0.0011	0.0002
Welch-Aspin's t	0.0004	0.0005	0.0001
Yuen	0.001	0.0012	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0015	0.0112	0.0097

Table 311

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0853	0.0896	0.0042
Welch-Aspin's t	0.0813	0.085	0.0038
Yuen Test	0.0732	0.0774	0.0042
Tukey's Quick Test	0.1427	0.1446	0.002
Haga Test	0.0021	0.147	0.1449
$\alpha=0.01$			
Student's t	0.0193	0.0198	0.0005
Welch-Aspin's t	0.0162	0.0165	0.0003
Yuen	0.0154	0.0159	0.0006
Tukey's Quick	0.0291	0.0293	0.0002
Haga	0.0002	0.0294	0.0291
$\alpha=0.001$			
Student's t	0.0019	0.002	0
Welch-Aspin's t	0.0012	0.0012	0
Yuen	0.0017	0.0018	0
Tukey's Quick	0.0048	0.0048	0
Haga	0	0.0048	0.0048

Table 312

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1191	0.1217	0.0026
Welch-Aspin's t	0.1171	0.1196	0.0025
Yuen Test	0.1091	0.1117	0.0026
Tukey's Quick Test	0.268	0.2685	0.0005
Haga Test	0.0003	0.1924	0.1921
$\alpha=0.01$			
Student's t	0.032	0.0323	0.0003
Welch-Aspin's t	0.0299	0.0302	0.0002
Yuen	0.0272	0.0275	0.0003
Tukey's Quick	0.0763	0.0764	0.0001
Haga	0.0001	0.0774	0.0774
$\alpha=0.001$			
Student's t	0.004	0.0041	0
Welch-Aspin's t	0.0032	0.0032	0
Yuen	0.0032	0.0033	0
Tukey's Quick	0.0094	0.0094	0
Haga	0	0.0163	0.0163

Table 313

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.083	0.0846	0.0016
Welch-Aspin's t	0.0177	0.0414	0.0237
Yuen Test	0.0424	0.0581	0.0157
Tukey's Quick Test	0.0649	0.0675	0.0026
Haga Test	0.0008	0.0196	0.0188
$\alpha=0.01$			
Student's t	0.0264	0.0265	0
Welch-Aspin's t	0.0032	0.0079	0.0047
Yuen	0.0154	0.0183	0.0028
Tukey's Quick	0.0109	0.0112	0.0003
Haga	0.0002	0.0063	0.0062
$\alpha=0.001$			
Student's t	0.0052	0.0052	0
Welch-Aspin's t	0.0005	0.0008	0.0003
Yuen	0.0046	0.0049	0.0003
Tukey's Quick	0.0009	0.0009	0
Haga	0.0001	0.0034	0.0033

Table 314

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0929	0.0936	0.0007
Welch-Aspin's t	0.0155	0.0522	0.0367
Yuen Test	0.0457	0.071	0.0253
Tukey's Quick Test	0.0609	0.0615	0.0006
Haga Test	0.0006	0.0228	0.0223
$\alpha=0.01$			
Student's t	0.035	0.0351	0
Welch-Aspin's t	0.0029	0.0154	0.0125
Yuen	0.0185	0.0255	0.007
Tukey's Quick	0.0121	0.0122	0.0001
Haga	0.0003	0.0156	0.0153
$\alpha=0.001$			
Student's t	0.0085	0.0085	0
Welch-Aspin's t	0.0005	0.0027	0.0021
Yuen	0.0071	0.008	0.0008
Tukey's Quick	0.0014	0.0014	0
Haga	0.0002	0.0104	0.0103

Table 315

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1089	0.1113	0.0024
Welch-Aspin's t	0.0665	0.0726	0.0061
Yuen Test	0.069	0.0739	0.0049
Tukey's Quick Test	0.1525	0.1529	0.0004
Haga Test	0.0005	0.1134	0.1129
$\alpha=0.01$			
Student's t	0.0322	0.0324	0.0002
Welch-Aspin's t	0.0107	0.0116	0.0009
Yuen	0.0139	0.0147	0.0007
Tukey's Quick	0.0403	0.0404	0.0001
Haga	0.0001	0.0257	0.0257
$\alpha=0.001$			
Student's t	0.0048	0.0048	0
Welch-Aspin's t	0.0005	0.0006	0
Yuen	0.0016	0.0016	0
Tukey's Quick	0.0046	0.0046	0
Haga	0	0.0047	0.0047

Table 316

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0633	0.0681	0.0048
Welch-Aspin's t	0.0464	0.0495	0.0032
Yuen Test	0.0444	0.051	0.0066
Tukey's Quick Test	0.0576	0.0612	0.0037
Haga Test	0.0037	0.0612	0.0576
$\alpha=0.01$			
Student's t	0.0127	0.0135	0.0008
Welch-Aspin's t	0.0073	0.0077	0.0004
Yuen	0.0101	0.0115	0.0013
Tukey's Quick	0.0154	0.0163	0.0009
Haga	0.0009	0.0163	0.0154
$\alpha=0.001$			
Student's t	0.0015	0.0016	0.0001
Welch-Aspin's t	0.0008	0.0008	0.0001
Yuen	0.0013	0.0014	0.0002
Tukey's Quick	0	0	0
Haga	0.0009	0.0163	0.0154

Table 317

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1397	0.1414	0.0017
Welch-Aspin's t	0.1349	0.1364	0.0015
Yuen Test	0.1254	0.1272	0.0018
Tukey's Quick Test	0.2674	0.2678	0.0004
Haga Test	0.0005	0.2756	0.2752
$\alpha=0.01$			
Student's t	0.0387	0.0388	0.0002
Welch-Aspin's t	0.0339	0.034	0.0001
Yuen	0.0306	0.0308	0.0002
Tukey's Quick	0.0718	0.0718	0.0001
Haga	0.0001	0.072	0.072
$\alpha=0.001$			
Student's t	0.0049	0.0049	0
Welch-Aspin's t	0.0032	0.0032	0
Yuen	0.0038	0.0038	0
Tukey's Quick	0.0142	0.0143	0
Haga	0	0.0143	0.0142

Table 318

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2051	0.2058	0.0008
Welch-Aspin's t	0.2029	0.2036	0.0007
Yuen Test	0.1996	0.2003	0.0007
Tukey's Quick Test	0.4745	0.4746	0
Haga Test	0	0.4223	0.4222
$\alpha=0.01$			
Student's t	0.0689	0.069	0.0001
Welch-Aspin's t	0.0658	0.0659	0
Yuen	0.0629	0.0629	0.0001
Tukey's Quick	0.215	0.215	0
Haga	0	0.2225	0.2225
$\alpha=0.001$			
Student's t	0.0114	0.0114	0
Welch-Aspin's t	0.0096	0.0096	0
Yuen	0.0093	0.0093	0
Tukey's Quick	0.039	0.039	0
Haga	0	0.0627	0.0627

Table 319

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1125	0.113	0.0005
Welch-Aspin's t	0.0282	0.0406	0.0124
Yuen Test	0.0581	0.0657	0.0076
Tukey's Quick Test	0.1013	0.1018	0.0005
Haga Test	0.0002	0.03	0.0298
$\alpha=0.01$			
Student's t	0.0383	0.0383	0
Welch-Aspin's t	0.005	0.007	0.0019
Yuen	0.0214	0.0226	0.0012
Tukey's Quick	0.0172	0.0172	0.0001
Haga	0	0.0098	0.0097
$\alpha=0.001$			
Student's t	0.0078	0.0078	0
Welch-Aspin's t	0.0008	0.0009	0.0001
Yuen	0.0066	0.0067	0.0001
Tukey's Quick	0.0013	0.0013	0
Haga	0	0.0052	0.0052

Table 320

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1242	0.1244	0.0001
Welch-Aspin's t	0.0243	0.0451	0.0208
Yuen Test	0.0622	0.0742	0.012
Tukey's Quick Test	0.0957	0.0957	0.0001
Haga Test	0.0001	0.035	0.0348
$\alpha=0.01$			
Student's t	0.0487	0.0487	0
Welch-Aspin's t	0.0045	0.0103	0.0058
Yuen	0.0255	0.028	0.0026
Tukey's Quick	0.0191	0.0191	0
Haga	0	0.0241	0.0241
$\alpha=0.001$			
Student's t	0.0126	0.0126	0
Welch-Aspin's t	0.0009	0.0015	0.0007
Yuen	0.01	0.0103	0.0002
Tukey's Quick	0.0022	0.0022	0
Haga	0	0.0162	0.0162

Table 321

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.174	0.1747	0.0007
Welch-Aspin's t	0.1221	0.1243	0.0022
Yuen Test	0.1259	0.1275	0.0016
Tukey's Quick Test	0.3114	0.3114	0
Haga Test	0.0001	0.277	0.2769
$\alpha=0.01$			
Student's t	0.0598	0.0598	0
Welch-Aspin's t	0.0245	0.0248	0.0003
Yuen	0.0288	0.0289	0.0002
Tukey's Quick	0.1176	0.1176	0
Haga	0	0.0813	0.0813
$\alpha=0.001$			
Student's t	0.011	0.011	0
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.0038	0.0038	0
Tukey's Quick	0.0166	0.0166	0
Haga	0	0.017	0.017

Table 322

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0997	0.1022	0.0025
Welch-Aspin's t	0.0764	0.0781	0.0017
Yuen Test	0.0643	0.0683	0.004
Tukey's Quick Test	0.0932	0.0951	0.0019
Haga Test	0.0019	0.0951	0.0932
$\alpha=0.01$			
Student's t	0.0223	0.0227	0.0004
Welch-Aspin's t	0.0129	0.0131	0.0002
Yuen	0.0148	0.0156	0.0008
Tukey's Quick	0.0272	0.0277	0.0005
Haga	0.0005	0.0277	0.0272
$\alpha=0.001$			
Student's t	0.0028	0.0029	0
Welch-Aspin's t	0.0014	0.0014	0
Yuen	0.0019	0.002	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0277	0.0273

Table 323

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2392	0.2396	0.0005
Welch-Aspin's t	0.2341	0.2345	0.0004
Yuen Test	0.2253	0.2257	0.0005
Tukey's Quick Test	0.4417	0.4418	0.0001
Haga Test	0.0001	0.4699	0.4698
$\alpha=0.01$			
Student's t	0.0841	0.0841	0
Welch-Aspin's t	0.0766	0.0767	0
Yuen	0.0695	0.0695	0.0001
Tukey's Quick	0.1677	0.1677	0
Haga	0	0.1686	0.1686
$\alpha=0.001$			
Student's t	0.0142	0.0142	0
Welch-Aspin's t	0.0104	0.0104	0
Yuen	0.0102	0.0102	0
Tukey's Quick	0.0426	0.0426	0
Haga	0	0.0426	0.0426

Table 324

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3605	0.3607	0.0001
Welch-Aspin's t	0.3587	0.3588	0.0001
Yuen Test	0.3692	0.3693	0.0001
Tukey's Quick Test	0.6299	0.6299	0
Haga Test	0	0.7107	0.7107
$\alpha=0.01$			
Student's t	0.1572	0.1572	0
Welch-Aspin's t	0.153	0.153	0
Yuen	0.1532	0.1532	0
Tukey's Quick	0.4486	0.4486	0
Haga	0	0.4941	0.4941
$\alpha=0.001$			
Student's t	0.0375	0.0375	0
Welch-Aspin's t	0.0335	0.0335	0
Yuen	0.032	0.032	0
Tukey's Quick	0.1427	0.1427	0
Haga	0	0.2081	0.2081

Table 325

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1627	0.1628	0.0001
Welch-Aspin's t	0.05	0.0545	0.0045
Yuen Test	0.0864	0.0891	0.0026
Tukey's Quick Test	0.1722	0.1722	0.0001
Haga Test	0	0.0544	0.0544
$\alpha=0.01$			
Student's t	0.0605	0.0605	0
Welch-Aspin's t	0.0088	0.0093	0.0005
Yuen	0.0321	0.0325	0.0003
Tukey's Quick	0.0312	0.0312	0
Haga	0	0.0175	0.0175
$\alpha=0.001$			
Student's t	0.0134	0.0134	0
Welch-Aspin's t	0.0014	0.0015	0
Yuen	0.0098	0.0098	0
Tukey's Quick	0.0024	0.0024	0
Haga	0	0.0092	0.0092

Table 326

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1756	0.1756	0
Welch-Aspin's t	0.0446	0.0524	0.0079
Yuen Test	0.0927	0.0962	0.0035
Tukey's Quick Test	0.1634	0.1634	0
Haga Test	0	0.0637	0.0637
$\alpha=0.01$			
Student's t	0.0747	0.0747	0
Welch-Aspin's t	0.0081	0.0096	0.0015
Yuen	0.0386	0.0392	0.0005
Tukey's Quick	0.0347	0.0347	0
Haga	0	0.0438	0.0438
$\alpha=0.001$			
Student's t	0.021	0.021	0
Welch-Aspin's t	0.0015	0.0016	0.0001
Yuen	0.0149	0.0149	0
Tukey's Quick	0.0041	0.0041	0
Haga	0	0.0296	0.0296

Table 327

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.291	0.2911	0.0001
Welch-Aspin's t	0.2351	0.2356	0.0004
Yuen Test	0.2456	0.2459	0.0003
Tukey's Quick Test	0.4771	0.4771	0
Haga Test	0	0.5538	0.5537
$\alpha=0.01$			
Student's t	0.122	0.122	0
Welch-Aspin's t	0.0645	0.0646	0
Yuen	0.0712	0.0713	0
Tukey's Quick	0.2914	0.2914	0
Haga	0	0.2442	0.2442
$\alpha=0.001$			
Student's t	0.0292	0.0292	0
Welch-Aspin's t	0.0067	0.0067	0
Yuen	0.0107	0.0107	0
Tukey's Quick	0.0678	0.0678	0
Haga	0	0.07	0.07

Table 328

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2067	0.2074	0.0007
Welch-Aspin's t	0.1728	0.1733	0.0005
Yuen Test	0.122	0.1235	0.0015
Tukey's Quick Test	0.1902	0.1907	0.0005
Haga Test	0.0005	0.1907	0.1902
$\alpha=0.01$			
Student's t	0.0608	0.0609	0.0001
Welch-Aspin's t	0.0386	0.0386	0.0001
Yuen	0.03	0.0304	0.0003
Tukey's Quick	0.0714	0.0715	0.0001
Haga	0.0001	0.0715	0.0714
$\alpha=0.001$			
Student's t	0.0087	0.0087	0
Welch-Aspin's t	0.0044	0.0044	0
Yuen	0.004	0.004	0
Tukey's Quick	0	0	0
Haga	0.0001	0.0708	0.0707

Table 329

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4989	0.4989	0
Welch-Aspin's t	0.4947	0.4948	0
Yuen Test	0.5023	0.5023	0
Tukey's Quick Test	0.6662	0.6662	0
Haga Test	0	0.7744	0.7744
$\alpha=0.01$			
Student's t	0.2595	0.2595	0
Welch-Aspin's t	0.2491	0.2491	0
Yuen	0.2348	0.2348	0
Tukey's Quick	0.433	0.433	0
Haga	0	0.4434	0.4434
$\alpha=0.001$			
Student's t	0.0763	0.0763	0
Welch-Aspin's t	0.0644	0.0644	0
Yuen	0.0544	0.0544	0
Tukey's Quick	0.1724	0.1724	0
Haga	0	0.1725	0.1725

Table 330

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6976	0.6976	0
Welch-Aspin's t	0.6964	0.6964	0
Yuen Test	0.7346	0.7346	0
Tukey's Quick Test	0.7226	0.7226	0
Haga Test	0	0.9615	0.9615
$\alpha=0.01$			
Student's t	0.4606	0.4606	0
Welch-Aspin's t	0.4569	0.4569	0
Yuen	0.482	0.482	0
Tukey's Quick	0.7012	0.7012	0
Haga	0	0.8817	0.8817
$\alpha=0.001$			
Student's t	0.1988	0.1988	0
Welch-Aspin's t	0.1905	0.1905	0
Yuen	0.1924	0.1924	0
Tukey's Quick	0.5005	0.5005	0
Haga	0	0.6394	0.6394

Table 331

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3022	0.3022	0
Welch-Aspin's t	0.1455	0.1458	0.0004
Yuen Test	0.1786	0.1788	0.0003
Tukey's Quick Test	0.3454	0.3454	0
Haga Test	0	0.1562	0.1562
$\alpha=0.01$			
Student's t	0.136	0.136	0
Welch-Aspin's t	0.0296	0.0297	0
Yuen	0.0694	0.0694	0
Tukey's Quick	0.0945	0.0945	0
Haga	0	0.0554	0.0554
$\alpha=0.001$			
Student's t	0.0373	0.0373	0
Welch-Aspin's t	0.005	0.005	0
Yuen	0.0221	0.0221	0
Tukey's Quick	0.008	0.008	0
Haga	0	0.0302	0.0302

Table 332

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3203	0.3203	0
Welch-Aspin's t	0.1372	0.1377	0.0005
Yuen Test	0.1933	0.1935	0.0001
Tukey's Quick Test	0.3046	0.3046	0
Haga Test	0	0.1976	0.1976
$\alpha=0.01$			
Student's t	0.1586	0.1586	0
Welch-Aspin's t	0.0276	0.0277	0
Yuen	0.0842	0.0842	0
Tukey's Quick	0.11	0.11	0
Haga	0	0.1404	0.1404
$\alpha=0.001$			
Student's t	0.0529	0.0529	0
Welch-Aspin's t	0.0053	0.0053	0
Yuen	0.0335	0.0335	0
Tukey's Quick	0.0138	0.0138	0
Haga	0	0.0963	0.0963

Table 333

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5835	0.5835	0
Welch-Aspin's t	0.5631	0.5631	0
Yuen Test	0.5945	0.5946	0
Tukey's Quick Test	0.6034	0.6034	0
Haga Test	0	0.9045	0.9045
$\alpha=0.01$			
Student's t	0.3444	0.3444	0
Welch-Aspin's t	0.2685	0.2685	0
Yuen	0.2785	0.2785	0
Tukey's Quick	0.5646	0.5646	0
Haga	0	0.6817	0.6817
$\alpha=0.001$			
Student's t	0.1312	0.1312	0
Welch-Aspin's t	0.0586	0.0586	0
Yuen	0.065	0.065	0
Tukey's Quick	0.3316	0.3316	0
Haga	0	0.366	0.366

Table 334

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0987	0.1037	0.005
Welch-Aspin's t	0.0558	0.0601	0.0043
Yuen Test	0.0562	0.0632	0.007
Tukey's Quick Test	0.0893	0.0932	0.0039
Haga Test	0.0039	0.0932	0.0893
$\alpha=0.01$			
Student's t	0.0213	0.0225	0.0012
Welch-Aspin's t	0.0089	0.0097	0.0008
Yuen	0.016	0.0173	0.0013
Tukey's Quick	0.0368	0.038	0.0012
Haga	0.0012	0.038	0.0368
$\alpha=0.001$			
Student's t	0.0034	0.0035	0.0002
Welch-Aspin's t	0.0012	0.0013	0.0001
Yuen	0.0029	0.0031	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.0376	0.0364

Table 335

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4718	0.472	0.0001
Welch-Aspin's t	0.4327	0.4328	0.0001
Yuen Test	0.1889	0.1896	0.0008
Tukey's Quick Test	0.021	0.023	0.0021
Haga Test	0.0036	0.1014	0.0978
$\alpha=0.01$			
Student's t	0.1575	0.1575	0
Welch-Aspin's t	0.113	0.113	0
Yuen	0.0415	0.0417	0.0002
Tukey's Quick	0.0143	0.0145	0.0002
Haga	0.0002	0.0215	0.0214
$\alpha=0.001$			
Student's t	0.0204	0.0204	0
Welch-Aspin's t	0.0082	0.0082	0
Yuen	0.005	0.005	0
Tukey's Quick	0.0076	0.0076	0
Haga	0	0.0077	0.0077

Table 336

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7696	0.7697	0
Welch-Aspin's t	0.7538	0.7538	0
Yuen Test	0.3887	0.3888	0.0001
Tukey's Quick Test	0.0022	0.0038	0.0016
Haga Test	0.0059	0.1313	0.1253
$\alpha=0.01$			
Student's t	0.4312	0.4312	0
Welch-Aspin's t	0.3848	0.3848	0
Yuen	0.1178	0.1178	0
Tukey's Quick	0.0019	0.0023	0.0004
Haga	0.0011	0.0553	0.0542
$\alpha=0.001$			
Student's t	0.1057	0.1057	0
Welch-Aspin's t	0.0684	0.0684	0
Yuen	0.0148	0.0148	0
Tukey's Quick	0.0012	0.0012	0
Haga	0.0001	0.0113	0.0112

Table 337

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4492	0.4572	0.008
Welch-Aspin's t	0.0523	0.061	0.0088
Yuen Test	0.0633	0.0798	0.0165
Tukey's Quick Test	0.15	0.1583	0.0083
Haga Test	0.0036	0.1013	0.0978
$\alpha=0.01$			
Student's t	0.2384	0.2407	0.0023
Welch-Aspin's t	0.0083	0.0121	0.0038
Yuen	0.025	0.0323	0.0074
Tukey's Quick	0.0809	0.0836	0.0027
Haga	0.0021	0.0675	0.0654
$\alpha=0.001$			
Student's t	0.0845	0.0849	0.0003
Welch-Aspin's t	0.0014	0.0026	0.0012
Yuen	0.0103	0.0125	0.0022
Tukey's Quick	0.0268	0.0277	0.0009
Haga	0.0015	0.0527	0.0512

Table 338

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5712	0.5804	0.0092
Welch-Aspin's t	0.0514	0.0609	0.0095
Yuen Test	0.0622	0.0797	0.0174
Tukey's Quick Test	0.1575	0.1667	0.0092
Haga Test	0.0037	0.109	0.1053
$\alpha=0.01$			
Student's t	0.3992	0.402	0.0028
Welch-Aspin's t	0.008	0.0125	0.0045
Yuen	0.0239	0.0331	0.0093
Tukey's Quick	0.093	0.0962	0.0032
Haga	0.0032	0.0984	0.0952
$\alpha=0.001$			
Student's t	0.2116	0.2121	0.0004
Welch-Aspin's t	0.0012	0.0031	0.0019
Yuen	0.0103	0.0146	0.0043
Tukey's Quick	0.0443	0.0456	0.0013
Haga	0.0026	0.0867	0.0841

Table 339

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.706	0.7062	0.0002
Welch-Aspin's t	0.4397	0.4398	0.0001
Yuen Test	0.1935	0.1944	0.0009
Tukey's Quick Test	0.0207	0.0223	0.0015
Haga Test	0.0008	0.028	0.0273
$\alpha=0.01$			
Student's t	0.4215	0.4215	0
Welch-Aspin's t	0.1111	0.1111	0
Yuen	0.0417	0.0419	0.0002
Tukey's Quick	0.0143	0.0145	0.0001
Haga	0	0.0125	0.0125
$\alpha=0.001$			
Student's t	0.1398	0.1398	0
Welch-Aspin's t	0.0078	0.0078	0
Yuen	0.0051	0.0051	0
Tukey's Quick	0.0077	0.0077	0
Haga	0	0.0077	0.0077

Table 340

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1119	0.1155	0.0037
Welch-Aspin's t	0.0639	0.067	0.0032
Yuen Test	0.0618	0.0671	0.0052
Tukey's Quick Test	0.1019	0.1047	0.0028
Haga Test	0.0028	0.1047	0.1019
$\alpha=0.01$			
Student's t	0.0239	0.0248	0.0009
Welch-Aspin's t	0.0098	0.0104	0.0006
Yuen	0.0172	0.0183	0.0011
Tukey's Quick	0.0414	0.0422	0.0008
Haga	0.0008	0.0422	0.0414
$\alpha=0.001$			
Student's t	0.0037	0.0038	0.0001
Welch-Aspin's t	0.0013	0.0014	0.0001
Yuen	0.0031	0.0032	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0421	0.0412

Table 341

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5263	0.5264	0.0001
Welch-Aspin's t	0.487	0.4871	0.0001
Yuen Test	0.2231	0.2236	0.0004
Tukey's Quick Test	0.0302	0.0316	0.0015
Haga Test	0.0023	0.1245	0.1222
$\alpha=0.01$			
Student's t	0.1905	0.1905	0
Welch-Aspin's t	0.1393	0.1393	0
Yuen	0.0513	0.0514	0.0001
Tukey's Quick	0.0209	0.021	0.0001
Haga	0.0001	0.0302	0.0301
$\alpha=0.001$			
Student's t	0.027	0.027	0
Welch-Aspin's t	0.0111	0.0111	0
Yuen	0.0063	0.0063	0
Tukey's Quick	0.011	0.011	0
Haga	0	0.0111	0.0111

Table 342

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8203	0.8203	0
Welch-Aspin's t	0.807	0.807	0
Yuen Test	0.4537	0.4537	0
Tukey's Quick Test	0.0042	0.0054	0.0012
Haga Test	0.0032	0.1638	0.1606
$\alpha=0.01$			
Student's t	0.5008	0.5008	0
Welch-Aspin's t	0.4537	0.4537	0
Yuen	0.1516	0.1517	0
Tukey's Quick	0.0037	0.0039	0.0002
Haga	0.0005	0.0745	0.074
$\alpha=0.001$			
Student's t	0.1383	0.1383	0
Welch-Aspin's t	0.0927	0.0927	0
Yuen	0.0206	0.0206	0
Tukey's Quick	0.0023	0.0023	0
Haga	0	0.0166	0.0166

Table 343

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4818	0.4874	0.0056
Welch-Aspin's t	0.0593	0.0663	0.007
Yuen Test	0.0694	0.0828	0.0134
Tukey's Quick Test	0.1703	0.1768	0.0066
Haga Test	0.0026	0.1135	0.1108
$\alpha=0.01$			
Student's t	0.2626	0.2641	0.0014
Welch-Aspin's t	0.0097	0.0126	0.0029
Yuen	0.0275	0.0332	0.0057
Tukey's Quick	0.0918	0.0938	0.0019
Haga	0.0015	0.0758	0.0743
$\alpha=0.001$			
Student's t	0.0941	0.0942	0.0002
Welch-Aspin's t	0.0016	0.0025	0.0009
Yuen	0.0113	0.0128	0.0016
Tukey's Quick	0.0301	0.0308	0.0007
Haga	0.0011	0.0587	0.0576

Table 344

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6041	0.6104	0.0064
Welch-Aspin's t	0.0584	0.066	0.0076
Yuen Test	0.0675	0.0819	0.0144
Tukey's Quick Test	0.1794	0.1868	0.0074
Haga Test	0.0028	0.1232	0.1204
$\alpha=0.01$			
Student's t	0.4286	0.4302	0.0016
Welch-Aspin's t	0.0089	0.0124	0.0035
Yuen	0.0257	0.0332	0.0075
Tukey's Quick	0.1049	0.1071	0.0023
Haga	0.0023	0.1095	0.1073
$\alpha=0.001$			
Student's t	0.2323	0.2325	0.0002
Welch-Aspin's t	0.0014	0.0028	0.0014
Yuen	0.0113	0.0148	0.0034
Tukey's Quick	0.0502	0.0511	0.0009
Haga	0.002	0.0968	0.0948

Table 345

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7539	0.754	0.0001
Welch-Aspin's t	0.4955	0.4956	0.0001
Yuen Test	0.2277	0.2283	0.0005
Tukey's Quick Test	0.0305	0.0315	0.001
Haga Test	0.0005	0.0383	0.0379
$\alpha=0.01$			
Student's t	0.4765	0.4765	0
Welch-Aspin's t	0.1384	0.1384	0
Yuen	0.0521	0.0522	0.0001
Tukey's Quick	0.021	0.0211	0.0001
Haga	0	0.0183	0.0182
$\alpha=0.001$			
Student's t	0.1705	0.1705	0
Welch-Aspin's t	0.0107	0.0108	0
Yuen	0.0064	0.0064	0
Tukey's Quick	0.011	0.011	0
Haga	0	0.011	0.011

Table 346

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1246	0.1272	0.0026
Welch-Aspin's t	0.0717	0.0739	0.0022
Yuen Test	0.0669	0.0711	0.0042
Tukey's Quick Test	0.1148	0.1169	0.0021
Haga Test	0.0021	0.1169	0.1148
$\alpha=0.01$			
Student's t	0.0272	0.0277	0.0006
Welch-Aspin's t	0.0113	0.0117	0.0004
Yuen	0.0191	0.0199	0.0008
Tukey's Quick	0.0472	0.0478	0.0006
Haga	0.0006	0.0478	0.0472
$\alpha=0.001$			
Student's t	0.0042	0.0043	0.0001
Welch-Aspin's t	0.0015	0.0015	0
Yuen	0.0033	0.0034	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0006	0.0475	0.0469

Table 347

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5815	0.5816	0
Welch-Aspin's t	0.5428	0.5429	0
Yuen Test	0.2609	0.2612	0.0003
Tukey's Quick Test	0.0441	0.045	0.0009
Haga Test	0.0013	0.1542	0.1529
$\alpha=0.01$			
Student's t	0.2276	0.2276	0
Welch-Aspin's t	0.1698	0.1698	0
Yuen	0.0628	0.0628	0
Tukey's Quick	0.0305	0.0306	0.0001
Haga	0.0001	0.0419	0.0418
$\alpha=0.001$			
Student's t	0.0352	0.0352	0
Welch-Aspin's t	0.0151	0.0151	0
Yuen	0.008	0.0081	0
Tukey's Quick	0.0162	0.0162	0
Haga	0	0.0163	0.0163

Table 348

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8648	0.8648	0
Welch-Aspin's t	0.8537	0.8537	0
Yuen Test	0.5228	0.5228	0
Tukey's Quick Test	0.0077	0.0086	0.0009
Haga Test	0.0017	0.2046	0.2029
$\alpha=0.01$			
Student's t	0.57	0.57	0
Welch-Aspin's t	0.5226	0.5226	0
Yuen	0.19	0.19	0
Tukey's Quick	0.0068	0.007	0.0001
Haga	0.0003	0.0989	0.0986
$\alpha=0.001$			
Student's t	0.178	0.178	0
Welch-Aspin's t	0.123	0.123	0
Yuen	0.028	0.028	0
Tukey's Quick	0.0043	0.0043	0
Haga	0	0.0249	0.0248

Table 349

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5148	0.5187	0.0038
Welch-Aspin's t	0.0672	0.0727	0.0054
Yuen Test	0.0753	0.0859	0.0106
Tukey's Quick Test	0.1924	0.1975	0.005
Haga Test	0.002	0.1275	0.1256
$\alpha=0.01$			
Student's t	0.2875	0.2883	0.0009
Welch-Aspin's t	0.011	0.0132	0.0022
Yuen	0.0299	0.0343	0.0044
Tukey's Quick	0.1043	0.1057	0.0014
Haga	0.001	0.0854	0.0844
$\alpha=0.001$			
Student's t	0.1061	0.1062	0.0001
Welch-Aspin's t	0.0018	0.0024	0.0006
Yuen	0.012	0.0131	0.0011
Tukey's Quick	0.0343	0.0347	0.0004
Haga	0.0007	0.0664	0.0656

Table 350

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6345	0.6388	0.0043
Welch-Aspin's t	0.066	0.0721	0.0061
Yuen Test	0.073	0.0845	0.0115
Tukey's Quick Test	0.2037	0.2094	0.0057
Haga Test	0.002	0.1383	0.1362
$\alpha=0.01$			
Student's t	0.4597	0.4607	0.001
Welch-Aspin's t	0.01	0.0127	0.0027
Yuen	0.0279	0.0338	0.0058
Tukey's Quick	0.1185	0.1201	0.0016
Haga	0.0016	0.1228	0.1212
$\alpha=0.001$			
Student's t	0.2543	0.2544	0.0001
Welch-Aspin's t	0.0016	0.0027	0.001
Yuen	0.0125	0.015	0.0025
Tukey's Quick	0.057	0.0576	0.0006
Haga	0.0013	0.1093	0.108

Table 351

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7985	0.7986	0
Welch-Aspin's t	0.5542	0.5542	0
Yuen Test	0.267	0.2673	0.0003
Tukey's Quick Test	0.0444	0.045	0.0006
Haga Test	0.0002	0.0532	0.0529
$\alpha=0.01$			
Student's t	0.5323	0.5324	0
Welch-Aspin's t	0.1698	0.1698	0
Yuen	0.0638	0.0639	0.0001
Tukey's Quick	0.0311	0.0311	0
Haga	0	0.0269	0.0269
$\alpha=0.001$			
Student's t	0.2052	0.2052	0
Welch-Aspin's t	0.0142	0.0142	0
Yuen	0.0082	0.0082	0
Tukey's Quick	0.016	0.016	0
Haga	0	0.0161	0.0161

Table 352

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1449	0.1467	0.0017
Welch-Aspin's t	0.0845	0.0859	0.0014
Yuen Test	0.0747	0.0776	0.0028
Tukey's Quick Test	0.1362	0.1375	0.0013
Haga Test	0.0013	0.1375	0.1362
$\alpha=0.01$			
Student's t	0.0319	0.0322	0.0003
Welch-Aspin's t	0.0133	0.0136	0.0002
Yuen	0.0211	0.0217	0.0006
Tukey's Quick	0.0554	0.0557	0.0003
Haga	0.0003	0.0557	0.0554
$\alpha=0.001$			
Student's t	0.0051	0.0052	0
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.0039	0.0039	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0565	0.0561

Table 353

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6542	0.6542	0
Welch-Aspin's t	0.6173	0.6174	0
Yuen Test	0.3179	0.318	0.0001
Tukey's Quick Test	0.0728	0.0733	0.0005
Haga Test	0.0006	0.2051	0.2045
$\alpha=0.01$			
Student's t	0.2847	0.2847	0
Welch-Aspin's t	0.2185	0.2185	0
Yuen	0.0816	0.0816	0
Tukey's Quick	0.0505	0.0505	0
Haga	0	0.0651	0.0651
$\alpha=0.001$			
Student's t	0.0495	0.0495	0
Welch-Aspin's t	0.0219	0.0219	0
Yuen	0.0109	0.0109	0
Tukey's Quick	0.0262	0.0262	0
Haga	0	0.0264	0.0264

Table 354

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9115	0.9115	0
Welch-Aspin's t	0.9035	0.9035	0
Yuen Test	0.6153	0.6153	0
Tukey's Quick Test	0.0178	0.0183	0.0005
Haga Test	0.0005	0.2746	0.274
$\alpha=0.01$			
Student's t	0.6609	0.6609	0
Welch-Aspin's t	0.6167	0.6167	0
Yuen	0.2528	0.2528	0
Tukey's Quick	0.0158	0.0159	0
Haga	0.0001	0.1439	0.1439
$\alpha=0.001$			
Student's t	0.2434	0.2434	0
Welch-Aspin's t	0.1751	0.1751	0
Yuen	0.042	0.042	0
Tukey's Quick	0.0102	0.0102	0
Haga	0	0.0424	0.0424

Table 355

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5604	0.5626	0.0023
Welch-Aspin's t	0.0797	0.0836	0.0039
Yuen Test	0.0839	0.0915	0.0075
Tukey's Quick Test	0.2284	0.232	0.0036
Haga Test	0.0013	0.1499	0.1486
$\alpha=0.01$			
Student's t	0.3235	0.3239	0.0004
Welch-Aspin's t	0.0128	0.0143	0.0014
Yuen	0.0332	0.0359	0.0027
Tukey's Quick	0.1232	0.124	0.0008
Haga	0.0006	0.1002	0.0996
$\alpha=0.001$			
Student's t	0.1229	0.123	0
Welch-Aspin's t	0.0022	0.0025	0.0004
Yuen	0.0134	0.0141	0.0006
Tukey's Quick	0.0407	0.0409	0.0002
Haga	0.0004	0.0782	0.0777

Table 356

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6767	0.6789	0.0022
Welch-Aspin's t	0.0775	0.0819	0.0044
Yuen Test	0.081	0.0895	0.0084
Tukey's Quick Test	0.2398	0.2439	0.0041
Haga Test	0.0013	0.162	0.1608
$\alpha=0.01$			
Student's t	0.5017	0.5021	0.0004
Welch-Aspin's t	0.012	0.0139	0.0019
Yuen	0.0312	0.0354	0.0042
Tukey's Quick	0.1403	0.1413	0.001
Haga	0.001	0.1445	0.1435
$\alpha=0.001$			
Student's t	0.2864	0.2865	0
Welch-Aspin's t	0.0019	0.0027	0.0007
Yuen	0.0138	0.0154	0.0016
Tukey's Quick	0.0667	0.0671	0.0003
Haga	0.0008	0.1273	0.1265

Table 357

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8504	0.8504	0
Welch-Aspin's t	0.6313	0.6313	0
Yuen Test	0.3252	0.3254	0.0001
Tukey's Quick Test	0.0732	0.0735	0.0002
Haga Test	0.0001	0.0828	0.0827
$\alpha=0.01$			
Student's t	0.6079	0.6079	0
Welch-Aspin's t	0.2187	0.2187	0
Yuen	0.0828	0.0829	0
Tukey's Quick	0.0509	0.0509	0
Haga	0	0.0442	0.0442
$\alpha=0.001$			
Student's t	0.2594	0.2594	0
Welch-Aspin's t	0.0212	0.0212	0
Yuen	0.0109	0.0109	0
Tukey's Quick	0.0265	0.0265	0
Haga	0	0.0265	0.0265

Table 358

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1939	0.1946	0.0006
Welch-Aspin's t	0.116	0.1165	0.0005
Yuen Test	0.0929	0.0941	0.0012
Tukey's Quick Test	0.1902	0.1907	0.0005
Haga Test	0.0005	0.1907	0.1902
$\alpha=0.01$			
Student's t	0.0446	0.0447	0.0001
Welch-Aspin's t	0.0185	0.0186	0.0001
Yuen	0.0262	0.0265	0.0002
Tukey's Quick	0.0776	0.0777	0.0001
Haga	0.0001	0.0777	0.0776
$\alpha=0.001$			
Student's t	0.0071	0.0071	0
Welch-Aspin's t	0.0025	0.0025	0
Yuen	0.0051	0.0051	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0773	0.0772

Table 359

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7843	0.7843	0
Welch-Aspin's t	0.7552	0.7552	0
Yuen Test	0.4492	0.4493	0
Tukey's Quick Test	0.1981	0.1981	0.0001
Haga Test	0.0001	0.3651	0.365
$\alpha=0.01$			
Student's t	0.4179	0.4179	0
Welch-Aspin's t	0.3377	0.3377	0
Yuen	0.1342	0.1342	0
Tukey's Quick	0.1362	0.1362	0
Haga	0	0.1575	0.1575
$\alpha=0.001$			
Student's t	0.0939	0.0939	0
Welch-Aspin's t	0.0454	0.0454	0
Yuen	0.0195	0.0195	0
Tukey's Quick	0.0717	0.0717	0
Haga	0	0.0719	0.0719

Table 360

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9687	0.9687	0
Welch-Aspin's t	0.9652	0.9652	0
Yuen Test	0.7832	0.7832	0
Tukey's Quick Test	0.0954	0.0955	0.0001
Haga Test	0	0.4671	0.467
$\alpha=0.01$			
Student's t	0.8165	0.8165	0
Welch-Aspin's t	0.7837	0.7837	0
Yuen	0.4103	0.4103	0
Tukey's Quick	0.0829	0.0829	0
Haga	0	0.2971	0.2971
$\alpha=0.001$			
Student's t	0.405	0.405	0
Welch-Aspin's t	0.3157	0.3157	0
Yuen	0.0874	0.0874	0
Tukey's Quick	0.0538	0.0538	0
Haga	0	0.123	0.123

Table 361

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6515	0.652	0.0004
Welch-Aspin's t	0.1097	0.1111	0.0015
Yuen Test	0.1034	0.1065	0.0031
Tukey's Quick Test	0.3182	0.3194	0.0012
Haga Test	0.0003	0.2073	0.207
$\alpha=0.01$			
Student's t	0.4036	0.4036	0.0001
Welch-Aspin's t	0.0181	0.0186	0.0005
Yuen	0.0408	0.0417	0.0009
Tukey's Quick	0.1712	0.1714	0.0002
Haga	0.0002	0.1386	0.1385
$\alpha=0.001$			
Student's t	0.165	0.165	0
Welch-Aspin's t	0.003	0.0031	0.0001
Yuen	0.017	0.0171	0.0001
Tukey's Quick	0.0572	0.0572	0
Haga	0.0001	0.1084	0.1083

Table 362

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7559	0.7563	0.0004
Welch-Aspin's t	0.1073	0.1093	0.002
Yuen Test	0.1004	0.1042	0.0038
Tukey's Quick Test	0.3347	0.3363	0.0016
Haga Test	0.0004	0.2245	0.2241
$\alpha=0.01$			
Student's t	0.5911	0.5911	0
Welch-Aspin's t	0.0167	0.0175	0.0008
Yuen	0.0385	0.0403	0.0017
Tukey's Quick	0.1961	0.1964	0.0003
Haga	0.0003	0.2009	0.2006
$\alpha=0.001$			
Student's t	0.3592	0.3592	0
Welch-Aspin's t	0.0027	0.003	0.0003
Yuen	0.0169	0.0173	0.0005
Tukey's Quick	0.0938	0.0939	0.0001
Haga	0.0002	0.1777	0.1775

Table 363

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9271	0.9271	0
Welch-Aspin's t	0.7738	0.7738	0
Yuen Test	0.4611	0.4611	0
Tukey's Quick Test	0.1992	0.1992	0
Haga Test	0	0.2026	0.2026
$\alpha=0.01$			
Student's t	0.7484	0.7484	0
Welch-Aspin's t	0.3443	0.3443	0
Yuen	0.136	0.136	0
Tukey's Quick	0.1386	0.1386	0
Haga	0	0.1197	0.1197
$\alpha=0.001$			
Student's t	0.3901	0.3901	0
Welch-Aspin's t	0.0442	0.0442	0
Yuen	0.0198	0.0198	0
Tukey's Quick	0.0718	0.0718	0
Haga	0	0.0718	0.0718

Table 364

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1703	0.1741	0.0038
Welch-Aspin's t	0.0879	0.091	0.0031
Yuen Test	0.0705	0.0785	0.008
Tukey's Quick Test	0.1604	0.1628	0.0024
Haga Test	0.0024	0.1628	0.1604
$\alpha=0.01$			
Student's t	0.0411	0.0428	0.0016
Welch-Aspin's t	0.0121	0.0132	0.0012
Yuen	0.0186	0.0211	0.0026
Tukey's Quick	0.1114	0.113	0.0015
Haga	0.0015	0.113	0.1114
$\alpha=0.001$			
Student's t	0.0078	0.0083	0.0005
Welch-Aspin's t	0.0013	0.0017	0.0003
Yuen	0.0047	0.0051	0.0005
Tukey's Quick	0	0	0
Haga	0.0016	0.1132	0.1116

Table 365

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7669	0.7669	0
Welch-Aspin's t	0.7198	0.7198	0
Yuen Test	0.3029	0.3032	0.0002
Tukey's Quick Test	0.0092	0.0092	0
Haga Test	0.0006	0.3396	0.339
$\alpha=0.01$			
Student's t	0.3728	0.3728	0
Welch-Aspin's t	0.271	0.271	0
Yuen	0.0711	0.0712	0.0001
Tukey's Quick	0.0091	0.0091	0
Haga	0	0.0894	0.0894
$\alpha=0.001$			
Student's t	0.0726	0.0726	0
Welch-Aspin's t	0.0262	0.0262	0
Yuen	0.0077	0.0077	0
Tukey's Quick	0.0086	0.0086	0
Haga	0	0.0133	0.0133

Table 366

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9694	0.9694	0
Welch-Aspin's t	0.9633	0.9633	0
Yuen Test	0.6083	0.6083	0
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0.0004	0.5388	0.5384
$\alpha=0.01$			
Student's t	0.7946	0.7946	0
Welch-Aspin's t	0.7416	0.7416	0
Yuen	0.2321	0.2321	0
Tukey's Quick	0.0004	0.0004	0
Haga	0.0001	0.3617	0.3616
$\alpha=0.001$			
Student's t	0.3513	0.3513	0
Welch-Aspin's t	0.24	0.24	0
Yuen	0.0336	0.0336	0
Tukey's Quick	0.0004	0.0004	0
Haga	0	0.1491	0.1491

Table 367

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6964	0.7056	0.0092
Welch-Aspin's t	0.0882	0.0913	0.0031
Yuen Test	0.0708	0.0788	0.008
Tukey's Quick Test	0.1859	0.189	0.0031
Haga Test	0.0023	0.1692	0.1669
$\alpha=0.01$			
Student's t	0.4588	0.4645	0.0057
Welch-Aspin's t	0.0117	0.013	0.0013
Yuen	0.0171	0.0209	0.0038
Tukey's Quick	0.1597	0.1619	0.0021
Haga	0.002	0.1533	0.1514
$\alpha=0.001$			
Student's t	0.2104	0.2134	0.003
Welch-Aspin's t	0.0011	0.0015	0.0004
Yuen	0.0052	0.007	0.0018
Tukey's Quick	0.1171	0.1186	0.0015
Haga	0.0018	0.1431	0.1413

Table 368

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8221	0.8342	0.0121
Welch-Aspin's t	0.0886	0.0917	0.0031
Yuen Test	0.0712	0.0788	0.0076
Tukey's Quick Test	0.1883	0.1915	0.0032
Haga Test	0.0023	0.1713	0.169
$\alpha=0.01$			
Student's t	0.6897	0.6979	0.0082
Welch-Aspin's t	0.0117	0.0128	0.0012
Yuen	0.016	0.0194	0.0034
Tukey's Quick	0.164	0.1662	0.0021
Haga	0.0021	0.1662	0.164
$\alpha=0.001$			
Student's t	0.4762	0.4812	0.005
Welch-Aspin's t	0.001	0.0013	0.0004
Yuen	0.0042	0.0058	0.0016
Tukey's Quick	0.1366	0.1384	0.0018
Haga	0.0021	0.1616	0.1595

Table 369

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9324	0.9325	0
Welch-Aspin's t	0.7204	0.7204	0
Yuen Test	0.3049	0.3051	0.0002
Tukey's Quick Test	0.0095	0.0095	0
Haga Test	0.0001	0.1339	0.1338
$\alpha=0.01$			
Student's t	0.7492	0.7492	0
Welch-Aspin's t	0.2707	0.2707	0
Yuen	0.0714	0.0715	0.0001
Tukey's Quick	0.0094	0.0094	0
Haga	0	0.0205	0.0205
$\alpha=0.001$			
Student's t	0.3832	0.3832	0
Welch-Aspin's t	0.026	0.026	0
Yuen	0.0078	0.0078	0
Tukey's Quick	0.0084	0.0084	0
Haga	0	0.0084	0.0084

Table 370

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1766	0.1801	0.0035
Welch-Aspin's t	0.0911	0.094	0.0029
Yuen Test	0.0725	0.0798	0.0073
Tukey's Quick Test	0.1669	0.1691	0.0022
Haga Test	0.0022	0.1691	0.1669
$\alpha=0.01$			
Student's t	0.0425	0.044	0.0016
Welch-Aspin's t	0.0127	0.0139	0.0011
Yuen	0.0187	0.0213	0.0025
Tukey's Quick	0.1161	0.1175	0.0015
Haga	0.0015	0.1175	0.1161
$\alpha=0.001$			
Student's t	0.0081	0.0086	0.0005
Welch-Aspin's t	0.0014	0.0017	0.0003
Yuen	0.0048	0.0053	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0014	0.1164	0.115

Table 371

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7789	0.7789	0
Welch-Aspin's t	0.7326	0.7326	0
Yuen Test	0.3147	0.3149	0.0002
Tukey's Quick Test	0.0102	0.0102	0
Haga Test	0.0005	0.3518	0.3512
$\alpha=0.01$			
Student's t	0.3867	0.3867	0
Welch-Aspin's t	0.2822	0.2822	0
Yuen	0.0749	0.075	0
Tukey's Quick	0.0101	0.0101	0
Haga	0	0.0953	0.0952
$\alpha=0.001$			
Student's t	0.0769	0.0769	0
Welch-Aspin's t	0.0279	0.0279	0
Yuen	0.0082	0.0083	0
Tukey's Quick	0.0096	0.0096	0
Haga	0	0.0144	0.0144

Table 372

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9732	0.9732	0
Welch-Aspin's t	0.9677	0.9677	0
Yuen Test	0.625	0.625	0
Tukey's Quick Test	0.0005	0.0005	0
Haga Test	0.0003	0.5559	0.5556
$\alpha=0.01$			
Student's t	0.8098	0.8098	0
Welch-Aspin's t	0.7588	0.7588	0
Yuen	0.2463	0.2463	0
Tukey's Quick	0.0005	0.0005	0
Haga	0.0001	0.3801	0.38
$\alpha=0.001$			
Student's t	0.369	0.369	0
Welch-Aspin's t	0.2544	0.2544	0
Yuen	0.0365	0.0365	0
Tukey's Quick	0.0005	0.0005	0
Haga	0	0.1595	0.1595

Table 373

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7055	0.714	0.0085
Welch-Aspin's t	0.0905	0.0935	0.003
Yuen Test	0.0721	0.0796	0.0075
Tukey's Quick Test	0.1911	0.1941	0.0029
Haga Test	0.0022	0.1738	0.1716
$\alpha=0.01$			
Student's t	0.4671	0.4724	0.0053
Welch-Aspin's t	0.0122	0.0134	0.0012
Yuen	0.0174	0.021	0.0035
Tukey's Quick	0.1647	0.1667	0.002
Haga	0.0018	0.1579	0.1561
$\alpha=0.001$			
Student's t	0.2168	0.2195	0.0028
Welch-Aspin's t	0.0012	0.0016	0.0004
Yuen	0.0052	0.0068	0.0016
Tukey's Quick	0.122	0.1234	0.0014
Haga	0.0016	0.1482	0.1465

Table 374

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8296	0.8411	0.0114
Welch-Aspin's t	0.0909	0.0939	0.003
Yuen Test	0.0723	0.0794	0.0071
Tukey's Quick Test	0.1939	0.197	0.0031
Haga Test	0.0022	0.1765	0.1743
$\alpha=0.01$			
Student's t	0.6992	0.7068	0.0076
Welch-Aspin's t	0.012	0.0131	0.0012
Yuen	0.0161	0.0195	0.0033
Tukey's Quick	0.1698	0.1718	0.002
Haga	0.002	0.1718	0.1698
$\alpha=0.001$			
Student's t	0.4858	0.4903	0.0045
Welch-Aspin's t	0.0011	0.0014	0.0003
Yuen	0.0043	0.0057	0.0015
Tukey's Quick	0.1411	0.1426	0.0016
Haga	0.0019	0.1667	0.1649

Table 375

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9383	0.9383	0
Welch-Aspin's t	0.7348	0.7348	0
Yuen Test	0.3168	0.317	0.0002
Tukey's Quick Test	0.0104	0.0104	0
Haga Test	0.0001	0.1419	0.1419
$\alpha=0.01$			
Student's t	0.7629	0.7629	0
Welch-Aspin's t	0.284	0.284	0
Yuen	0.0752	0.0752	0
Tukey's Quick	0.0103	0.0103	0
Haga	0	0.0221	0.0221
$\alpha=0.001$			
Student's t	0.3971	0.3971	0
Welch-Aspin's t	0.0279	0.0279	0
Yuen	0.0083	0.0083	0
Tukey's Quick	0.0093	0.0093	0
Haga	0	0.0093	0.0093

Table 376

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1803	0.1836	0.0033
Welch-Aspin's t	0.0932	0.096	0.0027
Yuen Test	0.0741	0.0811	0.0069
Tukey's Quick Test	0.1719	0.174	0.0021
Haga Test	0.0021	0.174	0.1719
$\alpha=0.01$			
Student's t	0.0434	0.0448	0.0014
Welch-Aspin's t	0.0127	0.0137	0.0011
Yuen	0.0191	0.0214	0.0023
Tukey's Quick	0.118	0.1193	0.0013
Haga	0.0013	0.1193	0.118
$\alpha=0.001$			
Student's t	0.0083	0.0087	0.0004
Welch-Aspin's t	0.0013	0.0016	0.0003
Yuen	0.0049	0.0053	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0013	0.1197	0.1184

Table 377

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7917	0.7917	0
Welch-Aspin's t	0.7467	0.7467	0
Yuen Test	0.3268	0.3269	0.0001
Tukey's Quick Test	0.0112	0.0112	0
Haga Test	0.0005	0.3658	0.3653
$\alpha=0.01$			
Student's t	0.4015	0.4015	0
Welch-Aspin's t	0.2951	0.2951	0
Yuen	0.0786	0.0786	0
Tukey's Quick	0.0112	0.0112	0
Haga	0	0.1012	0.1012
$\alpha=0.001$			
Student's t	0.0817	0.0817	0
Welch-Aspin's t	0.0301	0.0301	0
Yuen	0.0086	0.0086	0
Tukey's Quick	0.0106	0.0106	0
Haga	0	0.0157	0.0157

Table 378

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9766	0.9766	0
Welch-Aspin's t	0.9716	0.9716	0
Yuen Test	0.6428	0.6428	0
Tukey's Quick Test	0.0006	0.0006	0
Haga Test	0.0002	0.5747	0.5744
$\alpha=0.01$			
Student's t	0.8229	0.8229	0
Welch-Aspin's t	0.774	0.774	0
Yuen	0.2595	0.2596	0
Tukey's Quick	0.0006	0.0006	0
Haga	0.0001	0.3979	0.3978
$\alpha=0.001$			
Student's t	0.3865	0.3865	0
Welch-Aspin's t	0.269	0.269	0
Yuen	0.0391	0.0391	0
Tukey's Quick	0.0005	0.0005	0
Haga	0	0.1705	0.1705

Table 379

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7154	0.7234	0.008
Welch-Aspin's t	0.0935	0.0962	0.0027
Yuen Test	0.0737	0.081	0.0073
Tukey's Quick Test	0.198	0.2007	0.0027
Haga Test	0.002	0.1795	0.1775
$\alpha=0.01$			
Student's t	0.477	0.4818	0.0048
Welch-Aspin's t	0.0125	0.0137	0.0012
Yuen	0.0176	0.021	0.0033
Tukey's Quick	0.17	0.1718	0.0018
Haga	0.0017	0.1629	0.1612
$\alpha=0.001$			
Student's t	0.2222	0.2247	0.0025
Welch-Aspin's t	0.0012	0.0015	0.0004
Yuen	0.0053	0.0069	0.0016
Tukey's Quick	0.1251	0.1264	0.0013
Haga	0.0015	0.1521	0.1506

Table 380

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8365	0.847	0.0105
Welch-Aspin's t	0.0935	0.0962	0.0027
Yuen Test	0.0733	0.08	0.0067
Tukey's Quick Test	0.1995	0.2023	0.0028
Haga Test	0.002	0.1814	0.1794
$\alpha=0.01$			
Student's t	0.7079	0.7147	0.0068
Welch-Aspin's t	0.0124	0.0134	0.001
Yuen	0.0166	0.0196	0.003
Tukey's Quick	0.1744	0.1762	0.0018
Haga	0.0018	0.1763	0.1745
$\alpha=0.001$			
Student's t	0.4952	0.4992	0.004
Welch-Aspin's t	0.0011	0.0014	0.0003
Yuen	0.0045	0.0059	0.0015
Tukey's Quick	0.145	0.1464	0.0014
Haga	0.0017	0.1711	0.1694

Table 381

Exponential Distribution, $n_1=15, n_2=25, Effect\ Size=0.8\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.944	0.944	0
Welch-Aspin's t	0.748	0.748	0
Yuen Test	0.3286	0.3288	0.0001
Tukey's Quick Test	0.0112	0.0112	0
Haga Test	0.0001	0.1495	0.1494
$\alpha=0.01$			
Student's t	0.7756	0.7756	0
Welch-Aspin's t	0.2959	0.2959	0
Yuen	0.0787	0.0787	0
Tukey's Quick	0.0114	0.0114	0
Haga	0	0.024	0.024
$\alpha=0.001$			
Student's t	0.4132	0.4132	0
Welch-Aspin's t	0.0301	0.0301	0
Yuen	0.0087	0.0087	0
Tukey's Quick	0.0102	0.0102	0
Haga	0	0.0102	0.0102

Table 382

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1879	0.1908	0.0029
Welch-Aspin's t	0.0981	0.1005	0.0024
Yuen Test	0.0759	0.0824	0.0065
Tukey's Quick Test	0.1796	0.1814	0.0018
Haga Test	0.0018	0.1814	0.1796
$\alpha=0.01$			
Student's t	0.0456	0.0469	0.0012
Welch-Aspin's t	0.0134	0.0144	0.001
Yuen	0.0199	0.022	0.0021
Tukey's Quick	0.1237	0.1249	0.0012
Haga	0.0012	0.1249	0.1237
$\alpha=0.001$			
Student's t	0.0087	0.009	0.0004
Welch-Aspin's t	0.0014	0.0017	0.0003
Yuen	0.005	0.0054	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.1255	0.1243

Table 383

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8086	0.8086	0
Welch-Aspin's t	0.7651	0.7651	0
Yuen Test	0.3426	0.3427	0.0001
Tukey's Quick Test	0.0126	0.0126	0
Haga Test	0.0004	0.3845	0.3841
$\alpha=0.01$			
Student's t	0.4215	0.4215	0
Welch-Aspin's t	0.3126	0.3126	0
Yuen	0.084	0.084	0
Tukey's Quick	0.0127	0.0127	0
Haga	0	0.1104	0.1104
$\alpha=0.001$			
Student's t	0.089	0.089	0
Welch-Aspin's t	0.0333	0.0333	0
Yuen	0.0092	0.0092	0
Tukey's Quick	0.0118	0.0118	0
Haga	0	0.0175	0.0175

Table 384

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9806	0.9806	0
Welch-Aspin's t	0.9763	0.9763	0
Yuen Test	0.6677	0.6677	0
Tukey's Quick Test	0.0007	0.0007	0
Haga Test	0.0003	0.5997	0.5994
$\alpha=0.01$			
Student's t	0.8406	0.8406	0
Welch-Aspin's t	0.794	0.794	0
Yuen	0.2766	0.2766	0
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.4216	0.4215
$\alpha=0.001$			
Student's t	0.4115	0.4115	0
Welch-Aspin's t	0.2907	0.2907	0
Yuen	0.0438	0.0438	0
Tukey's Quick	0.0007	0.0007	0
Haga	0	0.1868	0.1868

Table 385

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7278	0.735	0.0072
Welch-Aspin's t	0.0977	0.1003	0.0026
Yuen Test	0.0759	0.0827	0.0068
Tukey's Quick Test	0.2061	0.2087	0.0025
Haga Test	0.0018	0.1869	0.1851
$\alpha=0.01$			
Student's t	0.4896	0.4939	0.0043
Welch-Aspin's t	0.013	0.014	0.001
Yuen	0.0179	0.0211	0.0032
Tukey's Quick	0.1762	0.1778	0.0016
Haga	0.0015	0.1685	0.167
$\alpha=0.001$			
Student's t	0.2304	0.2326	0.0023
Welch-Aspin's t	0.0012	0.0015	0.0003
Yuen	0.0055	0.007	0.0015
Tukey's Quick	0.1305	0.1316	0.0011
Haga	0.0013	0.1584	0.1571

Table 386

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8462	0.8557	0.0095
Welch-Aspin's t	0.0978	0.1003	0.0025
Yuen Test	0.0756	0.0819	0.0063
Tukey's Quick Test	0.2091	0.2117	0.0026
Haga Test	0.0018	0.1897	0.1879
$\alpha=0.01$			
Student's t	0.7212	0.7274	0.0062
Welch-Aspin's t	0.0131	0.0141	0.001
Yuen	0.0173	0.0202	0.0029
Tukey's Quick	0.1826	0.1842	0.0017
Haga	0.0017	0.1843	0.1826
$\alpha=0.001$			
Student's t	0.5076	0.5114	0.0038
Welch-Aspin's t	0.0011	0.0015	0.0003
Yuen	0.0045	0.0058	0.0014
Tukey's Quick	0.1516	0.1529	0.0014
Haga	0.0017	0.1784	0.1768

Table 387

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9506	0.9506	0
Welch-Aspin's t	0.7656	0.7656	0
Yuen Test	0.3445	0.3446	0.0001
Tukey's Quick Test	0.013	0.013	0
Haga Test	0	0.1607	0.1606
$\alpha=0.01$			
Student's t	0.7921	0.7921	0
Welch-Aspin's t	0.3133	0.3133	0
Yuen	0.0844	0.0844	0
Tukey's Quick	0.0127	0.0127	0
Haga	0	0.0268	0.0268
$\alpha=0.001$			
Student's t	0.4327	0.4327	0
Welch-Aspin's t	0.0331	0.0331	0
Yuen	0.0095	0.0095	0
Tukey's Quick	0.0115	0.0115	0
Haga	0	0.0115	0.0115

Table 388

Exponential Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.203	0.2054	0.0024
Welch-Aspin's t	0.1068	0.1088	0.002
Yuen Test	0.0806	0.086	0.0054
Tukey's Quick Test	0.1956	0.197	0.0015
Haga Test	0.0015	0.197	0.1956
$\alpha=0.01$			
Student's t	0.0496	0.0506	0.001
Welch-Aspin's t	0.0147	0.0154	0.0008
Yuen	0.021	0.0227	0.0018
Tukey's Quick	0.1339	0.1348	0.0009
Haga	0.0009	0.1348	0.1339
$\alpha=0.001$			
Student's t	0.0094	0.0097	0.0003
Welch-Aspin's t	0.0016	0.0018	0.0002
Yuen	0.0053	0.0056	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0009	0.1354	0.1345

Table 389

Exponential Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8389	0.8389	0
Welch-Aspin's t	0.7988	0.7988	0
Yuen Test	0.3762	0.3763	0.0001
Tukey's Quick Test	0.0159	0.0159	0
Haga Test	0.0002	0.4236	0.4234
$\alpha=0.01$			
Student's t	0.461	0.461	0
Welch-Aspin's t	0.3482	0.3482	0
Yuen	0.0955	0.0956	0
Tukey's Quick	0.0162	0.0162	0
Haga	0	0.1285	0.1285
$\alpha=0.001$			
Student's t	0.1042	0.1042	0
Welch-Aspin's t	0.0399	0.0399	0
Yuen	0.0109	0.0109	0
Tukey's Quick	0.0153	0.0153	0
Haga	0	0.0222	0.0222

Table 390

Exponential Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8717	0.8717	0
Welch-Aspin's t	0.8306	0.8306	0
Yuen Test	0.3161	0.3161	0
Tukey's Quick Test	0.0011	0.0011	0
Haga Test	0	0.4721	0.4721
$\alpha=0.01$			
Student's t	0.8717	0.8717	0
Welch-Aspin's t	0.8306	0.8306	0
Yuen	0.3161	0.3161	0
Tukey's Quick	0.0011	0.0011	0
Haga	0	0.4721	0.4721
$\alpha=0.001$			
Student's t	0.4625	0.4625	0
Welch-Aspin's t	0.3356	0.3356	0
Yuen	0.0531	0.0531	0
Tukey's Quick	0.0011	0.0011	0
Haga	0	0.2222	0.2222

Table 391

Exponential Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7532	0.7591	0.0059
Welch-Aspin's t	0.1059	0.1079	0.002
Yuen Test	0.0802	0.0859	0.0057
Tukey's Quick Test	0.2246	0.2267	0.002
Haga Test	0.0014	0.2029	0.2015
$\alpha=0.01$			
Student's t	0.5165	0.52	0.0035
Welch-Aspin's t	0.0145	0.0154	0.0009
Yuen	0.0194	0.0222	0.0028
Tukey's Quick	0.1917	0.1931	0.0013
Haga	0.0012	0.1829	0.1817
$\alpha=0.001$			
Student's t	0.2467	0.2484	0.0017
Welch-Aspin's t	0.0014	0.0017	0.0003
Yuen	0.0057	0.007	0.0013
Tukey's Quick	0.1416	0.1425	0.0009
Haga	0.0011	0.1716	0.1706

Table 392

Exponential Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8646	0.8722	0.0076
Welch-Aspin's t	0.1059	0.1079	0.0019
Yuen Test	0.08	0.0856	0.0055
Tukey's Quick Test	0.2262	0.2282	0.0021
Haga Test	0.0014	0.2046	0.2032
$\alpha=0.01$			
Student's t	0.7458	0.7508	0.0049
Welch-Aspin's t	0.0142	0.015	0.0008
Yuen	0.0183	0.0209	0.0026
Tukey's Quick	0.1974	0.1987	0.0013
Haga	0.0013	0.1988	0.1974
$\alpha=0.001$			
Student's t	0.5342	0.5371	0.0029
Welch-Aspin's t	0.0012	0.0015	0.0003
Yuen	0.0046	0.0058	0.0012
Tukey's Quick	0.1648	0.1658	0.001
Haga	0.0012	0.1939	0.1926

Table 393

Exponential Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9628	0.9628	0
Welch-Aspin's t	0.7997	0.7997	0
Yuen Test	0.3784	0.3784	0.0001
Tukey's Quick Test	0.0165	0.0165	0
Haga Test	0	0.1846	0.1846
$\alpha=0.01$			
Student's t	0.8242	0.8242	0
Welch-Aspin's t	0.3496	0.3496	0
Yuen	0.0956	0.0956	0
Tukey's Quick	0.0164	0.0164	0
Haga	0	0.033	0.033
$\alpha=0.001$			
Student's t	0.4743	0.4743	0
Welch-Aspin's t	0.0399	0.0399	0
Yuen	0.0108	0.0108	0
Tukey's Quick	0.0148	0.0148	0
Haga	0	0.0148	0.0148

Table 394

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0097	0.0196	0.0099
Welch-Aspin's t	0.0073	0.0148	0.0075
Yuen Test	0.0113	0.0226	0.0113
Tukey's Quick Test	0.0159	0.0317	0.0159
Haga Test	0.0159	0.0317	0.0159
<hr/>			
$\alpha=0.01$			
Student's t	0.001	0.002	0.001
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.0018	0.0036	0.0018
Tukey's Quick	0.0039	0.008	0.0041
Haga	0.0041	0.008	0.0039
<hr/>			
$\alpha=0.001$			
Student's t	0	0.0001	0
Welch-Aspin's t	0	0.0001	0
Yuen	0.0002	0.0003	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.004	0.0079	0.0039

Table 395

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0102	0.0202	0.0101
Welch-Aspin's t	0.0093	0.0185	0.0092
Yuen Test	0.0162	0.0326	0.0164
Tukey's Quick Test	0.0235	0.047	0.0235
Haga Test	0.024	0.0481	0.0241
$\alpha=0.01$			
Student's t	0.0008	0.0016	0.0008
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.0021	0.0041	0.0021
Tukey's Quick	0.0034	0.0067	0.0033
Haga	0.0033	0.0067	0.0034
$\alpha=0.001$			
Student's t	n/a	n/a	n/a
Welch-Aspin's t	n/a	n/a	n/a
Yuen	0.0001	0.0002	0.0001
Tukey's Quick	0.0004	0.0009	0.0005
Haga	0.0005	0.0009	0.0004

Table 396

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0103	0.0205	0.0103
Welch-Aspin's t	0.0097	0.0194	0.0097
Yuen Test	0.0189	0.038	0.0191
Tukey's Quick Test	0.0253	0.0505	0.0252
Haga Test	0.0142	0.0285	0.0143
$\alpha=0.01$			
Student's t	0.0008	0.0015	0.0008
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.0025	0.0051	0.0026
Tukey's Quick	0.0039	0.0078	0.0039
Haga	0.0039	0.0079	0.004
$\alpha=0.001$			
Student's t	n/a	n/a	n/a
Welch-Aspin's t	n/a	n/a	n/a
Yuen	0.0002	0.0003	0.0001
Tukey's Quick	0.0003	0.0006	0.0003
Haga	0.0005	0.0011	0.0006

Table 397

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0198	0.0395	0.0197
Welch-Aspin's t	0.0088	0.0174	0.0087
Yuen Test	0.019	0.0384	0.0193
Tukey's Quick Test	0.0248	0.0495	0.0247
Haga Test	0.0067	0.0135	0.0068
$\alpha=0.01$			
Student's t	0.0029	0.0057	0.0028
Welch-Aspin's t	0.0009	0.0017	0.0008
Yuen	0.0046	0.0092	0.0046
Tukey's Quick	0.0036	0.0073	0.0037
Haga	0.002	0.004	0.0019
$\alpha=0.001$			
Student's t	0.0002	0.0004	0.0002
Welch-Aspin's t	0	0.0001	0
Yuen	0.0008	0.0017	0.0009
Tukey's Quick	0.0002	0.0005	0.0003
Haga	0.001	0.002	0.001

Table 398

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0436	0.0871	0.0435
Welch-Aspin's t	0.0095	0.0186	0.0091
Yuen Test	0.023	0.0458	0.0228
Tukey's Quick Test	0.0226	0.0452	0.0226
Haga Test	0.0076	0.0153	0.0077
$\alpha=0.01$			
Student's t	0.0066	0.0132	0.0066
Welch-Aspin's t	0.001	0.0019	0.0009
Yuen	0.0072	0.0142	0.007
Tukey's Quick	0.0039	0.0078	0.0039
Haga	0.0051	0.0101	0.0051
$\alpha=0.001$			
Student's t	0.0008	0.0016	0.0008
Welch-Aspin's t	0.0001	0.0001	0.0001
Yuen	0.0018	0.0037	0.0018
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0033	0.0066	0.0033

Table 399

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0121	0.0243	0.0122
Welch-Aspin's t	0.0095	0.019	0.0095
Yuen Test	0.0175	0.035	0.0175
Tukey's Quick Test	0.0194	0.0384	0.0191
Haga Test	0.0126	0.0254	0.0128
$\alpha=0.01$			
Student's t	0.001	0.0021	0.0011
Welch-Aspin's t	0.0006	0.0014	0.0008
Yuen	0.0024	0.0047	0.0023
Tukey's Quick	0.0038	0.0077	0.0039
Haga	0.0024	0.0046	0.0023
$\alpha=0.001$			
Student's t	0	0.0001	0
Welch-Aspin's t	n/a	n/a	n/a
Yuen	0.0002	0.0003	0.0001
Tukey's Quick	0.0004	0.0007	0.0003
Haga	0.0003	0.0007	0.0004

Table 400

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4385	0.4385	0
Welch-Aspin's t	0.398	0.398	0
Yuen Test	0.5694	0.5695	0
Tukey's Quick Test	0.4735	0.4735	0
Haga Test	0	0.4735	0.4735
$\alpha=0.01$			
Student's t	0.2691	0.2691	0
Welch-Aspin's t	0.2217	0.2217	0
Yuen	0.2561	0.2561	0
Tukey's Quick	0.3555	0.3555	0
Haga	0	0.3555	0.3555
$\alpha=0.001$			
Student's t	0.1136	0.1136	0
Welch-Aspin's t	0.0797	0.0797	0
Yuen	0.0528	0.0528	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.3561	0.3561

Table 401

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6908	0.6908	0
Welch-Aspin's t	0.6818	0.6818	0
Yuen Test	0.9989	0.9989	0
Tukey's Quick Test	0.5314	0.5314	0
Haga Test	0	0.801	0.801
$\alpha=0.01$			
Student's t	0.5936	0.5936	0
Welch-Aspin's t	0.5781	0.5781	0
Yuen	0.9964	0.9964	0
Tukey's Quick	0.522	0.522	0
Haga	0	0.7591	0.7591
$\alpha=0.001$			
Student's t	0.4782	0.4782	0
Welch-Aspin's t	0.4541	0.4541	0
Yuen	0.9865	0.9865	0
Tukey's Quick	0.5027	0.5027	0
Haga	0	0.6	0.6

Table 402

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.731	0.731	0
Welch-Aspin's t	0.7264	0.7264	0
Yuen Test	1	1	0
Tukey's Quick Test	0.4421	0.4422	0.0001
Haga Test	0	0.6945	0.6945
$\alpha=0.01$			
Student's t	0.6467	0.6467	0
Welch-Aspin's t	0.6384	0.6384	0
Yuen	1	1	0
Tukey's Quick	0.4296	0.4296	0
Haga	0	0.6793	0.6793
$\alpha=0.001$			
Student's t	0.5491	0.5491	0
Welch-Aspin's t	0.5352	0.5352	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.4159	0.4159	0
Haga	0	0.6585	0.6585

Table 403

Cauchy Distribution, $n_1=5, n_2=15, Effect\ Size=0.2\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4219	0.4226	0.0007
Welch-Aspin's t	0.4382	0.4382	0
Yuen Test	0.7467	0.7467	0
Tukey's Quick Test	0.3851	0.3851	0
Haga Test	0	0.5089	0.5089
$\alpha=0.01$			
Student's t	0.2738	0.2738	0
Welch-Aspin's t	0.2822	0.2822	0
Yuen	0.5464	0.5464	0
Tukey's Quick	0.3481	0.3481	0
Haga	0	0.3255	0.3255
$\alpha=0.001$			
Student's t	0.1422	0.1422	0
Welch-Aspin's t	0.1447	0.1447	0
Yuen	0.3349	0.3349	0
Tukey's Quick	0.1928	0.1928	0
Haga	0	0.286	0.286

Table 404

Cauchy Distribution, $n_1=5, n_2=25, Effect\ Size=0.2\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3681	0.3787	0.0106
Welch-Aspin's t	0.4444	0.4444	0
Yuen Test	0.7347	0.7348	0
Tukey's Quick Test	0.268	0.268	0
Haga Test	0	0.6181	0.6181
$\alpha=0.01$			
Student's t	0.2359	0.2364	0.0005
Welch-Aspin's t	0.2935	0.2935	0
Yuen	0.5362	0.5362	0
Tukey's Quick	0.2521	0.2521	0
Haga	0	0.5872	0.5872
$\alpha=0.001$			
Student's t	0.118	0.118	0
Welch-Aspin's t	0.1585	0.1585	0
Yuen	0.3409	0.3409	0
Tukey's Quick	0.2081	0.2081	0
Haga	0	0.5453	0.5453

Table 405

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6863	0.6863	0
Welch-Aspin's t	0.6878	0.6878	0
Yuen Test	0.9995	0.9995	0
Tukey's Quick Test	0.4505	0.4505	0
Haga Test	0	0.7222	0.7222
$\alpha=0.01$			
Student's t	0.5874	0.5874	0
Welch-Aspin's t	0.5854	0.5854	0
Yuen	0.9983	0.9983	0
Tukey's Quick	0.4383	0.4383	0
Haga	0	0.6747	0.6747
$\alpha=0.001$			
Student's t	0.4763	0.4763	0
Welch-Aspin's t	0.4683	0.4683	0
Yuen	0.9932	0.9932	0
Tukey's Quick	0.4015	0.4015	0
Haga	0	0.5955	0.5955

Table 406

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7406	0.7406	0
Welch-Aspin's t	0.706	0.706	0
Yuen Test	0.8931	0.8931	0
Tukey's Quick Test	0.7445	0.7445	0
Haga Test	0	0.7445	0.7445
$\alpha=0.01$			
Student's t	0.632	0.632	0
Welch-Aspin's t	0.5664	0.5664	0
Yuen	0.6755	0.6755	0
Tukey's Quick	0.6868	0.6868	0
Haga	0	0.6868	0.6868
$\alpha=0.001$			
Student's t	0.4761	0.4761	0
Welch-Aspin's t	0.3776	0.3776	0
Yuen	0.3213	0.3213	0
Tukey's Quick	0	0	0
Haga	0	0.6868	0.6868

Table 407

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8718	0.8718	0
Welch-Aspin's t	0.8669	0.8669	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7258	0.7258	0
Haga Test	0	0.9556	0.9556
$\alpha=0.01$			
Student's t	0.8277	0.8277	0
Welch-Aspin's t	0.8177	0.8177	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.7249	0.7249	0
Haga	0	0.9501	0.9501
$\alpha=0.001$			
Student's t	0.7717	0.7717	0
Welch-Aspin's t	0.7523	0.7523	0
Yuen	0.9996	0.9996	0
Tukey's Quick	0.7228	0.7228	0
Haga	0	0.8916	0.8916

Table 408

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8893	0.8893	0
Welch-Aspin's t	0.8868	0.8868	0
Yuen Test	1	1	0
Tukey's Quick Test	0.6543	0.6543	0
Haga Test	0	0.9185	0.9185
$\alpha=0.01$			
Student's t	0.8525	0.8525	0
Welch-Aspin's t	0.8474	0.8474	0
Yuen	1	1	0
Tukey's Quick	0.6518	0.6518	0
Haga	0	0.9156	0.9156
$\alpha=0.001$			
Student's t	0.8082	0.8082	0
Welch-Aspin's t	0.7988	0.7988	0
Yuen	1	1	0
Tukey's Quick	0.651	0.651	0
Haga	0	0.9125	0.9125

Table 409

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.729	0.7291	0.0001
Welch-Aspin's t	0.734	0.734	0
Yuen Test	0.9414	0.9414	0
Tukey's Quick Test	0.6298	0.6298	0
Haga Test	0	0.8119	0.8119
$\alpha=0.01$			
Student's t	0.6348	0.6348	0
Welch-Aspin's t	0.6233	0.6233	0
Yuen	0.8014	0.8014	0
Tukey's Quick	0.6207	0.6207	0
Haga	0	0.6165	0.6165
$\alpha=0.001$			
Student's t	0.5184	0.5184	0
Welch-Aspin's t	0.4824	0.4824	0
Yuen	0.6252	0.6252	0
Tukey's Quick	0.5372	0.5372	0
Haga	0	0.6037	0.6037

Table 410

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6915	0.696	0.0045
Welch-Aspin's t	0.7372	0.7372	0
Yuen Test	0.941	0.941	0
Tukey's Quick Test	0.51	0.51	0
Haga Test	0	0.8561	0.8561
$\alpha=0.01$			
Student's t	0.5977	0.5978	0.0001
Welch-Aspin's t	0.6315	0.6315	0
Yuen	0.7687	0.7687	0
Tukey's Quick	0.5039	0.5039	0
Haga	0	0.8517	0.8517
$\alpha=0.001$			
Student's t	0.4842	0.4842	0
Welch-Aspin's t	0.4977	0.4977	0
Yuen	0.5857	0.5857	0
Tukey's Quick	0.4949	0.4949	0
Haga	0	0.8438	0.8438

Table 411

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8691	0.8691	0
Welch-Aspin's t	0.8687	0.8687	0
Yuen Test	1	1	0
Tukey's Quick Test	0.6652	0.6652	0
Haga Test	0	0.9307	0.9307
$\alpha=0.01$			
Student's t	0.8257	0.8257	0
Welch-Aspin's t	0.8228	0.8228	0
Yuen	1	1	0
Tukey's Quick	0.6638	0.6638	0
Haga	0	0.9166	0.9166
$\alpha=0.001$			
Student's t	0.7718	0.7718	0
Welch-Aspin's t	0.7628	0.7628	0
Yuen	0.9998	0.9998	0
Tukey's Quick	0.6551	0.6551	0
Haga	0	0.8354	0.8354

Table 412

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8346	0.8346	0
Welch-Aspin's t	0.8084	0.8084	0
Yuen Test	0.9552	0.9552	0
Tukey's Quick Test	0.8328	0.8328	0
Haga Test	0	0.8328	0.8328
$\alpha=0.01$			
Student's t	0.7621	0.7621	0
Welch-Aspin's t	0.7053	0.7053	0
Yuen	0.8264	0.8264	0
Tukey's Quick	0.8007	0.8007	0
Haga	0	0.8007	0.8007
$\alpha=0.001$			
Student's t	0.6495	0.6495	0
Welch-Aspin's t	0.5434	0.5434	0
Yuen	0.5067	0.5067	0
Tukey's Quick	0	0	0
Haga	0	0.8002	0.8002

Table 413

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9192	0.9192	0
Welch-Aspin's t	0.9158	0.9158	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8014	0.8014	0
Haga Test	0	0.9811	0.9811
$\alpha=0.01$			
Student's t	0.8911	0.8911	0
Welch-Aspin's t	0.8842	0.8842	0
Yuen	1	1	0
Tukey's Quick	0.8014	0.8014	0
Haga	0	0.9793	0.9793
$\alpha=0.001$			
Student's t	0.8567	0.8567	0
Welch-Aspin's t	0.8426	0.8426	0
Yuen	1	1	0
Tukey's Quick	0.802	0.802	0
Haga	0	0.9534	0.9534

Table 414

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9307	0.9307	0
Welch-Aspin's t	0.929	0.929	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7418	0.7418	0
Haga Test	0	0.9631	0.9631
$\alpha=0.01$			
Student's t	0.9074	0.9074	0
Welch-Aspin's t	0.904	0.904	0
Yuen	1	1	0
Tukey's Quick	0.7416	0.7416	0
Haga	0	0.9625	0.9625
$\alpha=0.001$			
Student's t	0.8722	0.8722	0
Welch-Aspin's t	1	1	0
Yuen	0.7412	0.7412	0
Tukey's Quick	0	0.9613	0.9613
Haga			

Table 415

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8262	0.8262	0
Welch-Aspin's t	0.8282	0.8282	0
Yuen Test	0.9765	0.9765	0
Tukey's Quick Test	0.735	0.735	0
Haga Test	0	0.8891	0.8891
$\alpha=0.01$			
Student's t	0.7636	0.7636	0
Welch-Aspin's t	0.7491	0.7491	0
Yuen	0.8922	0.8922	0
Tukey's Quick	0.7305	0.7305	0
Haga	0	0.7291	0.7291
$\alpha=0.001$			
Student's t	0.6822	0.6822	0
Welch-Aspin's t	0.6347	0.6347	0
Yuen	0.7282	0.7282	0
Tukey's Quick	0.6845	0.6845	0
Haga	0	0.7242	0.7242

Table 416

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8017	0.8045	0.0028
Welch-Aspin's t	0.8307	0.8307	0
Yuen Test	0.9766	0.9766	0
Tukey's Quick Test	0.6344	0.6344	0
Haga Test	0	0.9103	0.9103
$\alpha=0.01$			
Student's t	0.7382	0.7383	0
Welch-Aspin's t	0.7548	0.7548	0
Yuen	0.8851	0.8851	0
Tukey's Quick	0.6332	0.6332	0
Haga	0	0.9094	0.9094
$\alpha=0.001$			
Student's t	0.657	0.657	0
Welch-Aspin's t	0.6464	0.6464	0
Yuen	0.676	0.676	0
Tukey's Quick	0.6288	0.6288	0
Haga	0	0.9071	0.9071

Table 417

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9177	0.9177	0
Welch-Aspin's t	0.9174	0.9174	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7529	0.7529	0
Haga Test	0	0.9697	0.9697
$\alpha=0.01$			
Student's t	0.8906	0.8906	0
Welch-Aspin's t	0.8885	0.8885	0
Yuen	1	1	0
Tukey's Quick	0.7529	0.7529	0
Haga	0	0.9636	0.9636
$\alpha=0.001$			
Student's t	0.8556	0.8556	0
Welch-Aspin's t	0.8485	0.8485	0
Yuen	1	1	0
Tukey's Quick	0.7499	0.7499	0
Haga	0	0.8931	0.8931

Table 418

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8893	0.8893	0
Welch-Aspin's t	0.8701	0.8701	0
Yuen Test	0.9792	0.9792	0
Tukey's Quick Test	0.8853	0.8853	0
Haga Test	0	0.8853	0.8853
$\alpha=0.01$			
Student's t	0.839	0.839	0
Welch-Aspin's t	0.7945	0.7945	0
Yuen	0.9085	0.9085	0
Tukey's Quick	0.8677	0.8677	0
Haga	0	0.8677	0.8677
$\alpha=0.001$			
Student's t	0.7605	0.7605	0
Welch-Aspin's t	0.6639	0.6639	0
Yuen	0.6396	0.6396	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.8677	0.8677

Table 419

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9465	0.9465	0
Welch-Aspin's t	0.9442	0.9442	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8545	0.8545	0
Haga Test	0	0.9913	0.9913
$\alpha=0.01$			
Student's t	0.9276	0.9276	0
Welch-Aspin's t	0.9227	0.9227	0
Yuen	1	1	0
Tukey's Quick	0.8539	0.8539	0
Haga	0	0.9907	0.9907
$\alpha=0.001$			
Student's t	0.9034	0.9034	0
Welch-Aspin's t	0.8931	0.8931	0
Yuen	1	1	0
Tukey's Quick	0.8542	0.8542	0
Haga	0	0.9783	0.9783

Table 420

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9533	0.9533	0
Welch-Aspin's t	0.9521	0.9521	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8052	0.8052	0
Haga Test	0	0.9821	0.9821
$\alpha=0.01$			
Student's t	0.9377	0.9377	0
Welch-Aspin's t	0.9354	0.9354	0
Yuen	1	1	0
Tukey's Quick	0.8043	0.8043	0
Haga	0	0.9818	0.9818
$\alpha=0.001$			
Student's t	0.9195	0.9195	0
Welch-Aspin's t	0.9147	0.9147	0
Yuen	1	1	0
Tukey's Quick	0.8051	0.8051	0
Haga	0	0.9819	0.9819

Table 421

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8833	0.8833	0
Welch-Aspin's t	0.8832	0.8832	0
Yuen Test	0.9895	0.9895	0
Tukey's Quick Test	0.807	0.807	0
Haga Test	0	0.9294	0.9294
$\alpha=0.01$			
Student's t	0.8405	0.8405	0
Welch-Aspin's t	0.8269	0.8269	0
Yuen	0.9478	0.9478	0
Tukey's Quick	0.8051	0.8051	0
Haga	0	0.8045	0.8045
$\alpha=0.001$			
Student's t	0.7842	0.7842	0
Welch-Aspin's t	0.7369	0.7369	0
Yuen	0.7736	0.7736	0
Tukey's Quick	0.7795	0.7795	0
Haga	0	0.8026	0.8026

Table 422

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.867	0.8688	0.0018
Welch-Aspin's t	0.8861	0.8861	0
Yuen Test	0.9895	0.9895	0
Tukey's Quick Test	0.7281	0.7281	0
Haga Test	0	0.9409	0.9409
$\alpha=0.01$			
Student's t	0.823	0.823	0
Welch-Aspin's t	0.8313	0.8313	0
Yuen	0.9471	0.9471	0
Tukey's Quick	0.7265	0.7265	0
Haga	0	0.9401	0.9401
$\alpha=0.001$			
Student's t	0.7654	0.7654	0
Welch-Aspin's t	0.746	0.746	0
Yuen	0.7121	0.7121	0
Tukey's Quick	0.7246	0.7246	0
Haga	0	0.9393	0.9393

Table 423

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9451	0.9451	0
Welch-Aspin's t	0.9448	0.9448	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8156	0.8156	0
Haga Test	0	0.9857	0.9857
$\alpha=0.01$			
Student's t	0.9263	0.9263	0
Welch-Aspin's t	0.9247	0.9247	0
Yuen	1	1	0
Tukey's Quick	0.8155	0.8155	0
Haga	0	0.9826	0.9826
$\alpha=0.001$			
Student's t	0.9035	0.9035	0
Welch-Aspin's t	0.8981	0.8981	0
Yuen	1	1	0
Tukey's Quick	0.8153	0.8153	0
Haga	0	0.926	0.926

Table 424

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9332	0.9332	0
Welch-Aspin's t	0.9209	0.9209	0
Yuen Test	0.9923	0.9923	0
Tukey's Quick Test	0.9297	0.9297	0
Haga Test	0	0.9297	0.9297
$\alpha=0.01$			
Student's t	0.9032	0.9032	0
Welch-Aspin's t	0.8726	0.8726	0
Yuen	0.9635	0.9635	0
Tukey's Quick	0.9221	0.9221	0
Haga	0	0.9221	0.9221
$\alpha=0.001$			
Student's t	0.8551	0.8551	0
Welch-Aspin's t	0.7797	0.7797	0
Yuen	0.7803	0.7803	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.9222	0.9222

Table 425

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9676	0.9676	0
Welch-Aspin's t	0.9661	0.9661	0
Yuen Test	1	1	0
Tukey's Quick Test	0.9038	0.9038	0
Haga Test	0	0.9967	0.9967
$\alpha=0.01$			
Student's t	0.9565	0.9565	0
Welch-Aspin's t	0.9533	0.9533	0
Yuen	1	1	0
Tukey's Quick	0.9037	0.9037	0
Haga	0	0.9965	0.9965
$\alpha=0.001$			
Student's t	0.9421	0.9421	0
Welch-Aspin's t	0.9354	0.9354	0
Yuen	1	1	0
Tukey's Quick	0.9035	0.9035	0
Haga	0	0.9922	0.9922

Table 426

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9722	0.9722	0
Welch-Aspin's t	0.9715	0.9715	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8676	0.8676	0
Haga Test	0	0.9932	0.9932
$\alpha=0.01$			
Student's t	0.9628	0.9628	0
Welch-Aspin's t	0.9614	0.9614	0
Yuen	1	1	0
Tukey's Quick	0.8684	0.8684	0
Haga	0	0.9933	0.9933
$\alpha=0.001$			
Student's t	0.9518	0.9518	0
Welch-Aspin's t	0.9488	0.9488	0
Yuen	1	1	0
Tukey's Quick	0.8685	0.8685	0
Haga	0	0.993	0.993

Table 427

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9306	0.9306	0
Welch-Aspin's t	0.9301	0.9301	0
Yuen Test	0.9963	0.9963	0
Tukey's Quick Test	0.8754	0.8754	0
Haga Test	0	0.9601	0.9601
$\alpha=0.01$			
Student's t	0.9036	0.9036	0
Welch-Aspin's t	0.893	0.893	0
Yuen	0.9806	0.9806	0
Tukey's Quick	0.8735	0.8735	0
Haga	0	0.8733	0.8733
$\alpha=0.001$			
Student's t	0.8692	0.8692	0
Welch-Aspin's t	0.8319	0.8319	0
Yuen	0.8493	0.8493	0
Tukey's Quick	0.8625	0.8625	0
Haga	0	0.8733	0.8733

Table 428

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9192	0.9204	0.0011
Welch-Aspin's t	0.9303	0.9303	0
Yuen Test	0.9961	0.9961	0
Tukey's Quick Test	0.8191	0.8191	0
Haga Test	0	0.9639	0.9639
$\alpha=0.01$			
Student's t	0.8927	0.8927	0
Welch-Aspin's t	0.896	0.896	0
Yuen	0.981	0.981	0
Tukey's Quick	0.8194	0.8194	0
Haga	0	0.9639	0.9639
$\alpha=0.001$			
Student's t	0.8576	0.8576	0
Welch-Aspin's t	0.8367	0.8367	0
Yuen	0.828	0.828	0
Tukey's Quick	0.8183	0.8183	0
Haga	0	0.9637	0.9637

Table 429

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9672	0.9672	0
Welch-Aspin's t	0.9671	0.9671	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8769	0.8769	0
Haga Test	0	0.9946	0.9946
$\alpha=0.01$			
Student's t	0.9559	0.9559	0
Welch-Aspin's t	0.9545	0.9545	0
Yuen	1	1	0
Tukey's Quick	0.8768	0.8768	0
Haga	0	0.9933	0.9933
$\alpha=0.001$			
Student's t	0.9418	0.9418	0
Welch-Aspin's t	0.9382	0.9382	0
Yuen	1	1	0
Tukey's Quick	0.8763	0.8763	0
Haga	0	0.9524	0.9524

Table 430

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4026	0.4026	0
Welch-Aspin's t	0.3637	0.3638	0
Yuen Test	0.5234	0.5234	0
Tukey's Quick Test	0.4409	0.4409	0
Haga Test	0	0.4409	0.4409
$\alpha=0.01$			
Student's t	0.2354	0.2354	0
Welch-Aspin's t	0.1922	0.1922	0
Yuen	0.2207	0.2207	0
Tukey's Quick	0.3213	0.3213	0
Haga	0	0.3213	0.3213
$\alpha=0.001$			
Student's t	0.0911	0.0911	0
Welch-Aspin's t	0.0634	0.0634	0
Yuen	0.0421	0.0421	0
Tukey's Quick	0	0	0
Haga	0	0.322	0.322

Table 431

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6788	0.6788	0
Welch-Aspin's t	0.6697	0.6697	0
Yuen Test	0.9987	0.9987	0
Tukey's Quick Test	0.5216	0.5216	0
Haga Test	0	0.7883	0.7883
$\alpha=0.01$			
Student's t	0.5762	0.5762	0
Welch-Aspin's t	0.5606	0.5606	0
Yuen	0.9956	0.9956	0
Tukey's Quick	0.5094	0.5094	0
Haga	0	0.7428	0.7428
$\alpha=0.001$			
Student's t	0.4605	0.4605	0
Welch-Aspin's t	0.4367	0.4367	0
Yuen	0.9838	0.9838	0
Tukey's Quick	0.489	0.489	0
Haga	0	0.5806	0.5806

Table 432

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.72	0.72	0
Welch-Aspin's t	0.7152	0.7152	0
Yuen Test	1	1	0
Tukey's Quick Test	0.4317	0.4317	0.0001
Haga Test	0	0.679	0.679
$\alpha=0.01$			
Student's t	0.6334	0.6334	0
Welch-Aspin's t	0.625	0.625	0
Yuen	1	1	0
Tukey's Quick	0.4175	0.4175	0
Haga	0	0.6626	0.6626
$\alpha=0.001$			
Student's t	0.5322	0.5322	0
Welch-Aspin's t	0.5184	0.5184	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.4035	0.4035	0
Haga	0	0.641	0.641

Table 433

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1872	0.1899	0.0027
Welch-Aspin's t	0.1834	0.1834	0.0001
Yuen Test	0.4155	0.4156	0.0001
Tukey's Quick Test	0.2157	0.2159	0.0002
Haga Test	0	0.212	0.2119
$\alpha=0.01$			
Student's t	0.0769	0.0771	0.0002
Welch-Aspin's t	0.0737	0.0737	0
Yuen	0.2201	0.2202	0.0001
Tukey's Quick	0.1442	0.1442	0
Haga	0	0.1155	0.1155
$\alpha=0.001$			
Student's t	0.0199	0.0199	0
Welch-Aspin's t	0.0196	0.0196	0
Yuen	0.0855	0.0855	0
Tukey's Quick	0.0392	0.0392	0
Haga	0	0.0844	0.0844

Table 434

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1558	0.1764	0.0206
Welch-Aspin's t	0.1717	0.1718	0.0001
Yuen Test	0.408	0.4083	0.0003
Tukey's Quick Test	0.1403	0.1405	0.0002
Haga Test	0.0001	0.2586	0.2586
$\alpha=0.01$			
Student's t	0.0627	0.0643	0.0016
Welch-Aspin's t	0.0688	0.0689	0
Yuen	0.2313	0.2314	0.0001
Tukey's Quick	0.1057	0.1057	0
Haga	0	0.2205	0.2204
$\alpha=0.001$			
Student's t	0.0159	0.016	0.0002
Welch-Aspin's t	0.0193	0.0193	0
Yuen	0.1163	0.1164	0
Tukey's Quick	0.0455	0.0455	0
Haga	0	0.1803	0.1802

Table 435

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6729	0.6729	0
Welch-Aspin's t	0.6705	0.6705	0
Yuen Test	0.9991	0.9991	0
Tukey's Quick Test	0.4411	0.4411	0
Haga Test	0	0.6965	0.6965
$\alpha=0.01$			
Student's t	0.5709	0.5709	0
Welch-Aspin's t	0.5641	0.5641	0
Yuen	0.9973	0.9973	0
Tukey's Quick	0.4257	0.4257	0
Haga	0	0.6424	0.6424
$\alpha=0.001$			
Student's t	0.4563	0.4563	0
Welch-Aspin's t	0.4423	0.4423	0
Yuen	0.9896	0.9896	0
Tukey's Quick	0.3862	0.3862	0
Haga	0	0.5607	0.5607

Table 436

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7247	0.7247	0
Welch-Aspin's t	0.689	0.689	0
Yuen Test	0.8805	0.8805	0
Tukey's Quick Test	0.7303	0.7303	0
Haga Test	0	0.7303	0.7303
$\alpha=0.01$			
Student's t	0.6096	0.6096	0
Welch-Aspin's t	0.543	0.543	0
Yuen	0.6487	0.6487	0
Tukey's Quick	0.6675	0.6675	0
Haga	0	0.6675	0.6675
$\alpha=0.001$			
Student's t	0.4485	0.4485	0
Welch-Aspin's t	0.3522	0.3522	0
Yuen	0.2945	0.2945	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.6671	0.6671

Table 437

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8656	0.8656	0
Welch-Aspin's t	0.8604	0.8604	0
Yuen Test	1	1	0
Tukey's Quick Test	0.717	0.717	0
Haga Test	0	0.9515	0.9515
$\alpha=0.01$			
Student's t	0.8194	0.8194	0
Welch-Aspin's t	0.8093	0.8093	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.7157	0.7157	0
Haga	0	0.9452	0.9452
$\alpha=0.001$			
Student's t	0.7616	0.7616	0
Welch-Aspin's t	0.7416	0.7416	0
Yuen	0.9996	0.9996	0
Tukey's Quick	0.7145	0.7145	0
Haga	0	0.8828	0.8828

Table 438

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8841	0.8841	0
Welch-Aspin's t	0.8815	0.8815	0
Yuen Test	1	1	0
Tukey's Quick Test	0.6431	0.6431	0
Haga Test	0	0.9116	0.9116
$\alpha=0.01$			
Student's t	0.8454	0.8454	0
Welch-Aspin's t	0.8401	0.8401	0
Yuen	1	1	0
Tukey's Quick	0.6421	0.6421	0
Haga	0	0.909	0.909
$\alpha=0.001$			
Student's t	0.799	0.799	0
Welch-Aspin's t	0.7892	0.7892	0
Yuen	1	1	0
Tukey's Quick	0.6402	0.6402	0
Haga	0	0.9061	0.9061

Table 439

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.661	0.6612	0.0002
Welch-Aspin's t	0.6598	0.6598	0
Yuen Test	0.8948	0.8948	0
Tukey's Quick Test	0.5685	0.5685	0
Haga Test	0	0.7439	0.7439
$\alpha=0.01$			
Student's t	0.5493	0.5493	0
Welch-Aspin's t	0.5286	0.5286	0
Yuen	0.7208	0.7208	0
Tukey's Quick	0.5547	0.5547	0
Haga	0	0.5474	0.5474
$\alpha=0.001$			
Student's t	0.4164	0.4164	0
Welch-Aspin's t	0.3734	0.3734	0
Yuen	0.5184	0.5184	0
Tukey's Quick	0.4455	0.4455	0
Haga	0	0.5277	0.5277

Table 440

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6147	0.6209	0.0062
Welch-Aspin's t	0.6594	0.6594	0
Yuen Test	0.8896	0.8896	0
Tukey's Quick Test	0.4426	0.4426	0
Haga Test	0	0.7998	0.7998
$\alpha=0.01$			
Student's t	0.5054	0.5056	0.0002
Welch-Aspin's t	0.5324	0.5324	0
Yuen	0.6718	0.6718	0
Tukey's Quick	0.434	0.434	0
Haga	0	0.791	0.791
$\alpha=0.001$			
Student's t	0.3766	0.3766	0
Welch-Aspin's t	0.384	0.384	0
Yuen	0.4696	0.4696	0
Tukey's Quick	0.4191	0.4191	0
Haga	0	0.778	0.778

Table 441

Cauchy Distribution, $n_1=15, n_2=25, Effect Size=0.5\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8637	0.8637	0
Welch-Aspin's t	0.8618	0.8618	0
Yuen Test	1	1	0
Tukey's Quick Test	0.6581	0.6581	0
Haga Test	0	0.9236	0.9236
$\alpha=0.01$			
Student's t	0.8179	0.8179	0
Welch-Aspin's t	0.8124	0.8124	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.6569	0.6569	0
Haga	0	0.9069	0.9069
$\alpha=0.001$			
Student's t	0.7631	0.7631	0
Welch-Aspin's t	0.7502	0.7502	0
Yuen	0.9997	0.9997	0
Tukey's Quick	0.6468	0.6468	0
Haga	0	0.8193	0.8193

Table 442

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8251	0.8251	0
Welch-Aspin's t	0.7978	0.7978	0
Yuen Test	0.9499	0.9499	0
Tukey's Quick Test	0.8232	0.8232	0
Haga Test	0	0.8232	0.8232
$\alpha=0.01$			
Student's t	0.7478	0.7478	0
Welch-Aspin's t	0.6901	0.6901	0
Yuen	0.81	0.81	0
Tukey's Quick	0.7888	0.7888	0
Haga	0	0.7888	0.7888
$\alpha=0.001$			
Student's t	0.6301	0.6301	0
Welch-Aspin's t	0.5234	0.5234	0
Yuen	0.4855	0.4855	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.7887	0.7887

Table 443

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9153	0.9153	0
Welch-Aspin's t	0.912	0.912	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7941	0.7941	0
Haga Test	0	0.9791	0.9791
$\alpha=0.01$			
Student's t	0.8862	0.8862	0
Welch-Aspin's t	0.879	0.879	0
Yuen	1	1	0
Tukey's Quick	0.7943	0.7943	0
Haga	0	0.9773	0.9773
$\alpha=0.001$			
Student's t	0.8496	0.8496	0
Welch-Aspin's t	0.8347	0.8347	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.7937	0.7937	0
Haga	0	0.9486	0.9486

Table 444

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9269	0.9269	0
Welch-Aspin's t	0.9252	0.9252	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7335	0.7335	0
Haga Test	0	0.9599	0.9599
$\alpha=0.01$			
Student's t	0.9029	0.9029	0
Welch-Aspin's t	0.8994	0.8994	0
Yuen	1	1	0
Tukey's Quick	0.7331	0.7331	0
Haga	0	0.9593	0.9593
$\alpha=0.001$			
Student's t	0.8733	0.8733	0
Welch-Aspin's t	0.866	0.866	0
Yuen	1	1	0
Tukey's Quick	0.7317	0.7317	0
Haga	0	0.9583	0.9583

Table 445

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7986	0.7987	0.0001
Welch-Aspin's t	0.7953	0.7953	0
Yuen Test	0.9633	0.9633	0
Tukey's Quick Test	0.703	0.703	0
Haga Test	0	0.8627	0.8627
$\alpha=0.01$			
Student's t	0.7274	0.7274	0
Welch-Aspin's t	0.7028	0.7028	0
Yuen	0.8432	0.8432	0
Tukey's Quick	0.6981	0.6981	0
Haga	0	0.696	0.696
$\alpha=0.001$			
Student's t	0.6339	0.6339	0
Welch-Aspin's t	0.5747	0.5747	0
Yuen	0.6667	0.6667	0
Tukey's Quick	0.6397	0.6397	0
Haga	0	0.6884	0.6884

Table 446

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.769	0.7726	0.0036
Welch-Aspin's t	0.7953	0.7953	0
Yuen Test	0.9627	0.9627	0
Tukey's Quick Test	0.5968	0.5968	0
Haga Test	0	0.8872	0.8872
$\alpha=0.01$			
Student's t	0.698	0.6981	0.0001
Welch-Aspin's t	0.7059	0.7059	0
Yuen	0.8265	0.8265	0
Tukey's Quick	0.5931	0.5931	0
Haga	0	0.8847	0.8847
$\alpha=0.001$			
Student's t	0.6055	0.6055	0
Welch-Aspin's t	0.5842	0.5842	0
Yuen	0.6175	0.6175	0
Tukey's Quick	0.5881	0.5881	0
Haga	0	0.882	0.882

Table 447

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9144	0.9144	0
Welch-Aspin's t	0.9134	0.9134	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7482	0.7482	0
Haga Test	0	0.9662	0.9662
$\alpha=0.01$			
Student's t	0.8858	0.8858	0
Welch-Aspin's t	0.8817	0.8817	0
Yuen	1	1	0
Tukey's Quick	0.7471	0.7471	0
Haga	0	0.9587	0.9587
$\alpha=0.001$			
Student's t	0.8506	0.8506	0
Welch-Aspin's t	0.8407	0.8407	0
Yuen	1	1	0
Tukey's Quick	0.7438	0.7438	0
Haga	0	0.8828	0.8828

Table 448

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8828	0.8828	0
Welch-Aspin's t	0.8628	0.8628	0
Yuen Test	0.9767	0.9767	0
Tukey's Quick Test	0.8795	0.8795	0
Haga Test	0	0.8795	0.8795
$\alpha=0.01$			
Student's t	0.8298	0.8298	0
Welch-Aspin's t	0.7833	0.7833	0
Yuen	0.8988	0.8988	0
Tukey's Quick	0.8597	0.8597	0
Haga	0	0.8597	0.8597
$\alpha=0.001$			
Student's t	0.7476	0.7476	0
Welch-Aspin's t	0.6484	0.6484	0
Yuen	0.622	0.622	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.8596	0.8596

Table 449

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9436	0.9436	0
Welch-Aspin's t	0.9412	0.9412	0
Yuen Test	1	1	0
Tukey's Quick Test	0.848	0.848	0
Haga Test	0	0.9903	0.9903
$\alpha=0.01$			
Student's t	0.9238	0.9238	0
Welch-Aspin's t	0.9185	0.9185	0
Yuen	1	1	0
Tukey's Quick	0.8481	0.8481	0
Haga	0	0.9898	0.9898
$\alpha=0.001$			
Student's t	0.8986	0.8986	0
Welch-Aspin's t	0.8876	0.8876	0
Yuen	1	1	0
Tukey's Quick	0.8474	0.8474	0
Haga	0	0.9763	0.9763

Table 450

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.951	0.951	0
Welch-Aspin's t	0.9498	0.9498	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7979	0.7979	0
Haga Test	0	0.9807	0.9807
$\alpha=0.01$			
Student's t	0.9356	0.9356	0
Welch-Aspin's t	0.933	0.933	0
Yuen	1	1	0
Tukey's Quick	0.7994	0.7994	0
Haga	0	0.9803	0.9803
$\alpha=0.001$			
Student's t	0.9152	0.9152	0
Welch-Aspin's t	0.9101	0.9101	0
Yuen	1	1	0
Tukey's Quick	0.7977	0.7977	0
Haga	0	0.9802	0.9802

Table 451

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.87	0.87	0
Welch-Aspin's t	0.8664	0.8664	0
Yuen Test	0.9851	0.9851	0
Tukey's Quick Test	0.7891	0.7891	0
Haga Test	0	0.9161	0.9161
$\alpha=0.01$			
Student's t	0.8237	0.8237	0
Welch-Aspin's t	0.8023	0.8023	0
Yuen	0.9257	0.9257	0
Tukey's Quick	0.7877	0.7877	0
Haga	0	0.787	0.787
$\alpha=0.001$			
Student's t	0.7613	0.7613	0
Welch-Aspin's t	0.7021	0.7021	0
Yuen	0.7315	0.7315	0
Tukey's Quick	0.7569	0.7569	0
Haga	0	0.7847	0.7847

Table 452

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8511	0.8533	0.0022
Welch-Aspin's t	0.8678	0.8678	0
Yuen Test	0.9848	0.9848	0
Tukey's Quick Test	0.7063	0.7063	0
Haga Test	0	0.9283	0.9283
$\alpha=0.01$			
Student's t	0.8035	0.8035	0
Welch-Aspin's t	0.8046	0.8046	0
Yuen	0.9238	0.9238	0
Tukey's Quick	0.7044	0.7044	0
Haga	0	0.9277	0.9277
$\alpha=0.001$			
Student's t	0.7409	0.7409	0
Welch-Aspin's t	0.7107	0.7107	0
Yuen	0.6625	0.6625	0
Tukey's Quick	0.7029	0.7029	0
Haga	0	0.9274	0.9274

Table 453

Cauchy Distribution, $n_1=15, n_2=25, Effect Size=1.2\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9428	0.9428	0
Welch-Aspin's t	0.9419	0.9419	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8111	0.8111	0
Haga Test	0	0.9842	0.9842
$\alpha=0.01$			
Student's t	0.9237	0.9237	0
Welch-Aspin's t	0.9208	0.9208	0
Yuen	1	1	0
Tukey's Quick	0.8109	0.8109	0
Haga	0	0.9808	0.9808
$\alpha=0.001$			
Student's t	0.8999	0.8999	0
Welch-Aspin's t	0.8924	0.8924	0
Yuen	1	1	0
Tukey's Quick	0.8095	0.8095	0
Haga	0	0.918	0.918

Table 454

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9291	0.9291	0
Welch-Aspin's t	0.9161	0.9161	0
Yuen Test	0.9915	0.9915	0
Tukey's Quick Test	0.926	0.926	0
Haga Test	0	0.926	0.926
$\alpha=0.01$			
Student's t	0.898	0.898	0
Welch-Aspin's t	0.8661	0.8661	0
Yuen	0.9594	0.9594	0
Tukey's Quick	0.9173	0.9173	0
Haga	0	0.9173	0.9173
$\alpha=0.001$			
Student's t	0.8467	0.8467	0
Welch-Aspin's t	0.7694	0.7694	0
Yuen	0.7663	0.7663	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.9175	0.9175

Table 455

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9662	0.9662	0
Welch-Aspin's t	0.9646	0.9646	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8998	0.8998	0
Haga Test	0	0.9964	0.9964
$\alpha=0.01$			
Student's t	0.9539	0.9539	0
Welch-Aspin's t	0.9507	0.9507	0
Yuen	1	1	0
Tukey's Quick	0.8996	0.8996	0
Haga	0	0.9961	0.9961
$\alpha=0.001$			
Student's t	0.9397	0.9397	0
Welch-Aspin's t	0.9327	0.9327	0
Yuen	1	1	0
Tukey's Quick	0.8997	0.8997	0
Haga	0	0.9914	0.9914

Table 456

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9707	0.9707	0
Welch-Aspin's t	0.9699	0.9699	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8632	0.8632	0
Haga Test	0	0.9926	0.9926
$\alpha=0.01$			
Student's t	0.961	0.961	0
Welch-Aspin's t	0.9594	0.9594	0
Yuen	1	1	0
Tukey's Quick	0.8627	0.8627	0
Haga	0	0.9925	0.9925
$\alpha=0.001$			
Student's t	0.9489	0.9489	0
Welch-Aspin's t	0.9457	0.9457	0
Yuen	1	1	0
Tukey's Quick	0.8631	0.8631	0
Haga	0	0.9924	0.9924

Table 457

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9243	0.9243	0
Welch-Aspin's t	0.9215	0.9215	0
Yuen Test	0.9949	0.9949	0
Tukey's Quick Test	0.8669	0.8669	0
Haga Test	0	0.954	0.954
$\alpha=0.01$			
Student's t	0.8969	0.8969	0
Welch-Aspin's t	0.8825	0.8825	0
Yuen	0.974	0.974	0
Tukey's Quick	0.8664	0.8664	0
Haga	0	0.8662	0.8662
$\alpha=0.001$			
Student's t	0.8594	0.8594	0
Welch-Aspin's t	0.8124	0.8124	0
Yuen	0.812	0.812	0
Tukey's Quick	0.8523	0.8523	0
Haga	0	0.8648	0.8648

Table 458

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9136	0.9148	0.0013
Welch-Aspin's t	0.9224	0.9224	0
Yuen Test	0.9949	0.9949	0
Tukey's Quick Test	0.8107	0.8107	0
Haga Test	0	0.9583	0.9583
$\alpha=0.01$			
Student's t	0.8852	0.8852	0
Welch-Aspin's t	0.8835	0.8835	0
Yuen	0.974	0.974	0
Tukey's Quick	0.8087	0.8087	0
Haga	0	0.958	0.958
$\alpha=0.001$			
Student's t	0.848	0.848	0
Welch-Aspin's t	0.8174	0.8174	0
Yuen	0.7821	0.7821	0
Tukey's Quick	0.8081	0.8081	0
Haga	0	0.958	0.958

Table 459

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9656	0.9656	0
Welch-Aspin's t	0.965	0.965	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8731	0.8731	0
Haga Test	0	0.994	0.994
$\alpha=0.01$			
Student's t	0.9541	0.9541	0
Welch-Aspin's t	0.9522	0.9522	0
Yuen	1	1	0
Tukey's Quick	0.8732	0.8732	0
Haga	0	0.9926	0.9926
$\alpha=0.001$			
Student's t	0.9394	0.9394	0
Welch-Aspin's t	0.9346	0.9346	0
Yuen	1	1	0
Tukey's Quick	0.8725	0.8725	0
Haga	0	0.9476	0.9476

Table 460

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.008	0.0283	0.0202
Welch-Aspin's t	0.0052	0.0189	0.0137
Yuen Test	0.0108	0.0355	0.0246
Tukey's Quick Test	0.0126	0.0442	0.0316
Haga Test	0.0316	0.0442	0.0126
$\alpha=0.01$			
Student's t	0.0011	0.0044	0.0033
Welch-Aspin's t	0.0006	0.0025	0.0019
Yuen	0.0023	0.0078	0.0055
Tukey's Quick	0.0048	0.0178	0.0131
Haga	0.0131	0.0178	0.0048
$\alpha=0.001$			
Student's t	0.0001	0.0005	0.0004
Welch-Aspin's t	0	0.0002	0.0002
Yuen	0.0003	0.0011	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	0.013	0.0179	0.0049

Table 461

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.414	0.414	0
Welch-Aspin's t	0.3999	0.3999	0
Yuen Test	0.9285	0.9285	0
Tukey's Quick Test	0.2778	0.2781	0.0004
Haga Test	0.0004	0.6146	0.6142
$\alpha=0.01$			
Student's t	0.2737	0.2737	0
Welch-Aspin's t	0.2535	0.2535	0
Yuen	0.816	0.816	0
Tukey's Quick	0.2524	0.2524	0
Haga	0	0.4497	0.4497
$\alpha=0.001$			
Student's t	0.1495	0.1495	0
Welch-Aspin's t	0.1267	0.1267	0
Yuen	0.5593	0.5593	0
Tukey's Quick	0.2026	0.2026	0
Haga	0	0.2303	0.2303

Table 462

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4806	0.4806	0
Welch-Aspin's t	0.4728	0.4728	0
Yuen Test	0.9959	0.9959	0
Tukey's Quick Test	0.2147	0.2162	0.0015
Haga Test	0.0004	0.5633	0.5629
$\alpha=0.01$			
Student's t	0.3479	0.3479	0
Welch-Aspin's t	0.3355	0.3355	0
Yuen	0.9858	0.9858	0
Tukey's Quick	0.1948	0.1948	0
Haga	0	0.5254	0.5254
$\alpha=0.001$			
Student's t	0.2222	0.2222	0
Welch-Aspin's t	0.2059	0.2059	0
Yuen	0.9465	0.9465	0
Tukey's Quick	0.1757	0.1757	0
Haga	0	0.4647	0.4647

Table 463

Cauchy Distribution, $n_1=5, n_2=15, Effect\ Size=0.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0244	0.2096	0.1852
Welch-Aspin's t	0.001	0.0581	0.0571
Yuen Test	0.0035	0.1043	0.1008
Tukey's Quick Test	0.0036	0.1265	0.1229
Haga Test	0.1023	0.1044	0.002
$\alpha=0.01$			
Student's t	0.0048	0.0839	0.0792
Welch-Aspin's t	0.0001	0.0141	0.014
Yuen	0.0013	0.045	0.0437
Tukey's Quick	0.0016	0.0826	0.081
Haga	0.0682	0.0695	0.0012
$\alpha=0.001$			
Student's t	0.0006	0.0246	0.0239
Welch-Aspin's t	0	0.0027	0.0026
Yuen	0.0005	0.0185	0.0181
Tukey's Quick	0.0004	0.0293	0.0288
Haga	0.0544	0.0553	0.0009

Table 464

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0704	0.3088	0.2385
Welch-Aspin's t	0.001	0.0634	0.0624
Yuen Test	0.0031	0.1039	0.1008
Tukey's Quick Test	0.003	0.1141	0.1111
Haga Test	0.1251	0.1271	0.0021
$\alpha=0.01$			
Student's t	0.0154	0.1354	0.12
Welch-Aspin's t	0.0001	0.0165	0.0164
Yuen	0.0012	0.0461	0.0448
Tukey's Quick	0.0015	0.0838	0.0824
Haga	0.1141	0.1159	0.0018
$\alpha=0.001$			
Student's t	0.0031	0.0488	0.0457
Welch-Aspin's t	0	0.0035	0.0035
Yuen	0.0005	0.0208	0.0204
Tukey's Quick	0.0007	0.0486	0.0479
Haga	0.1029	0.1044	0.0016

Table 465

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4744	0.4745	0.0001
Welch-Aspin's t	0.3959	0.3959	0
Yuen Test	0.9268	0.9268	0
Tukey's Quick Test	0.2627	0.2628	0.0001
Haga Test	0	0.4049	0.4048
$\alpha=0.01$			
Student's t	0.3397	0.3397	0
Welch-Aspin's t	0.2497	0.2497	0
Yuen	0.81	0.81	0
Tukey's Quick	0.2212	0.2212	0
Haga	0	0.2531	0.2531
$\alpha=0.001$			
Student's t	0.2117	0.2117	0
Welch-Aspin's t	0.1256	0.1256	0
Yuen	0.5453	0.5453	0
Tukey's Quick	0.1385	0.1385	0
Haga	0	0.1572	0.1572

Table 466

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2246	0.2247	0.0002
Welch-Aspin's t	0.1823	0.1824	0.0001
Yuen Test	0.2439	0.2442	0.0003
Tukey's Quick Test	0.2725	0.2727	0.0002
Haga Test	0.0002	0.2727	0.2725
$\alpha=0.01$			
Student's t	0.096	0.096	0
Welch-Aspin's t	0.0641	0.0641	0
Yuen	0.0825	0.0826	0.0001
Tukey's Quick	0.1825	0.1826	0.0001
Haga	0.0001	0.1826	0.1825
$\alpha=0.001$			
Student's t	0.0249	0.0249	0
Welch-Aspin's t	0.0132	0.0132	0
Yuen	0.0156	0.0156	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.1821	0.182

Table 467

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7049	0.7049	0
Welch-Aspin's t	0.6948	0.6948	0
Yuen Test	0.9971	0.9971	0
Tukey's Quick Test	0.4883	0.4883	0
Haga Test	0	0.8764	0.8764
$\alpha=0.01$			
Student's t	0.6106	0.6106	0
Welch-Aspin's t	0.5911	0.5911	0
Yuen	0.9908	0.9908	0
Tukey's Quick	0.4846	0.4846	0
Haga	0	0.8272	0.8272
$\alpha=0.001$			
Student's t	0.4999	0.4999	0
Welch-Aspin's t	0.4658	0.4658	0
Yuen	0.9636	0.9636	0
Tukey's Quick	0.4749	0.4749	0
Haga	0	0.6273	0.6273

Table 468

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7461	0.7461	0
Welch-Aspin's t	0.7408	0.7408	0
Yuen Test	1	1	0
Tukey's Quick Test	0.396	0.3961	0.0001
Haga Test	0	0.8144	0.8144
$\alpha=0.01$			
Student's t	0.6651	0.6651	0
Welch-Aspin's t	0.6551	0.6551	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.39	0.39	0
Haga	0	0.8045	0.8045
$\alpha=0.001$			
Student's t	0.5728	0.5728	0
Welch-Aspin's t	0.5547	0.5547	0
Yuen	0.9995	0.9995	0
Tukey's Quick	0.3843	0.3843	0
Haga	0	0.7899	0.7899

Table 469

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2641	0.2787	0.0146
Welch-Aspin's t	0.106	0.1063	0.0003
Yuen Test	0.1634	0.1647	0.0013
Tukey's Quick Test	0.1907	0.1918	0.0011
Haga Test	0.0007	0.1789	0.1782
$\alpha=0.01$			
Student's t	0.1351	0.1376	0.0024
Welch-Aspin's t	0.0324	0.0324	0
Yuen	0.0737	0.0742	0.0005
Tukey's Quick	0.143	0.1435	0.0005
Haga	0.0004	0.1266	0.1261
$\alpha=0.001$			
Student's t	0.0514	0.0517	0.0003
Welch-Aspin's t	0.0074	0.0074	0
Yuen	0.0321	0.0322	0.0002
Tukey's Quick	0.0613	0.0615	0.0002
Haga	0.0003	0.1059	0.1055

Table 470

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2947	0.3516	0.0569
Welch-Aspin's t	0.1027	0.1031	0.0004
Yuen Test	0.1472	0.1486	0.0014
Tukey's Quick Test	0.1567	0.1579	0.0012
Haga Test	0.0008	0.1924	0.1916
$\alpha=0.01$			
Student's t	0.1665	0.1773	0.0107
Welch-Aspin's t	0.0318	0.0319	0
Yuen	0.0653	0.0659	0.0006
Tukey's Quick	0.1261	0.1267	0.0006
Haga	0.0007	0.1799	0.1791
$\alpha=0.001$			
Student's t	0.0735	0.0755	0.002
Welch-Aspin's t	0.0078	0.0078	0
Yuen	0.0304	0.0306	0.0002
Tukey's Quick	0.0834	0.0838	0.0003
Haga	0.0006	0.166	0.1654

Table 471

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7424	0.7424	0
Welch-Aspin's t	0.6945	0.6945	0
Yuen Test	0.9972	0.9972	0
Tukey's Quick Test	0.4853	0.4853	0
Haga Test	0	0.7885	0.7885
$\alpha=0.01$			
Student's t	0.6596	0.6596	0
Welch-Aspin's t	0.5911	0.5911	0
Yuen	0.9907	0.9907	0
Tukey's Quick	0.4753	0.4753	0
Haga	0	0.6698	0.6698
$\alpha=0.001$			
Student's t	0.564	0.564	0
Welch-Aspin's t	0.4673	0.4673	0
Yuen	0.963	0.963	0
Tukey's Quick	0.4241	0.4241	0
Haga	0	0.479	0.479

Table 472

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.494	0.494	0
Welch-Aspin's t	0.4392	0.4392	0
Yuen Test	0.5559	0.5559	0
Tukey's Quick Test	0.5233	0.5233	0
Haga Test	0	0.5233	0.5233
$\alpha=0.01$			
Student's t	0.3308	0.3308	0
Welch-Aspin's t	0.2508	0.2508	0
Yuen	0.2553	0.2553	0
Tukey's Quick	0.4392	0.4392	0
Haga	0	0.4392	0.4392
$\alpha=0.001$			
Student's t	0.1632	0.1632	0
Welch-Aspin's t	0.0943	0.0943	0
Yuen	0.0764	0.0764	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.4389	0.4389

Table 473

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.808	0.808	0
Welch-Aspin's t	0.8006	0.8006	0
Yuen Test	0.9995	0.9995	0
Tukey's Quick Test	0.6033	0.6033	0
Haga Test	0	0.9402	0.9402
$\alpha=0.01$			
Student's t	0.7425	0.7425	0
Welch-Aspin's t	0.7274	0.7274	0
Yuen	0.9985	0.9985	0
Tukey's Quick	0.6008	0.6008	0
Haga	0	0.9225	0.9225
$\alpha=0.001$			
Student's t	0.6629	0.6629	0
Welch-Aspin's t	0.6337	0.6337	0
Yuen	0.9937	0.9937	0
Tukey's Quick	0.5978	0.5978	0
Haga	0	0.7984	0.7984

Table 474

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.835	0.835	0
Welch-Aspin's t	0.8313	0.8313	0
Yuen Test	1	1	0
Tukey's Quick Test	0.5112	0.5112	0
Haga Test	0	0.8998	0.8998
$\alpha=0.01$			
Student's t	0.7803	0.7803	0
Welch-Aspin's t	0.7727	0.7727	0
Yuen	1	1	0
Tukey's Quick	0.5088	0.5088	0
Haga	0	0.8964	0.8964
$\alpha=0.001$			
Student's t	0.7161	0.7161	0
Welch-Aspin's t	0.7017	0.7017	0
Yuen	1	1	0
Tukey's Quick	0.5073	0.5073	0
Haga	0	0.8906	0.8906

Table 475

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5654	0.5681	0.0027
Welch-Aspin's t	0.3852	0.3853	0
Yuen Test	0.479	0.4791	0.0001
Tukey's Quick Test	0.4494	0.4494	0
Haga Test	0	0.5021	0.5021
$\alpha=0.01$			
Student's t	0.4342	0.4345	0.0002
Welch-Aspin's t	0.2133	0.2133	0
Yuen	0.2125	0.2125	0
Tukey's Quick	0.4237	0.4237	0
Haga	0	0.4117	0.4117
$\alpha=0.001$			
Student's t	0.2934	0.2935	0
Welch-Aspin's t	0.087	0.087	0
Yuen	0.1038	0.1038	0
Tukey's Quick	0.3067	0.3067	0
Haga	0	0.3886	0.3886

Table 476

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5697	0.5929	0.0232
Welch-Aspin's t	0.383	0.383	0
Yuen Test	0.4693	0.4693	0
Tukey's Quick Test	0.3893	0.3894	0
Haga Test	0	0.5237	0.5237
$\alpha=0.01$			
Student's t	0.457	0.4593	0.0023
Welch-Aspin's t	0.2124	0.2124	0
Yuen	0.1763	0.1764	0
Tukey's Quick	0.3709	0.3709	0
Haga	0	0.5159	0.5159
$\alpha=0.001$			
Student's t	0.3247	0.3249	0.0003
Welch-Aspin's t	0.0893	0.0893	0
Yuen	0.0854	0.0854	0
Tukey's Quick	0.3407	0.3407	0
Haga	0	0.5057	0.5056

Table 477

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8327	0.8327	0
Welch-Aspin's t	0.8003	0.8003	0
Yuen Test	0.9995	0.9995	0
Tukey's Quick Test	0.5961	0.5961	0
Haga Test	0	0.8986	0.8986
$\alpha=0.01$			
Student's t	0.7779	0.7779	0
Welch-Aspin's t	0.7293	0.7293	0
Yuen	0.9985	0.9985	0
Tukey's Quick	0.5942	0.5942	0
Haga	0	0.8295	0.8295
$\alpha=0.001$			
Student's t	0.7106	0.7106	0
Welch-Aspin's t	0.6366	0.6366	0
Yuen	0.9937	0.9937	0
Tukey's Quick	0.5697	0.5697	0
Haga	0	0.6312	0.6312

Table 478

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6749	0.6749	0
Welch-Aspin's t	0.6285	0.6285	0
Yuen Test	0.7792	0.7792	0
Tukey's Quick Test	0.684	0.684	0
Haga Test	0	0.684	0.684
$\alpha=0.01$			
Student's t	0.5443	0.5443	0
Welch-Aspin's t	0.4542	0.4542	0
Yuen	0.4483	0.4483	0
Tukey's Quick	0.6288	0.6288	0
Haga	0	0.6288	0.6288
$\alpha=0.001$			
Student's t	0.3719	0.3719	0
Welch-Aspin's t	0.2428	0.2428	0
Yuen	0.1763	0.1763	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.6289	0.6289

Table 479

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.869	0.869	0
Welch-Aspin's t	0.8635	0.8635	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	0.692	0.692	0
Haga Test	0	0.9701	0.9701
$\alpha=0.01$			
Student's t	0.8237	0.8237	0
Welch-Aspin's t	0.8125	0.8125	0
Yuen	0.9997	0.9997	0
Tukey's Quick	0.6916	0.6916	0
Haga	0	0.9632	0.9632
$\alpha=0.001$			
Student's t	0.7684	0.7684	0
Welch-Aspin's t	0.7457	0.7457	0
Yuen	0.9987	0.9987	0
Tukey's Quick	0.6911	0.6911	0
Haga	0	0.8932	0.8932

Table 480

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8873	0.8873	0
Welch-Aspin's t	0.8847	0.8847	0
Yuen Test	1	1	0
Tukey's Quick Test	0.6079	0.6079	0
Haga Test	0	0.9458	0.9458
$\alpha=0.01$			
Student's t	0.8498	0.8498	0
Welch-Aspin's t	0.8443	0.8443	0
Yuen	1	1	0
Tukey's Quick	0.6072	0.6072	0
Haga	0	0.9443	0.9443
$\alpha=0.001$			
Student's t	0.8053	0.8053	0
Welch-Aspin's t	0.7946	0.7946	0
Yuen	1	1	0
Tukey's Quick	0.6068	0.6068	0
Haga	0	0.9422	0.9422

Table 481

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7391	0.7399	0.0007
Welch-Aspin's t	0.6064	0.6064	0
Yuen Test	0.7511	0.7511	0
Tukey's Quick Test	0.6225	0.6225	0
Haga Test	0	0.6982	0.6982
$\alpha=0.01$			
Student's t	0.6491	0.6492	0
Welch-Aspin's t	0.4364	0.4364	0
Yuen	0.3783	0.3783	0
Tukey's Quick	0.6107	0.6107	0
Haga	0	0.6062	0.6062
$\alpha=0.001$			
Student's t	0.5377	0.5377	0
Welch-Aspin's t	0.2463	0.2463	0
Yuen	0.1772	0.1772	0
Tukey's Quick	0.5343	0.5343	0
Haga	0	0.5958	0.5958

Table 482

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7401	0.752	0.0119
Welch-Aspin's t	0.6064	0.6064	0
Yuen Test	0.7498	0.7498	0
Tukey's Quick Test	0.5622	0.5622	0
Haga Test	0	0.7092	0.7092
$\alpha=0.01$			
Student's t	0.6636	0.6643	0.0007
Welch-Aspin's t	0.4369	0.4369	0
Yuen	0.3602	0.3602	0
Tukey's Quick	0.5542	0.5542	0
Haga	0	0.7069	0.7069
$\alpha=0.001$			
Student's t	0.5629	0.5629	0
Welch-Aspin's t	0.2494	0.2494	0
Yuen	0.1392	0.1392	0
Tukey's Quick	0.5418	0.5418	0
Haga	0	0.7026	0.7026

Table 483

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8872	0.8872	0
Welch-Aspin's t	0.865	0.865	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	0.6835	0.6835	0
Haga Test	0	0.9492	0.9492
$\alpha=0.01$			
Student's t	0.8479	0.8479	0
Welch-Aspin's t	0.814	0.814	0
Yuen	0.9997	0.9997	0
Tukey's Quick	0.6823	0.6823	0
Haga	0	0.9112	0.9112
$\alpha=0.001$			
Student's t	0.8015	0.8015	0
Welch-Aspin's t	0.7477	0.7477	0
Yuen	0.9987	0.9987	0
Tukey's Quick	0.6714	0.6714	0
Haga	0	0.7312	0.7312

Table 484

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8141	0.8141	0
Welch-Aspin's t	0.7826	0.7826	0
Yuen Test	0.9228	0.9228	0
Tukey's Quick Test	0.8124	0.8124	0
Haga Test	0	0.8124	0.8124
$\alpha=0.01$			
Student's t	0.7328	0.7328	0
Welch-Aspin's t	0.6614	0.6614	0
Yuen	0.701	0.701	0
Tukey's Quick	0.7863	0.7863	0
Haga	0	0.7863	0.7863
$\alpha=0.001$			
Student's t	0.6113	0.6113	0
Welch-Aspin's t	0.4656	0.4656	0
Yuen	0.3216	0.3216	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.7865	0.7865

Table 485

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9205	0.9205	0
Welch-Aspin's t	0.917	0.917	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7866	0.7866	0
Haga Test	0	0.9881	0.9881
$\alpha=0.01$			
Student's t	0.893	0.893	0
Welch-Aspin's t	0.8855	0.8855	0
Yuen	1	1	0
Tukey's Quick	0.7866	0.7866	0
Haga	0	0.9861	0.9861
$\alpha=0.001$			
Student's t	0.8577	0.8577	0
Welch-Aspin's t	0.8423	0.8423	0
Yuen	0.9998	0.9998	0
Tukey's Quick	0.7858	0.7858	0
Haga	0	0.9574	0.9574

Table 486

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9313	0.9313	0
Welch-Aspin's t	0.9296	0.9296	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7187	0.7187	0
Haga Test	0	0.977	0.977
$\alpha=0.01$			
Student's t	0.9088	0.9088	0
Welch-Aspin's t	0.9052	0.9052	0
Yuen	1	1	0
Tukey's Quick	0.7182	0.7182	0
Haga	0	0.977	0.977
$\alpha=0.001$			
Student's t	0.8806	0.8806	0
Welch-Aspin's t	0.8735	0.8735	0
Yuen	1	1	0
Tukey's Quick	0.7181	0.7181	0
Haga	0	0.976	0.976

Table 487

Cauchy Distribution, $n_1=5, n_2=15, Effect\ Size=2.0\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8595	0.8597	0.0002
Welch-Aspin's t	0.7806	0.7806	0
Yuen Test	0.9195	0.9195	0
Tukey's Quick Test	0.7678	0.7678	0
Haga Test	0	0.8347	0.8347
$\alpha=0.01$			
Student's t	0.808	0.808	0
Welch-Aspin's t	0.6625	0.6625	0
Yuen	0.6749	0.6749	0
Tukey's Quick	0.7639	0.7639	0
Haga	0	0.7627	0.7627
$\alpha=0.001$			
Student's t	0.7405	0.7405	0
Welch-Aspin's t	0.4778	0.4778	0
Yuen	0.2486	0.2486	0
Tukey's Quick	0.7285	0.7285	0
Haga	0	0.7589	0.7589

Table 488

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8577	0.8637	0.0059
Welch-Aspin's t	0.7796	0.7796	0
Yuen Test	0.919	0.919	0
Tukey's Quick Test	0.7197	0.7197	0
Haga Test	0	0.8376	0.8376
$\alpha=0.01$			
Student's t	0.8154	0.8156	0.0002
Welch-Aspin's t	0.6633	0.6633	0
Yuen	0.6739	0.6739	0
Tukey's Quick	0.7178	0.7178	0
Haga	0	0.8377	0.8377
$\alpha=0.001$			
Student's t	0.7569	0.757	0
Welch-Aspin's t	0.481	0.481	0
Yuen	0.1936	0.1936	0
Tukey's Quick	0.7139	0.7139	0
Haga	0	0.8363	0.8363

Table 489

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9315	0.9315	0
Welch-Aspin's t	0.9174	0.9174	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7754	0.7754	0
Haga Test	0	0.9798	0.9798
$\alpha=0.01$			
Student's t	0.908	0.908	0
Welch-Aspin's t	0.8866	0.8866	0
Yuen	1	1	0
Tukey's Quick	0.7757	0.7757	0
Haga	0	0.963	0.963
$\alpha=0.001$			
Student's t	0.8795	0.8795	0
Welch-Aspin's t	0.8451	0.8451	0
Yuen	0.9998	0.9998	0
Tukey's Quick	0.7728	0.7728	0
Haga	0	0.8231	0.8231

Table 490

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0003	0.2346	0.2343
Welch-Aspin's t	0.0001	0.1746	0.1745
Yuen Test	0.0005	0.2016	0.2011
Tukey's Quick Test	0.0004	0.2845	0.2841
Haga Test	0.2841	0.2845	0.0004
$\alpha=0.01$			
Student's t	0	0.1082	0.1082
Welch-Aspin's t	0	0.0555	0.0555
Yuen	0.0001	0.0593	0.0592
Tukey's Quick	0.0002	0.2353	0.235
Haga	0.235	0.2353	0.0002
$\alpha=0.001$			
Student's t	0	0.0333	0.0333
Welch-Aspin's t	0	0.0102	0.0102
Yuen	0	0.0162	0.0162
Tukey's Quick	n/a	n/a	n/a
Haga	0.2352	0.2354	0.0003

Table 491

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1433	0.1436	0.0003
Welch-Aspin's t	0.129	0.1292	0.0002
Yuen Test	0.3954	0.3955	0
Tukey's Quick Test	0.0772	0.0823	0.0051
Haga Test	0.0058	0.4185	0.4127
$\alpha=0.01$			
Student's t	0.0541	0.0541	0
Welch-Aspin's t	0.0421	0.0421	0
Yuen	0.1638	0.1638	0
Tukey's Quick	0.0615	0.0617	0.0002
Haga	0.0002	0.162	0.1618
$\alpha=0.001$			
Student's t	0.0135	0.0135	0
Welch-Aspin's t	0.0078	0.0078	0
Yuen	0.0337	0.0337	0
Tukey's Quick	0.0296	0.0296	0
Haga	0	0.0357	0.0357

Table 492

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1985	0.1986	0.0001
Welch-Aspin's t	0.1888	0.1888	0
Yuen Test	0.756	0.756	0
Tukey's Quick Test	0.064	0.0763	0.0123
Haga Test	0.009	0.6107	0.6017
$\alpha=0.01$			
Student's t	0.0903	0.0903	0
Welch-Aspin's t	0.0801	0.0801	0
Yuen	0.526	0.526	0
Tukey's Quick	0.0582	0.0599	0.0017
Haga	0.0019	0.5109	0.509
$\alpha=0.001$			
Student's t	0.0295	0.0295	0
Welch-Aspin's t	0.0223	0.0223	0
Yuen	0.2324	0.2324	0
Tukey's Quick	0.0498	0.0498	0
Haga	0.0001	0.3403	0.3402

Table 493

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0111	0.5225	0.5113
Welch-Aspin's t	0.0001	0.203	0.203
Yuen Test	0.0004	0.2262	0.2258
Tukey's Quick Test	0.0003	0.3196	0.3193
Haga Test	0.3278	0.3281	0.0003
$\alpha=0.01$			
Student's t	0.0018	0.377	0.3751
Welch-Aspin's t	0	0.0709	0.0708
Yuen	0.0001	0.0581	0.0579
Tukey's Quick	0.0003	0.3053	0.305
Haga	0.3001	0.3004	0.0002
$\alpha=0.001$			
Student's t	0.0002	0.2409	0.2407
Welch-Aspin's t	0	0.0161	0.0161
Yuen	0	0.0168	0.0168
Tukey's Quick	0.0002	0.2516	0.2514
Haga	0.2915	0.2918	0.0002

Table 494

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0527	0.6331	0.5804
Welch-Aspin's t	0.0001	0.206	0.2059
Yuen Test	0.0004	0.2282	0.2279
Tukey's Quick Test	0.0003	0.3059	0.3057
Haga Test	0.3331	0.3333	0.0002
$\alpha=0.01$			
Student's t	0.0102	0.4819	0.4717
Welch-Aspin's t	0	0.0726	0.0726
Yuen	0.0001	0.0567	0.0566
Tukey's Quick	0.0003	0.2955	0.2953
Haga	0.331	0.3313	0.0003
$\alpha=0.001$			
Student's t	0.002	0.3466	0.3446
Welch-Aspin's t	0	0.017	0.017
Yuen	0	0.0119	0.0119
Tukey's Quick	0.0002	0.2821	0.2819
Haga	0.3289	0.3291	0.0003

Table 495

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2403	0.2435	0.0032
Welch-Aspin's t	0.1271	0.1272	0.0002
Yuen Test	0.39	0.3901	0
Tukey's Quick Test	0.0903	0.0926	0.0023
Haga Test	0.0007	0.1997	0.1989
$\alpha=0.01$			
Student's t	0.1215	0.1217	0.0002
Welch-Aspin's t	0.041	0.0411	0
Yuen	0.1601	0.1601	0
Tukey's Quick	0.0562	0.0563	0
Haga	0	0.0539	0.0539
$\alpha=0.001$			
Student's t	0.0466	0.0466	0
Welch-Aspin's t	0.0076	0.0076	0
Yuen	0.0317	0.0317	0
Tukey's Quick	0.0134	0.0134	0
Haga	0	0.0137	0.0137

Table 496

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0009	0.1417	0.1408
Welch-Aspin's t	0.0004	0.0974	0.097
Yuen Test	0.0015	0.1222	0.1207
Tukey's Quick Test	0.0013	0.1872	0.1859
Haga Test	0.1859	0.1872	0.0013
$\alpha=0.01$			
Student's t	0.0001	0.0522	0.0521
Welch-Aspin's t	0	0.0243	0.0243
Yuen	0.0004	0.0353	0.0349
Tukey's Quick	0.0008	0.1436	0.1428
Haga	0.1428	0.1436	0.0008
$\alpha=0.001$			
Student's t	0	0.0128	0.0127
Welch-Aspin's t	0	0.0039	0.0039
Yuen	0.0001	0.0093	0.0092
Tukey's Quick	n/a	n/a	n/a
Haga	0.1432	0.144	0.0008

Table 497

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3371	0.3371	0
Welch-Aspin's t	0.3183	0.3183	0
Yuen Test	0.8024	0.8024	0
Tukey's Quick Test	0.1408	0.1416	0.0008
Haga Test	0.0008	0.7135	0.7127
$\alpha=0.01$			
Student's t	0.2014	0.2014	0
Welch-Aspin's t	0.1751	0.1751	0
Yuen	0.5806	0.5806	0
Tukey's Quick	0.1349	0.135	0
Haga	0	0.4408	0.4408
$\alpha=0.001$			
Student's t	0.0958	0.0958	0
Welch-Aspin's t	0.069	0.069	0
Yuen	0.257	0.257	0
Tukey's Quick	0.111	0.111	0
Haga	0	0.1604	0.1604

Table 498

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4113	0.4113	0
Welch-Aspin's t	0.4005	0.4005	0
Yuen Test	0.9755	0.9755	0
Tukey's Quick Test	0.0992	0.1023	0.0032
Haga Test	0.0013	0.7912	0.7899
$\alpha=0.01$			
Student's t	0.2755	0.2755	0
Welch-Aspin's t	0.2586	0.2586	0
Yuen	0.927	0.927	0
Tukey's Quick	0.0953	0.0954	0.0001
Haga	0.0001	0.7525	0.7524
$\alpha=0.001$			
Student's t	0.1575	0.1575	0
Welch-Aspin's t	0.136	0.136	0
Yuen	0.7813	0.7813	0
Tukey's Quick	0.0905	0.0905	0
Haga	0	0.6637	0.6637

Table 499

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0201	0.4295	0.4094
Welch-Aspin's t	0.0002	0.1225	0.1223
Yuen Test	0.0011	0.1434	0.1423
Tukey's Quick Test	0.001	0.2282	0.2272
Haga Test	0.2286	0.2295	0.0009
$\alpha=0.01$			
Student's t	0.0042	0.274	0.2698
Welch-Aspin's t	0	0.035	0.0349
Yuen	0.0002	0.0362	0.036
Tukey's Quick	0.0008	0.2117	0.2109
Haga	0.2052	0.206	0.0008
$\alpha=0.001$			
Student's t	0.0007	0.1506	0.1499
Welch-Aspin's t	0	0.0072	0.0072
Yuen	0.0001	0.0124	0.0124
Tukey's Quick	0.0006	0.1618	0.1613
Haga	0.1968	0.1975	0.0008

Table 500

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0743	0.5663	0.492
Welch-Aspin's t	0.0003	0.1241	0.1238
Yuen Test	0.001	0.144	0.1431
Tukey's Quick Test	0.0009	0.2177	0.2167
Haga Test	0.2341	0.235	0.0009
$\alpha=0.01$			
Student's t	0.0178	0.3868	0.369
Welch-Aspin's t	0	0.0357	0.0357
Yuen	0.0002	0.034	0.0337
Tukey's Quick	0.0008	0.206	0.2052
Haga	0.2317	0.2326	0.0009
$\alpha=0.001$			
Student's t	0.0042	0.2464	0.2422
Welch-Aspin's t	0	0.0074	0.0074
Yuen	0.0001	0.0094	0.0093
Tukey's Quick	0.0006	0.1901	0.1895
Haga	0.2288	0.2296	0.0008

Table 501

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4442	0.4447	0.0005
Welch-Aspin's t	0.3174	0.3174	0
Yuen Test	0.7994	0.7994	0
Tukey's Quick Test	0.1645	0.1648	0.0003
Haga Test	0.0001	0.4847	0.4847
$\alpha=0.01$			
Student's t	0.3096	0.3096	0
Welch-Aspin's t	0.1741	0.1741	0
Yuen	0.5771	0.5771	0
Tukey's Quick	0.1472	0.1472	0
Haga	0	0.2124	0.2124
$\alpha=0.001$			
Student's t	0.1863	0.1863	0
Welch-Aspin's t	0.0684	0.0684	0
Yuen	0.2529	0.2529	0
Tukey's Quick	0.0771	0.0771	0
Haga	0	0.0796	0.0796

Table 502

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0034	0.067	0.0635
Welch-Aspin's t	0.0016	0.0414	0.0398
Yuen Test	0.0048	0.0634	0.0586
Tukey's Quick Test	0.0056	0.0982	0.0926
Haga Test	0.0926	0.0982	0.0056
$\alpha=0.01$			
Student's t	0.0005	0.0183	0.0178
Welch-Aspin's t	0.0002	0.0077	0.0076
Yuen	0.0012	0.0178	0.0166
Tukey's Quick	0.0033	0.0687	0.0653
Haga	0.0653	0.0687	0.0033
$\alpha=0.001$			
Student's t	0.0001	0.0035	0.0034
Welch-Aspin's t	0	0.001	0.001
Yuen	0.0003	0.0042	0.0039
Tukey's Quick	n/a	n/a	n/a
Haga	0.0653	0.0687	0.0035

Table 503

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.488	0.4881	0
Welch-Aspin's t	0.4702	0.4702	0
Yuen Test	0.9377	0.9377	0
Tukey's Quick Test	0.2162	0.2163	0.0002
Haga Test	0.0002	0.8478	0.8476
$\alpha=0.01$			
Student's t	0.3522	0.3522	0
Welch-Aspin's t	0.3218	0.3218	0
Yuen	0.8339	0.8339	0
Tukey's Quick	0.2134	0.2134	0
Haga	0	0.6506	0.6506
$\alpha=0.001$			
Student's t	0.2213	0.2213	0
Welch-Aspin's t	0.1787	0.1787	0
Yuen	0.5714	0.5714	0
Tukey's Quick	0.2009	0.2009	0
Haga	0	0.3215	0.3215

Table 504

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5545	0.5545	0
Welch-Aspin's t	0.5453	0.5453	0
Yuen Test	0.9966	0.9966	0
Tukey's Quick Test	0.1462	0.1471	0.0009
Haga Test	0.0003	0.8592	0.859
$\alpha=0.01$			
Student's t	0.4311	0.4311	0
Welch-Aspin's t	0.4142	0.4142	0
Yuen	0.9885	0.9885	0
Tukey's Quick	0.1438	0.1438	0
Haga	0	0.843	0.843
$\alpha=0.001$			
Student's t	0.3057	0.3057	0
Welch-Aspin's t	0.2788	0.2788	0
Yuen	0.9552	0.9552	0
Tukey's Quick	0.1408	0.1408	0
Haga	0	0.805	0.805

Table 505

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0416	0.3283	0.2867
Welch-Aspin's t	0.0011	0.0568	0.0557
Yuen Test	0.0034	0.0774	0.074
Tukey's Quick Test	0.0043	0.1342	0.1299
Haga Test	0.1262	0.1299	0.0037
$\alpha=0.01$			
Student's t	0.011	0.1715	0.1605
Welch-Aspin's t	0.0001	0.0128	0.0127
Yuen	0.0009	0.0206	0.0197
Tukey's Quick	0.0034	0.1194	0.116
Haga	0.1111	0.1142	0.0031
$\alpha=0.001$			
Student's t	0.0021	0.0738	0.0717
Welch-Aspin's t	0	0.0023	0.0023
Yuen	0.0003	0.0077	0.0074
Tukey's Quick	0.002	0.0806	0.0787
Haga	0.1029	0.1056	0.0027

Table 506

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1128	0.4966	0.3838
Welch-Aspin's t	0.001	0.0583	0.0572
Yuen Test	0.0031	0.0778	0.0748
Tukey's Quick Test	0.0039	0.1287	0.1248
Haga Test	0.1313	0.1349	0.0036
$\alpha=0.01$			
Student's t	0.0357	0.2872	0.2515
Welch-Aspin's t	0.0001	0.0131	0.0129
Yuen	0.0008	0.0182	0.0174
Tukey's Quick	0.0033	0.1167	0.1134
Haga	0.1283	0.1319	0.0035
$\alpha=0.001$			
Student's t	0.0102	0.1513	0.1412
Welch-Aspin's t	0	0.0024	0.0024
Yuen	0.0003	0.0062	0.0059
Tukey's Quick	0.0027	0.1024	0.0997
Haga	0.1262	0.1298	0.0035

Table 507

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5807	0.5808	0.0001
Welch-Aspin's t	0.4683	0.4683	0
Yuen Test	0.9372	0.9372	0
Tukey's Quick Test	0.2408	0.2409	0
Haga Test	0	0.6874	0.6874
$\alpha=0.01$			
Student's t	0.4625	0.4625	0
Welch-Aspin's t	0.3221	0.3221	0
Yuen	0.8333	0.8333	0
Tukey's Quick	0.2325	0.2325	0
Haga	0	0.3927	0.3927
$\alpha=0.001$			
Student's t	0.3368	0.3368	0
Welch-Aspin's t	0.1788	0.1788	0
Yuen	0.5681	0.5681	0
Tukey's Quick	0.1692	0.1692	0
Haga	0	0.1755	0.1755

Table 508

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0227	0.0355	0.0128
Welch-Aspin's t	0.0128	0.0197	0.0068
Yuen Test	0.0238	0.0386	0.0147
Tukey's Quick Test	0.0355	0.056	0.0204
Haga Test	0.0204	0.056	0.0355
$\alpha=0.01$			
Student's t	0.0049	0.0073	0.0025
Welch-Aspin's t	0.0019	0.0028	0.0009
Yuen	0.0064	0.0104	0.0039
Tukey's Quick	0.023	0.0358	0.0128
Haga	0.0128	0.0358	0.023
$\alpha=0.001$			
Student's t	0.0007	0.0011	0.0003
Welch-Aspin's t	0.0002	0.0003	0.0001
Yuen	0.0014	0.0023	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	0.0127	0.0355	0.0228

Table 509

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6167	0.6167	0
Welch-Aspin's t	0.6017	0.6017	0
Yuen Test	0.9829	0.9829	0
Tukey's Quick Test	0.31	0.3101	0
Haga Test	0	0.9193	0.9193
$\alpha=0.01$			
Student's t	0.4999	0.4999	0
Welch-Aspin's t	0.4716	0.4716	0
Yuen	0.9485	0.9485	0
Tukey's Quick	0.3082	0.3082	0
Haga	0	0.8027	0.8027
$\alpha=0.001$			
Student's t	0.3735	0.3735	0
Welch-Aspin's t	0.325	0.325	0
Yuen	0.825	0.825	0
Tukey's Quick	0.3021	0.3021	0
Haga	0	0.5031	0.5031

Table 510

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.669	0.669	0
Welch-Aspin's t	0.6614	0.6614	0
Yuen Test	0.9996	0.9996	0
Tukey's Quick Test	0.216	0.2162	0.0002
Haga Test	0	0.9052	0.9051
$\alpha=0.01$			
Student's t	0.5695	0.5695	0
Welch-Aspin's t	0.5545	0.5545	0
Yuen	0.9984	0.9984	0
Tukey's Quick	0.2133	0.2133	0
Haga	0	0.8979	0.8979
$\alpha=0.001$			
Student's t	0.4586	0.4586	0
Welch-Aspin's t	0.4322	0.4322	0
Yuen	0.9929	0.9929	0
Tukey's Quick	0.2122	0.2122	0
Haga	0	0.8825	0.8825

Table 511

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1154	0.247	0.1316
Welch-Aspin's t	0.0086	0.0199	0.0113
Yuen Test	0.0173	0.0379	0.0207
Tukey's Quick Test	0.0286	0.0642	0.0356
Haga Test	0.0321	0.0577	0.0256
$\alpha=0.01$			
Student's t	0.0443	0.0977	0.0534
Welch-Aspin's t	0.0013	0.003	0.0017
Yuen	0.0049	0.011	0.0061
Tukey's Quick	0.0229	0.052	0.0291
Haga	0.0272	0.0485	0.0214
$\alpha=0.001$			
Student's t	0.0127	0.0289	0.0162
Welch-Aspin's t	0.0002	0.0005	0.0003
Yuen	0.0019	0.0042	0.0023
Tukey's Quick	0.0132	0.0305	0.0172
Haga	0.0244	0.0433	0.0189

Table 512

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2086	0.439	0.2303
Welch-Aspin's t	0.0083	0.0199	0.0116
Yuen Test	0.0161	0.0371	0.021
Tukey's Quick Test	0.0262	0.0612	0.035
Haga Test	0.0343	0.0598	0.0254
$\alpha=0.01$			
Student's t	0.0962	0.2092	0.113
Welch-Aspin's t	0.0013	0.0031	0.0018
Yuen	0.0043	0.0097	0.0054
Tukey's Quick	0.0222	0.0518	0.0296
Haga	0.0331	0.0578	0.0247
$\alpha=0.001$			
Student's t	0.0378	0.0846	0.0468
Welch-Aspin's t	0.0002	0.0005	0.0003
Yuen	0.0016	0.0035	0.002
Tukey's Quick	0.0175	0.0414	0.0239
Haga	0.032	0.0557	0.0236

Table 513

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6908	0.6908	0
Welch-Aspin's t	0.6007	0.6007	0
Yuen Test	0.9828	0.9828	0
Tukey's Quick Test	0.3313	0.3313	0
Haga Test	0	0.8263	0.8263
$\alpha=0.01$			
Student's t	0.595	0.595	0
Welch-Aspin's t	0.4714	0.4714	0
Yuen	0.9484	0.9484	0
Tukey's Quick	0.3279	0.3279	0
Haga	0	0.5741	0.5741
$\alpha=0.001$			
Student's t	0.4857	0.4857	0
Welch-Aspin's t	0.3244	0.3244	0
Yuen	0.8233	0.8233	0
Tukey's Quick	0.2836	0.2836	0
Haga	0	0.2941	0.2941

Table 514

Cauchy Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2113	0.2116	0.0003
Welch-Aspin's t	0.1549	0.155	0.0002
Yuen Test	0.1796	0.1803	0.0007
Tukey's Quick Test	0.2613	0.2618	0.0005
Haga Test	0.0005	0.2618	0.2613
$\alpha=0.01$			
Student's t	0.0934	0.0934	0
Welch-Aspin's t	0.0468	0.0468	0
Yuen	0.053	0.0531	0.0002
Tukey's Quick	0.2128	0.2131	0.0003
Haga	0.0003	0.2131	0.2128
$\alpha=0.001$			
Student's t	0.0272	0.0272	0
Welch-Aspin's t	0.0083	0.0083	0
Yuen	0.0143	0.0144	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.2131	0.2128

Table 515

Cauchy Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7497	0.7497	0
Welch-Aspin's t	0.7391	0.7391	0
Yuen Test	0.9973	0.9973	0
Tukey's Quick Test	0.4543	0.4543	0
Haga Test	0	0.9648	0.9648
$\alpha=0.01$			
Student's t	0.6681	0.6681	0
Welch-Aspin's t	0.6462	0.6462	0
Yuen	0.9912	0.9912	0
Tukey's Quick	0.453	0.453	0
Haga	0	0.9194	0.9194
$\alpha=0.001$			
Student's t	0.5689	0.5689	0
Welch-Aspin's t	0.5265	0.5265	0
Yuen	0.9657	0.9657	0
Tukey's Quick	0.4516	0.4516	0
Haga	0	0.7224	0.7224

Table 516

Cauchy Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7851	0.7851	0
Welch-Aspin's t	0.7798	0.7798	0
Yuen Test	1	1	0
Tukey's Quick Test	0.3419	0.3419	0
Haga Test	0	0.9475	0.9475
$\alpha=0.01$			
Student's t	0.716	0.716	0
Welch-Aspin's t	0.7054	0.7054	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.3408	0.3408	0
Haga	0	0.9451	0.9451
$\alpha=0.001$			
Student's t	0.6354	0.6354	0
Welch-Aspin's t	0.6144	0.6144	0
Yuen	0.9995	0.9995	0
Tukey's Quick	0.3399	0.3399	0
Haga	0	0.9411	0.9411

Table 517

Cauchy Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4268	0.4451	0.0183
Welch-Aspin's t	0.1333	0.1335	0.0002
Yuen Test	0.1544	0.1553	0.0009
Tukey's Quick Test	0.2413	0.2421	0.0008
Haga Test	0.0007	0.2446	0.2439
$\alpha=0.01$			
Student's t	0.2867	0.2905	0.0037
Welch-Aspin's t	0.0391	0.0391	0
Yuen	0.0388	0.039	0.0002
Tukey's Quick	0.2263	0.227	0.0007
Haga	0.0006	0.2214	0.2208
$\alpha=0.001$			
Student's t	0.1629	0.1635	0.0006
Welch-Aspin's t	0.0079	0.0079	0
Yuen	0.013	0.0131	0.0001
Tukey's Quick	0.1743	0.1748	0.0004
Haga	0.0006	0.2118	0.2112

Table 518

Cauchy Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5027	0.5743	0.0717
Welch-Aspin's t	0.132	0.1322	0.0002
Yuen Test	0.1525	0.1534	0.0009
Tukey's Quick Test	0.2267	0.2276	0.0009
Haga Test	0.0008	0.2458	0.245
$\alpha=0.01$			
Student's t	0.3812	0.398	0.0168
Welch-Aspin's t	0.0391	0.0391	0
Yuen	0.0357	0.036	0.0002
Tukey's Quick	0.2149	0.2157	0.0007
Haga	0.0008	0.2433	0.2426
$\alpha=0.001$			
Student's t	0.2551	0.2589	0.0038
Welch-Aspin's t	0.0083	0.0083	0
Yuen	0.0097	0.0097	0.0001
Tukey's Quick	0.2008	0.2014	0.0007
Haga	0.0008	0.242	0.2411

Table 519

Cauchy Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8007	0.8007	0
Welch-Aspin's t	0.7393	0.7393	0
Yuen Test	0.9973	0.9973	0
Tukey's Quick Test	0.4683	0.4683	0
Haga Test	0	0.9285	0.9285
$\alpha=0.01$			
Student's t	0.7356	0.7356	0
Welch-Aspin's t	0.6457	0.6457	0
Yuen	0.9916	0.9916	0
Tukey's Quick	0.4668	0.4668	0
Haga	0	0.7698	0.7698
$\alpha=0.001$			
Student's t	0.6566	0.6566	0
Welch-Aspin's t	0.5267	0.5267	0
Yuen	0.9654	0.9654	0
Tukey's Quick	0.4457	0.4457	0
Haga	0	0.4606	0.4606

Table 520

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.02	0.0401	0.0202
Welch-Aspin's t	0.0169	0.0339	0.017
Yuen Test	0.0179	0.036	0.0181
Tukey's Quick Test	0.0157	0.0315	0.0158
Haga Test	0.0158	0.0315	0.0157
<hr/>			
$\alpha=0.01$			
Student's t	0.0031	0.0062	0.003
Welch-Aspin's t	0.0023	0.0045	0.0023
Yuen	0.0032	0.0062	0.0031
Tukey's Quick	0.0039	0.0077	0.0039
Haga	0.0039	0.0077	0.0039
<hr/>			
$\alpha=0.001$			
Student's t	0.0002	0.0005	0.0002
Welch-Aspin's t	0.0001	0.0003	0.0002
Yuen	0.0003	0.0005	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0039	0.0079	0.004

Table 521

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0223	0.0442	0.0219
Welch-Aspin's t	0.0216	0.0428	0.0212
Yuen Test	0.0232	0.0467	0.0235
Tukey's Quick Test	0.0236	0.0469	0.0233
Haga Test	0.0238	0.048	0.0242
$\alpha=0.01$			
Student's t	0.0036	0.0071	0.0035
Welch-Aspin's t	0.0034	0.0067	0.0033
Yuen	0.0041	0.0084	0.0043
Tukey's Quick	0.0033	0.0067	0.0033
Haga	0.0033	0.0067	0.0034
$\alpha=0.001$			
Student's t	0.0002	0.0005	0.0002
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	0.0004	0.0007	0.0003
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0004	0.0008	0.0004

Table 522

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0229	0.0454	0.0225
Welch-Aspin's t	0.0226	0.0448	0.0222
Yuen Test	0.024	0.0478	0.0239
Tukey's Quick Test	0.0252	0.05	0.0249
Haga Test	0.014	0.0282	0.0143
$\alpha=0.01$			
Student's t	0.0037	0.0075	0.0038
Welch-Aspin's t	0.0036	0.0073	0.0037
Yuen	0.0046	0.0092	0.0046
Tukey's Quick	0.0038	0.0076	0.0038
Haga	0.0038	0.0077	0.0039
$\alpha=0.001$			
Student's t	0.0003	0.0005	0.0003
Welch-Aspin's t	0.0003	0.0005	0.0003
Yuen	0.0004	0.0009	0.0004
Tukey's Quick	0.0002	0.0005	0.0002
Haga	0.0005	0.001	0.0005

Table 523

T Distribution, $n_1=5$, $n_2=15$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0246	0.0491	0.0245
Welch-Aspin's t	0.0211	0.0419	0.0208
Yuen Test	0.0297	0.0594	0.0297
Tukey's Quick Test	0.0252	0.05	0.0248
Haga Test	0.0067	0.0135	0.0068
$\alpha=0.01$			
Student's t	0.0045	0.0089	0.0044
Welch-Aspin's t	0.0039	0.0079	0.0039
Yuen	0.0088	0.0177	0.0089
Tukey's Quick	0.0037	0.0074	0.0037
Haga	0.002	0.004	0.002
$\alpha=0.001$			
Student's t	0.0004	0.0008	0.0004
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0016	0.0033	0.0017
Tukey's Quick	0.0003	0.0005	0.0002
Haga	0.0011	0.0021	0.001

Table 524

T Distribution, $n_1=5$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0273	0.0546	0.0273
Welch-Aspin's t	0.0216	0.0436	0.0221
Yuen Test	0.0349	0.0702	0.0353
Tukey's Quick Test	0.0227	0.0453	0.0226
Haga Test	0.0077	0.0153	0.0077
$\alpha=0.01$			
Student's t	0.006	0.0121	0.006
Welch-Aspin's t	0.0047	0.0095	0.0047
Yuen	0.0128	0.0256	0.0127
Tukey's Quick	0.004	0.008	0.004
Haga	0.0052	0.0104	0.0052
$\alpha=0.001$			
Student's t	0.0007	0.0014	0.0007
Welch-Aspin's t	0.0007	0.0015	0.0008
Yuen	0.0037	0.0075	0.0038
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0033	0.0066	0.0032

Table 525

T Distribution, $n_1=15, n_2=25, Effect Size=0.0\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.023	0.0459	0.0229
Welch-Aspin's t	0.022	0.0438	0.0218
Yuen Test	0.0241	0.0482	0.0241
Tukey's Quick Test	0.0191	0.0383	0.0192
Haga Test	0.0127	0.0252	0.0126
$\alpha=0.01$			
Student's t	0.0038	0.0076	0.0038
Welch-Aspin's t	0.0035	0.007	0.0034
Yuen	0.0048	0.0096	0.0048
Tukey's Quick	0.0038	0.0076	0.0038
Haga	0.0023	0.0046	0.0023
$\alpha=0.001$			
Student's t	0.0003	0.0006	0.0003
Welch-Aspin's t	0.0002	0.0005	0.0002
Yuen	0.0005	0.001	0.0005
Tukey's Quick	0.0003	0.0007	0.0003
Haga	0.0003	0.0007	0.0004

Table 526

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0503	0.0572	0.007
Welch-Aspin's t	0.043	0.0488	0.0058
Yuen Test	0.0395	0.0467	0.0073
Tukey's Quick Test	0.0402	0.0456	0.0053
Haga Test	0.0053	0.0456	0.0402
$\alpha=0.01$			
Student's t	0.0095	0.0104	0.0009
Welch-Aspin's t	0.0071	0.0078	0.0007
Yuen	0.0073	0.0085	0.0012
Tukey's Quick	0.0115	0.0127	0.0012
Haga	0.0012	0.0127	0.0115
$\alpha=0.001$			
Student's t	0.0009	0.0009	0.0001
Welch-Aspin's t	0.0006	0.0006	0
Yuen	0.0007	0.0008	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.0127	0.0115

Table 527

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0899	0.0934	0.0035
Welch-Aspin's t	0.0878	0.0912	0.0033
Yuen Test	0.1046	0.1078	0.0032
Tukey's Quick Test	0.0668	0.0732	0.0064
Haga Test	0.0064	0.076	0.0696
$\alpha=0.01$			
Student's t	0.0224	0.0227	0.0003
Welch-Aspin's t	0.0213	0.0216	0.0003
Yuen	0.0277	0.028	0.0004
Tukey's Quick	0.0156	0.0161	0.0005
Haga	0.0005	0.0162	0.0157
$\alpha=0.001$			
Student's t	0.0027	0.0027	0
Welch-Aspin's t	0.0024	0.0024	0
Yuen	0.0035	0.0035	0
Tukey's Quick	0.0032	0.0032	0
Haga	0	0.0032	0.0032

Table 528

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1216	0.1239	0.0022
Welch-Aspin's t	0.1204	0.1226	0.0022
Yuen Test	0.1561	0.1578	0.0016
Tukey's Quick Test	0.0677	0.0751	0.0075
Haga Test	0.0034	0.0502	0.0469
$\alpha=0.01$			
Student's t	0.0349	0.0351	0.0002
Welch-Aspin's t	0.0341	0.0343	0.0002
Yuen	0.0491	0.0493	0.0002
Tukey's Quick	0.018	0.0186	0.0006
Haga	0.0006	0.0192	0.0186
$\alpha=0.001$			
Student's t	0.005	0.005	0
Welch-Aspin's t	0.0047	0.0047	0
Yuen	0.008	0.008	0
Tukey's Quick	0.0024	0.0024	0
Haga	0	0.0042	0.0042

Table 529

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0648	0.0727	0.0079
Welch-Aspin's t	0.0605	0.0662	0.0057
Yuen Test	0.0763	0.0859	0.0096
Tukey's Quick Test	0.0624	0.0707	0.0082
Haga Test	0.0016	0.0243	0.0227
$\alpha=0.01$			
Student's t	0.0151	0.0162	0.0012
Welch-Aspin's t	0.0144	0.0153	0.0009
Yuen	0.0259	0.0284	0.0026
Tukey's Quick	0.0133	0.0141	0.0008
Haga	0.0004	0.0082	0.0078
$\alpha=0.001$			
Student's t	0.0018	0.0019	0.0001
Welch-Aspin's t	0.0021	0.0022	0.0001
Yuen	0.0056	0.006	0.0004
Tukey's Quick	0.0013	0.0013	0.0001
Haga	0.0002	0.0046	0.0044

Table 530

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0682	0.0783	0.0101
Welch-Aspin's t	0.0661	0.0718	0.0056
Yuen Test	0.0894	0.1005	0.0111
Tukey's Quick Test	0.0543	0.0619	0.0076
Haga Test	0.0017	0.0288	0.0271
$\alpha=0.01$			
Student's t	0.0186	0.0204	0.0018
Welch-Aspin's t	0.0176	0.0185	0.001
Yuen	0.0365	0.0402	0.0037
Tukey's Quick	0.0142	0.0151	0.0008
Haga	0.0011	0.0202	0.0191
$\alpha=0.001$			
Student's t	0.0026	0.0028	0.0002
Welch-Aspin's t	0.0034	0.0035	0.0001
Yuen	0.0119	0.0129	0.001
Tukey's Quick	0.0019	0.002	0.0001
Haga	0.0007	0.0136	0.0129

Table 531

T Distribution, $n_1=15, n_2=25, Effect Size=0.2\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1015	0.1047	0.0031
Welch-Aspin's t	0.1005	0.1033	0.0028
Yuen Test	0.1246	0.1271	0.0025
Tukey's Quick Test	0.0552	0.0604	0.0051
Haga Test	0.0026	0.047	0.0444
$\alpha=0.01$			
Student's t	0.0274	0.0278	0.0003
Welch-Aspin's t	0.0264	0.0266	0.0002
Yuen	0.0362	0.0366	0.0003
Tukey's Quick	0.0175	0.0181	0.0006
Haga	0.0003	0.013	0.0127
$\alpha=0.001$			
Student's t	0.0034	0.0035	0
Welch-Aspin's t	0.0032	0.0032	0
Yuen	0.0057	0.0057	0
Tukey's Quick	0.003	0.003	0
Haga	0	0.0031	0.0031

Table 532

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.145	0.146	0.0011
Welch-Aspin's t	0.1279	0.1287	0.0009
Yuen Test	0.1032	0.1047	0.0015
Tukey's Quick Test	0.1177	0.1185	0.0008
Haga Test	0.0008	0.1185	0.1177
$\alpha=0.01$			
Student's t	0.0385	0.0386	0.0001
Welch-Aspin's t	0.0296	0.0297	0.0001
Yuen	0.0218	0.022	0.0002
Tukey's Quick	0.0417	0.0418	0.0001
Haga	0.0001	0.0418	0.0417
$\alpha=0.001$			
Student's t	0.0045	0.0045	0
Welch-Aspin's t	0.0029	0.0029	0
Yuen	0.0022	0.0022	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0418	0.0416

Table 533

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3446	0.3447	0.0001
Welch-Aspin's t	0.3397	0.3398	0.0001
Yuen Test	0.4258	0.4259	0.0001
Tukey's Quick Test	0.2049	0.2055	0.0007
Haga Test	0.0007	0.2221	0.2214
$\alpha=0.01$			
Student's t	0.1504	0.1504	0
Welch-Aspin's t	0.145	0.145	0
Yuen	0.1891	0.1891	0
Tukey's Quick	0.0871	0.0871	0
Haga	0	0.0885	0.0885
$\alpha=0.001$			
Student's t	0.0364	0.0364	0
Welch-Aspin's t	0.0335	0.0335	0
Yuen	0.0439	0.0439	0
Tukey's Quick	0.0308	0.0308	0
Haga	0	0.0308	0.0308

Table 534

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4955	0.4955	0
Welch-Aspin's t	0.493	0.493	0
Yuen Test	0.6558	0.6558	0
Tukey's Quick Test	0.1959	0.1968	0.0009
Haga Test	0.0002	0.1741	0.1738
$\alpha=0.01$			
Student's t	0.2697	0.2697	0
Welch-Aspin's t	0.266	0.266	0
Yuen	0.3958	0.3958	0
Tukey's Quick	0.0935	0.0935	0
Haga	0	0.1006	0.1006
$\alpha=0.001$			
Student's t	0.09	0.09	0
Welch-Aspin's t	0.087	0.087	0
Yuen	0.1454	0.1454	0
Tukey's Quick	0.0292	0.0292	0
Haga	0	0.041	0.041

Table 535

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2	0.2011	0.0011
Welch-Aspin's t	0.1955	0.196	0.0005
Yuen Test	0.2149	0.2161	0.0012
Tukey's Quick Test	0.172	0.173	0.001
Haga Test	0.0001	0.0926	0.0925
$\alpha=0.01$			
Student's t	0.0683	0.0685	0.0001
Welch-Aspin's t	0.0664	0.0664	0.0001
Yuen	0.0889	0.0892	0.0003
Tukey's Quick	0.0618	0.0619	0.0001
Haga	0	0.0415	0.0415
$\alpha=0.001$			
Student's t	0.0119	0.0119	0
Welch-Aspin's t	0.0138	0.0138	0
Yuen	0.0247	0.0247	0.0001
Tukey's Quick	0.0089	0.0089	0
Haga	0	0.026	0.0259

Table 536

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2089	0.211	0.0021
Welch-Aspin's t	0.2148	0.2153	0.0005
Yuen Test	0.2376	0.2389	0.0014
Tukey's Quick Test	0.1439	0.145	0.001
Haga Test	0.0002	0.1146	0.1144
$\alpha=0.01$			
Student's t	0.0775	0.0778	0.0003
Welch-Aspin's t	0.079	0.079	0.0001
Yuen	0.1156	0.1161	0.0005
Tukey's Quick	0.0625	0.0625	0.0001
Haga	0.0001	0.0891	0.089
$\alpha=0.001$			
Student's t	0.0164	0.0164	0
Welch-Aspin's t	0.0208	0.0208	0
Yuen	0.0476	0.0477	0.0001
Tukey's Quick	0.0144	0.0144	0
Haga	0.0001	0.0677	0.0676

Table 537

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4032	0.4033	0.0001
Welch-Aspin's t	0.4029	0.4029	0.0001
Yuen Test	0.5177	0.5177	0
Tukey's Quick Test	0.1726	0.1731	0.0005
Haga Test	0.0002	0.1702	0.17
$\alpha=0.01$			
Student's t	0.195	0.195	0
Welch-Aspin's t	0.1921	0.1921	0
Yuen	0.2641	0.2641	0
Tukey's Quick	0.0892	0.0892	0
Haga	0	0.0803	0.0803
$\alpha=0.001$			
Student's t	0.0545	0.0545	0
Welch-Aspin's t	0.0521	0.0521	0
Yuen	0.0776	0.0776	0
Tukey's Quick	0.0308	0.0308	0
Haga	0	0.0332	0.0332

Table 538

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3027	0.3028	0.0001
Welch-Aspin's t	0.2738	0.2739	0.0001
Yuen Test	0.2109	0.2112	0.0002
Tukey's Quick Test	0.2504	0.2505	0.0001
Haga Test	0.0001	0.2505	0.2504
$\alpha=0.01$			
Student's t	0.1075	0.1075	0
Welch-Aspin's t	0.0854	0.0854	0
Yuen	0.0515	0.0515	0
Tukey's Quick	0.1082	0.1082	0
Haga	0	0.1082	0.1082
$\alpha=0.001$			
Student's t	0.0177	0.0177	0
Welch-Aspin's t	0.0116	0.0116	0
Yuen	0.006	0.006	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1086	0.1086

Table 539

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6645	0.6645	0
Welch-Aspin's t	0.6594	0.6594	0
Yuen Test	0.7919	0.7919	0
Tukey's Quick Test	0.3993	0.3993	0
Haga Test	0	0.4479	0.4478
$\alpha=0.01$			
Student's t	0.4338	0.4338	0
Welch-Aspin's t	0.4238	0.4238	0
Yuen	0.5376	0.5376	0
Tukey's Quick	0.2511	0.2511	0
Haga	0	0.2603	0.2603
$\alpha=0.001$			
Student's t	0.1845	0.1845	0
Welch-Aspin's t	0.174	0.174	0
Yuen	0.2178	0.2178	0
Tukey's Quick	0.1315	0.1315	0
Haga	0	0.1317	0.1317

Table 540

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8327	0.8327	0
Welch-Aspin's t	0.831	0.831	0
Yuen Test	0.9576	0.9576	0
Tukey's Quick Test	0.3719	0.372	0.0001
Haga Test	0	0.3868	0.3868
$\alpha=0.01$			
Student's t	0.6626	0.6626	0
Welch-Aspin's t	0.6581	0.6581	0
Yuen	0.8521	0.8521	0
Tukey's Quick	0.2552	0.2552	0
Haga	0	0.2869	0.2869
$\alpha=0.001$			
Student's t	0.4017	0.4017	0
Welch-Aspin's t	0.3937	0.3937	0
Yuen	0.5887	0.5887	0
Tukey's Quick	0.1336	0.1336	0
Haga	0	0.1699	0.1699

Table 541

T Distribution, $n_1=5$, $n_2=15$, Effect Size=0.8 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4186	0.4187	0.0002
Welch-Aspin's t	0.4043	0.4043	0
Yuen Test	0.4048	0.4049	0.0002
Tukey's Quick Test	0.3333	0.3334	0.0001
Haga Test	0	0.2407	0.2407
$\alpha=0.01$			
Student's t	0.2002	0.2003	0
Welch-Aspin's t	0.1844	0.1844	0
Yuen	0.2034	0.2034	0
Tukey's Quick	0.1766	0.1766	0
Haga	0	0.134	0.134
$\alpha=0.001$			
Student's t	0.0533	0.0533	0
Welch-Aspin's t	0.0535	0.0535	0
Yuen	0.0728	0.0728	0
Tukey's Quick	0.0396	0.0396	0
Haga	0	0.0945	0.0945

Table 542

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4431	0.4435	0.0005
Welch-Aspin's t	0.436	0.4361	0
Yuen Test	0.4221	0.4222	0.0002
Tukey's Quick Test	0.2756	0.2756	0.0001
Haga Test	0	0.295	0.295
$\alpha=0.01$			
Student's t	0.2251	0.2251	0
Welch-Aspin's t	0.21	0.21	0
Yuen	0.2325	0.2325	0
Tukey's Quick	0.1721	0.1721	0
Haga	0	0.2501	0.2501
$\alpha=0.001$			
Student's t	0.0695	0.0695	0
Welch-Aspin's t	0.0723	0.0723	0
Yuen	0.1153	0.1153	0
Tukey's Quick	0.0641	0.0641	0
Haga	0	0.2067	0.2067

Table 543

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7411	0.7411	0
Welch-Aspin's t	0.7384	0.7384	0
Yuen Test	0.8747	0.8747	0
Tukey's Quick Test	0.3446	0.3446	0
Haga Test	0	0.3788	0.3788
$\alpha=0.01$			
Student's t	0.5313	0.5313	0
Welch-Aspin's t	0.5238	0.5238	0
Yuen	0.6719	0.6719	0
Tukey's Quick	0.2404	0.2404	0
Haga	0	0.2461	0.2461
$\alpha=0.001$			
Student's t	0.2668	0.2668	0
Welch-Aspin's t	0.2562	0.2562	0
Yuen	0.3481	0.3481	0
Tukey's Quick	0.1312	0.1312	0
Haga	0	0.1458	0.1458

Table 544

T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5473	0.5473	0
Welch-Aspin's t	0.5106	0.5106	0
Yuen Test	0.4009	0.4009	0
Tukey's Quick Test	0.4695	0.4695	0
Haga Test	0	0.4695	0.4695
$\alpha=0.01$			
Student's t	0.2764	0.2764	0
Welch-Aspin's t	0.2292	0.2292	0
Yuen	0.1218	0.1218	0
Tukey's Quick	0.2585	0.2585	0
Haga	0	0.2585	0.2585
$\alpha=0.001$			
Student's t	0.0681	0.0681	0
Welch-Aspin's t	0.0465	0.0465	0
Yuen	0.0163	0.0163	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.2581	0.2581

Table 545

T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.902	0.902	0
Welch-Aspin's t	0.8991	0.8991	0
Yuen Test	0.9783	0.9783	0
Tukey's Quick Test	0.6272	0.6272	0
Haga Test	0	0.7221	0.7221
$\alpha=0.01$			
Student's t	0.7816	0.7816	0
Welch-Aspin's t	0.7728	0.7728	0
Yuen	0.8988	0.8988	0
Tukey's Quick	0.5235	0.5235	0
Haga	0	0.5606	0.5606
$\alpha=0.001$			
Student's t	0.5461	0.5461	0
Welch-Aspin's t	0.5272	0.5272	0
Yuen	0.6361	0.6361	0
Tukey's Quick	0.3857	0.3857	0
Haga	0	0.388	0.388

Table 546

T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9706	0.9706	0
Welch-Aspin's t	0.9699	0.9699	0
Yuen Test	0.9995	0.9995	0
Tukey's Quick Test	0.5849	0.5849	0
Haga Test	0	0.6684	0.6684
$\alpha=0.01$			
Student's t	0.9264	0.9264	0
Welch-Aspin's t	0.924	0.924	0
Yuen	0.9956	0.9956	0
Tukey's Quick	0.5047	0.5047	0
Haga	0	0.5875	0.5875
$\alpha=0.001$			
Student's t	0.815	0.815	0
Welch-Aspin's t	0.8075	0.8075	0
Yuen	0.9616	0.9616	0
Tukey's Quick	0.3875	0.3875	0
Haga	0	0.4662	0.4662

Table 547

T Distribution, $n_1=5$, $n_2=15$, Effect Size=1.2 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7065	0.7065	0
Welch-Aspin's t	0.669	0.669	0
Yuen Test	0.6302	0.6302	0
Tukey's Quick Test	0.5497	0.5497	0
Haga Test	0	0.5039	0.5039
$\alpha=0.01$			
Student's t	0.4746	0.4746	0
Welch-Aspin's t	0.4119	0.4119	0
Yuen	0.381	0.381	0
Tukey's Quick	0.4057	0.4057	0
Haga	0	0.349	0.349
$\alpha=0.001$			
Student's t	0.2068	0.2068	0
Welch-Aspin's t	0.1735	0.1735	0
Yuen	0.1828	0.1828	0
Tukey's Quick	0.1541	0.1541	0
Haga	0	0.282	0.282

Table 548

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7436	0.7437	0.0001
Welch-Aspin's t	0.6959	0.6959	0
Yuen Test	0.623	0.623	0
Tukey's Quick Test	0.4685	0.4685	0
Haga Test	0	0.5788	0.5788
$\alpha=0.01$			
Student's t	0.526	0.526	0
Welch-Aspin's t	0.4373	0.4373	0
Yuen	0.3813	0.3813	0
Tukey's Quick	0.3789	0.3789	0
Haga	0	0.5331	0.5331
$\alpha=0.001$			
Student's t	0.2609	0.2609	0
Welch-Aspin's t	0.2002	0.2002	0
Yuen	0.2176	0.2176	0
Tukey's Quick	0.2285	0.2285	0
Haga	0	0.4835	0.4835

Table 549

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9404	0.9404	0
Welch-Aspin's t	0.9367	0.9367	0
Yuen Test	0.9923	0.9923	0
Tukey's Quick Test	0.5688	0.5688	0
Haga Test	0	0.655	0.655
$\alpha=0.01$			
Student's t	0.8582	0.8582	0
Welch-Aspin's t	0.8484	0.8484	0
Yuen	0.9545	0.9545	0
Tukey's Quick	0.4859	0.4859	0
Haga	0	0.5338	0.5338
$\alpha=0.001$			
Student's t	0.6766	0.6766	0
Welch-Aspin's t	0.654	0.654	0
Yuen	0.7898	0.7898	0
Tukey's Quick	0.3682	0.3682	0
Haga	0	0.4166	0.4166

Table 550

T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8572	0.8572	0
Welch-Aspin's t	0.8317	0.8317	0
Yuen Test	0.7397	0.7397	0
Tukey's Quick Test	0.7862	0.7862	0
Haga Test	0	0.7862	0.7862
$\alpha=0.01$			
Student's t	0.6625	0.6625	0
Welch-Aspin's t	0.5927	0.5927	0
Yuen	0.3375	0.3375	0
Tukey's Quick	0.5988	0.5988	0
Haga	0	0.5988	0.5988
$\alpha=0.001$			
Student's t	0.3195	0.3195	0
Welch-Aspin's t	0.2367	0.2367	0
Yuen	0.065	0.065	0
Tukey's Quick	0	0	0
Haga	0	0.5985	0.5985

Table 551

T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9885	0.9885	0
Welch-Aspin's t	0.9878	0.9878	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	0.846	0.846	0
Haga Test	0	0.9473	0.9473
$\alpha=0.01$			
Student's t	0.9721	0.9721	0
Welch-Aspin's t	0.9695	0.9695	0
Yuen	0.9991	0.9991	0
Tukey's Quick	0.8254	0.8254	0
Haga	0	0.9033	0.9033
$\alpha=0.001$			
Student's t	0.9267	0.9267	0
Welch-Aspin's t	0.9168	0.9168	0
Yuen	0.9852	0.9852	0
Tukey's Quick	0.7838	0.7838	0
Haga	0	0.8042	0.8042

Table 552

T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9967	0.9967	0
Welch-Aspin's t	0.9966	0.9966	0
Yuen Test	1	1	0
Tukey's Quick Test	0.808	0.808	0
Haga Test	0	0.925	0.925
$\alpha=0.01$			
Student's t	0.9929	0.9929	0
Welch-Aspin's t	0.9923	0.9923	0
Yuen	1	1	0
Tukey's Quick	0.7903	0.7903	0
Haga	0	0.9042	0.9042
$\alpha=0.001$			
Student's t	0.983	0.983	0
Welch-Aspin's t	0.9811	0.9811	0
Yuen	1	1	0
Tukey's Quick	0.7606	0.7606	0
Haga	0	0.8687	0.8687

Table 553

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9445	0.9445	0
Welch-Aspin's t	0.911	0.911	0
Yuen Test	0.8563	0.8563	0
Tukey's Quick Test	0.808	0.808	0
Haga Test	0	0.847	0.847
$\alpha=0.01$			
Student's t	0.8648	0.8648	0
Welch-Aspin's t	0.7631	0.7631	0
Yuen	0.6279	0.6279	0
Tukey's Quick	0.7575	0.7575	0
Haga	0	0.7312	0.7312
$\alpha=0.001$			
Student's t	0.6733	0.6733	0
Welch-Aspin's t	0.4905	0.4905	0
Yuen	0.3878	0.3878	0
Tukey's Quick	0.5351	0.5351	0
Haga	0	0.6868	0.6868

Table 554

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9613	0.9613	0
Welch-Aspin's t	0.9178	0.9178	0
Yuen Test	0.8331	0.8331	0
Tukey's Quick Test	0.7446	0.7446	0
Haga Test	0	0.8774	0.8774
$\alpha=0.01$			
Student's t	0.9031	0.9031	0
Welch-Aspin's t	0.7684	0.7684	0
Yuen	0.5986	0.5986	0
Tukey's Quick	0.7098	0.7098	0
Haga	0	0.8639	0.8639
$\alpha=0.001$			
Student's t	0.7587	0.7587	0
Welch-Aspin's t	0.4903	0.4903	0
Yuen	0.3579	0.3579	0
Tukey's Quick	0.6359	0.6359	0
Haga	0	0.8474	0.8474

Table 555

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9936	0.9936	0
Welch-Aspin's t	0.9926	0.9926	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8116	0.8116	0
Haga Test	0	0.9212	0.9212
$\alpha=0.01$			
Student's t	0.9851	0.9851	0
Welch-Aspin's t	0.9819	0.9819	0
Yuen	0.9998	0.9998	0
Tukey's Quick	0.7916	0.7916	0
Haga	0	0.8755	0.8755
$\alpha=0.001$			
Student's t	0.9623	0.9623	0
Welch-Aspin's t	0.9515	0.9515	0
Yuen	0.9946	0.9946	0
Tukey's Quick	0.7416	0.7416	0
Haga	0	0.8164	0.8164

Table 556

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0479	0.0553	0.0073
Welch-Aspin's t	0.0411	0.0472	0.0061
Yuen Test	0.0378	0.0452	0.0074
Tukey's Quick Test	0.0381	0.0438	0.0057
Haga Test	0.0057	0.0438	0.0381
$\alpha=0.01$			
Student's t	0.0091	0.0101	0.001
Welch-Aspin's t	0.0069	0.0076	0.0007
Yuen	0.0071	0.0083	0.0012
Tukey's Quick	0.0107	0.012	0.0013
Haga	0.0013	0.012	0.0107
$\alpha=0.001$			
Student's t	0.0008	0.0009	0.0001
Welch-Aspin's t	0.0005	0.0005	0
Yuen	0.0007	0.0008	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0013	0.0123	0.0111

Table 557

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0848	0.0888	0.004
Welch-Aspin's t	0.0828	0.0867	0.0038
Yuen Test	0.0981	0.1017	0.0037
Tukey's Quick Test	0.0639	0.0708	0.0069
Haga Test	0.007	0.0737	0.0667
$\alpha=0.01$			
Student's t	0.0209	0.0212	0.0004
Welch-Aspin's t	0.0198	0.0201	0.0004
Yuen	0.0252	0.0257	0.0005
Tukey's Quick	0.015	0.0155	0.0006
Haga	0.0006	0.0156	0.015
$\alpha=0.001$			
Student's t	0.0024	0.0024	0
Welch-Aspin's t	0.0021	0.0021	0
Yuen	0.0033	0.0033	0
Tukey's Quick	0.0029	0.003	0.0001
Haga	0.0001	0.003	0.0029

Table 558

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1144	0.1168	0.0025
Welch-Aspin's t	0.1132	0.1156	0.0024
Yuen Test	0.1455	0.1474	0.0019
Tukey's Quick Test	0.0654	0.0733	0.0079
Haga Test	0.0036	0.0488	0.0452
$\alpha=0.01$			
Student's t	0.032	0.0322	0.0003
Welch-Aspin's t	0.0312	0.0314	0.0002
Yuen	0.0449	0.0452	0.0002
Tukey's Quick	0.0171	0.0179	0.0007
Haga	0.0008	0.0185	0.0178
$\alpha=0.001$			
Student's t	0.0044	0.0044	0
Welch-Aspin's t	0.0042	0.0042	0
Yuen	0.0071	0.0071	0
Tukey's Quick	0.0023	0.0023	0
Haga	0	0.004	0.0039

Table 559

T Distribution, $n_1=5, n_2=15, Effect Size=0.2\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0713	0.0817	0.0104
Welch-Aspin's t	0.0571	0.0635	0.0064
Yuen Test	0.0737	0.0847	0.011
Tukey's Quick Test	0.0627	0.0718	0.0091
Haga Test	0.0021	0.0256	0.0234
$\alpha=0.01$			
Student's t	0.0178	0.0195	0.0017
Welch-Aspin's t	0.014	0.0151	0.0011
Yuen	0.0256	0.0287	0.0032
Tukey's Quick	0.0143	0.0154	0.0011
Haga	0.0006	0.0092	0.0086
$\alpha=0.001$			
Student's t	0.0023	0.0024	0.0001
Welch-Aspin's t	0.0022	0.0023	0.0001
Yuen	0.0059	0.0065	0.0006
Tukey's Quick	0.0015	0.0016	0.0001
Haga	0.0003	0.0053	0.005

Table 560

T Distribution, $n_1=5$, $n_2=25$, Effect Size=0.2 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.078	0.0916	0.0136
Welch-Aspin's t	0.0614	0.0677	0.0064
Yuen Test	0.0842	0.0968	0.0127
Tukey's Quick Test	0.0564	0.0652	0.0088
Haga Test	0.0023	0.0306	0.0283
$\alpha=0.01$			
Student's t	0.023	0.0257	0.0027
Welch-Aspin's t	0.0164	0.0176	0.0011
Yuen	0.035	0.0394	0.0044
Tukey's Quick	0.0156	0.0168	0.0012
Haga	0.0015	0.022	0.0205
$\alpha=0.001$			
Student's t	0.0037	0.0041	0.0003
Welch-Aspin's t	0.0033	0.0034	0.0002
Yuen	0.0124	0.0136	0.0012
Tukey's Quick	0.0024	0.0025	0.0001
Haga	0.001	0.0155	0.0145

Table 561

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.102	0.106	0.004
Welch-Aspin's t	0.0937	0.0968	0.0031
Yuen Test	0.115	0.1179	0.003
Tukey's Quick Test	0.0502	0.0549	0.0048
Haga Test	0.0025	0.0406	0.0381
$\alpha=0.01$			
Student's t	0.0283	0.0287	0.0004
Welch-Aspin's t	0.0241	0.0244	0.0003
Yuen	0.033	0.0334	0.0004
Tukey's Quick	0.0152	0.0158	0.0005
Haga	0.0003	0.0109	0.0106
$\alpha=0.001$			
Student's t	0.0038	0.0038	0
Welch-Aspin's t	0.0029	0.0029	0
Yuen	0.0051	0.0051	0
Tukey's Quick	0.0026	0.0026	0
Haga	0	0.0027	0.0027

Table 562

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1347	0.136	0.0014
Welch-Aspin's t	0.1185	0.1196	0.0011
Yuen Test	0.0963	0.098	0.0017
Tukey's Quick Test	0.1096	0.1106	0.0011
Haga Test	0.0011	0.1106	0.1096
$\alpha=0.01$			
Student's t	0.0346	0.0348	0.0002
Welch-Aspin's t	0.0266	0.0267	0.0001
Yuen	0.02	0.0203	0.0003
Tukey's Quick	0.038	0.0382	0.0002
Haga	0.0002	0.0382	0.038
$\alpha=0.001$			
Student's t	0.0041	0.0041	0
Welch-Aspin's t	0.0026	0.0026	0
Yuen	0.0022	0.0022	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0384	0.0382

Table 563

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3187	0.3188	0.0002
Welch-Aspin's t	0.3139	0.314	0.0001
Yuen Test	0.3927	0.3928	0.0001
Tukey's Quick Test	0.1906	0.1914	0.0008
Haga Test	0.0008	0.2068	0.206
$\alpha=0.01$			
Student's t	0.1337	0.1337	0
Welch-Aspin's t	0.1286	0.1286	0
Yuen	0.167	0.167	0
Tukey's Quick	0.0784	0.0784	0
Haga	0	0.0797	0.0797
$\alpha=0.001$			
Student's t	0.0304	0.0304	0
Welch-Aspin's t	0.028	0.028	0
Yuen	0.0367	0.0367	0
Tukey's Quick	0.0262	0.0262	0
Haga	0	0.0262	0.0262

Table 564

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4606	0.4606	0
Welch-Aspin's t	0.4581	0.4581	0
Yuen Test	0.6127	0.6127	0
Tukey's Quick Test	0.183	0.184	0.0011
Haga Test	0.0003	0.1613	0.161
$\alpha=0.01$			
Student's t	0.24	0.24	0
Welch-Aspin's t	0.2365	0.2365	0
Yuen	0.3538	0.3538	0
Tukey's Quick	0.085	0.0851	0
Haga	0	0.0918	0.0918
$\alpha=0.001$			
Student's t	0.0754	0.0754	0
Welch-Aspin's t	0.0727	0.0727	0
Yuen	0.1221	0.1221	0
Tukey's Quick	0.0249	0.0249	0
Haga	0	0.0354	0.0354

Table 565

T Distribution, $n_1=5, n_2=15, Effect Size=0.5\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2023	0.2043	0.0019
Welch-Aspin's t	0.1752	0.1759	0.0008
Yuen Test	0.1955	0.1973	0.0019
Tukey's Quick Test	0.1674	0.1688	0.0014
Haga Test	0.0002	0.0897	0.0895
$\alpha=0.01$			
Student's t	0.072	0.0722	0.0002
Welch-Aspin's t	0.058	0.0581	0.0001
Yuen	0.0816	0.082	0.0004
Tukey's Quick	0.0607	0.0608	0.0001
Haga	0.0001	0.0414	0.0413
$\alpha=0.001$			
Student's t	0.0133	0.0133	0
Welch-Aspin's t	0.0123	0.0124	0
Yuen	0.0235	0.0236	0.0001
Tukey's Quick	0.0093	0.0093	0
Haga	0	0.0263	0.0263

Table 566

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2164	0.2197	0.0033
Welch-Aspin's t	0.1908	0.1915	0.0007
Yuen Test	0.2136	0.2156	0.002
Tukey's Quick Test	0.1436	0.1451	0.0015
Haga Test	0.0002	0.1094	0.1092
$\alpha=0.01$			
Student's t	0.0854	0.0859	0.0005
Welch-Aspin's t	0.0679	0.068	0.0001
Yuen	0.1028	0.1034	0.0007
Tukey's Quick	0.0625	0.0627	0.0001
Haga	0.0001	0.0859	0.0858
$\alpha=0.001$			
Student's t	0.0194	0.0195	0.0001
Welch-Aspin's t	0.0177	0.0177	0
Yuen	0.0431	0.0433	0.0002
Tukey's Quick	0.0152	0.0152	0
Haga	0.0001	0.066	0.0659

Table 567

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.383	0.3832	0.0001
Welch-Aspin's t	0.367	0.3671	0.0001
Yuen Test	0.469	0.4691	0
Tukey's Quick Test	0.1571	0.1576	0.0005
Haga Test	0.0002	0.1448	0.1446
$\alpha=0.01$			
Student's t	0.1823	0.1823	0
Welch-Aspin's t	0.1656	0.1656	0
Yuen	0.2272	0.2272	0
Tukey's Quick	0.0769	0.0769	0
Haga	0	0.0657	0.0657
$\alpha=0.001$			
Student's t	0.0505	0.0505	0
Welch-Aspin's t	0.0422	0.0422	0
Yuen	0.063	0.063	0
Tukey's Quick	0.0256	0.0256	0
Haga	0	0.027	0.027

Table 568

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2801	0.2803	0.0002
Welch-Aspin's t	0.2526	0.2528	0.0001
Yuen Test	0.1954	0.1957	0.0003
Tukey's Quick Test	0.2317	0.2318	0.0001
Haga Test	0.0001	0.2318	0.2317
$\alpha=0.01$			
Student's t	0.0962	0.0963	0
Welch-Aspin's t	0.0763	0.0763	0
Yuen	0.0472	0.0472	0
Tukey's Quick	0.0976	0.0976	0
Haga	0	0.0976	0.0976
$\alpha=0.001$			
Student's t	0.0152	0.0152	0
Welch-Aspin's t	0.0099	0.0099	0
Yuen	0.0053	0.0053	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0984	0.0984

Table 569

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6274	0.6274	0
Welch-Aspin's t	0.6221	0.6221	0
Yuen Test	0.7541	0.7541	0
Tukey's Quick Test	0.3724	0.3725	0.0001
Haga Test	0.0001	0.4179	0.4178
$\alpha=0.01$			
Student's t	0.3926	0.3926	0
Welch-Aspin's t	0.3829	0.3829	0
Yuen	0.488	0.488	0
Tukey's Quick	0.2257	0.2257	0
Haga	0	0.2337	0.2337
$\alpha=0.001$			
Student's t	0.1575	0.1575	0
Welch-Aspin's t	0.1478	0.1478	0
Yuen	0.1844	0.1844	0
Tukey's Quick	0.1137	0.1137	0
Haga	0	0.1139	0.1139

Table 570

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8033	0.8033	0
Welch-Aspin's t	0.8013	0.8013	0
Yuen Test	0.9404	0.9404	0
Tukey's Quick Test	0.3495	0.3496	0.0001
Haga Test	0	0.3613	0.3612
$\alpha=0.01$			
Student's t	0.6174	0.6174	0
Welch-Aspin's t	0.6126	0.6126	0
Yuen	0.8103	0.8103	0
Tukey's Quick	0.2305	0.2305	0
Haga	0	0.2599	0.2599
$\alpha=0.001$			
Student's t	0.3514	0.3514	0
Welch-Aspin's t	0.3434	0.3434	0
Yuen	0.5245	0.5245	0
Tukey's Quick	0.1149	0.1149	0
Haga	0	0.1484	0.1484

Table 571

T Distribution, $n_1=5$, $n_2=15$, Effect Size=0.8 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4096	0.4099	0.0003
Welch-Aspin's t	0.3628	0.3629	0.0001
Yuen Test	0.3632	0.3635	0.0003
Tukey's Quick Test	0.3202	0.3204	0.0002
Haga Test	0	0.2246	0.2246
$\alpha=0.01$			
Student's t	0.1976	0.1976	0
Welch-Aspin's t	0.1571	0.1571	0
Yuen	0.1792	0.1793	0.0001
Tukey's Quick	0.1656	0.1656	0
Haga	0	0.1261	0.1261
$\alpha=0.001$			
Student's t	0.0543	0.0543	0
Welch-Aspin's t	0.0448	0.0448	0
Yuen	0.0653	0.0653	0
Tukey's Quick	0.038	0.038	0
Haga	0	0.0898	0.0897

Table 572

T Distribution, $n_1=5$, $n_2=25$, Effect Size=0.8 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4367	0.4375	0.0008
Welch-Aspin's t	0.3869	0.3869	0.0001
Yuen Test	0.375	0.3753	0.0003
Tukey's Quick Test	0.2718	0.2719	0.0002
Haga Test	0	0.2692	0.2692
$\alpha=0.01$			
Student's t	0.2282	0.2283	0.0001
Welch-Aspin's t	0.1759	0.1759	0
Yuen	0.2018	0.2019	0.0001
Tukey's Quick	0.1653	0.1653	0
Haga	0	0.2302	0.2302
$\alpha=0.001$			
Student's t	0.0738	0.0738	0
Welch-Aspin's t	0.0584	0.0584	0
Yuen	0.0994	0.0994	0
Tukey's Quick	0.0621	0.0621	0
Haga	0	0.1912	0.1912

Table 573

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7126	0.7126	0
Welch-Aspin's t	0.6962	0.6962	0
Yuen Test	0.8337	0.8337	0
Tukey's Quick Test	0.3225	0.3225	0
Haga Test	0	0.3327	0.3327
$\alpha=0.01$			
Student's t	0.4976	0.4976	0
Welch-Aspin's t	0.4684	0.4684	0
Yuen	0.6031	0.6031	0
Tukey's Quick	0.2131	0.2131	0
Haga	0	0.2068	0.2068
$\alpha=0.001$			
Student's t	0.2419	0.2419	0
Welch-Aspin's t	0.2119	0.2119	0
Yuen	0.2874	0.2874	0
Tukey's Quick	0.1101	0.1101	0
Haga	0	0.119	0.119

Table 574

T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5138	0.5138	0
Welch-Aspin's t	0.4769	0.4769	0
Yuen Test	0.3731	0.3731	0
Tukey's Quick Test	0.4387	0.4387	0
Haga Test	0	0.4387	0.4387
$\alpha=0.01$			
Student's t	0.2468	0.2468	0
Welch-Aspin's t	0.2034	0.2034	0
Yuen	0.1098	0.1098	0
Tukey's Quick	0.2334	0.2334	0
Haga	0	0.2334	0.2334
$\alpha=0.001$			
Student's t	0.0579	0.0579	0
Welch-Aspin's t	0.0392	0.0392	0
Yuen	0.0145	0.0145	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.2339	0.2339

Table 575

T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8823	0.8823	0
Welch-Aspin's t	0.8789	0.8789	0
Yuen Test	0.9675	0.9675	0
Tukey's Quick Test	0.5982	0.5982	0
Haga Test	0	0.6906	0.6906
$\alpha=0.01$			
Student's t	0.744	0.744	0
Welch-Aspin's t	0.7341	0.7341	0
Yuen	0.8654	0.8654	0
Tukey's Quick	0.4858	0.4858	0
Haga	0	0.5188	0.5188
$\alpha=0.001$			
Student's t	0.4944	0.4944	0
Welch-Aspin's t	0.4753	0.4753	0
Yuen	0.576	0.576	0
Tukey's Quick	0.3455	0.3455	0
Haga	0	0.3473	0.3473

Table 576

T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9623	0.9623	0
Welch-Aspin's t	0.9616	0.9616	0
Yuen Test	0.999	0.999	0
Tukey's Quick Test	0.5562	0.5562	0
Haga Test	0	0.6366	0.6366
$\alpha=0.01$			
Student's t	0.9081	0.9081	0
Welch-Aspin's t	0.9052	0.9052	0
Yuen	0.9916	0.9916	0
Tukey's Quick	0.471	0.471	0
Haga	0	0.5504	0.5504
$\alpha=0.001$			
Student's t	0.7751	0.7751	0
Welch-Aspin's t	0.767	0.767	0
Yuen	0.9393	0.9393	0
Tukey's Quick	0.3499	0.3499	0
Haga	0	0.4249	0.4249

Table 577

T Distribution, $n_1=5$, $n_2=15$, Effect Size=1.2 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6865	0.6865	0
Welch-Aspin's t	0.6177	0.6177	0
Yuen Test	0.5746	0.5746	0
Tukey's Quick Test	0.5312	0.5312	0
Haga Test	0	0.4708	0.4708
$\alpha=0.01$			
Student's t	0.4579	0.4579	0
Welch-Aspin's t	0.3579	0.3579	0
Yuen	0.3354	0.3354	0
Tukey's Quick	0.3809	0.3809	0
Haga	0	0.3252	0.3252
$\alpha=0.001$			
Student's t	0.1983	0.1983	0
Welch-Aspin's t	0.1407	0.1407	0
Yuen	0.1586	0.1586	0
Tukey's Quick	0.1415	0.1415	0
Haga	0	0.2612	0.2612

Table 578

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.725	0.7252	0.0001
Welch-Aspin's t	0.6399	0.6399	0
Yuen Test	0.5655	0.5655	0
Tukey's Quick Test	0.4619	0.4619	0
Haga Test	0	0.5342	0.5342
$\alpha=0.01$			
Student's t	0.5132	0.5132	0
Welch-Aspin's t	0.3783	0.3783	0
Yuen	0.3338	0.3338	0
Tukey's Quick	0.3642	0.3642	0
Haga	0	0.4926	0.4926
$\alpha=0.001$			
Student's t	0.2564	0.2564	0
Welch-Aspin's t	0.1614	0.1614	0
Yuen	0.1862	0.1862	0
Tukey's Quick	0.2132	0.2132	0
Haga	0	0.4457	0.4457

Table 579

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9274	0.9274	0
Welch-Aspin's t	0.9178	0.9178	0
Yuen Test	0.9856	0.9856	0
Tukey's Quick Test	0.5468	0.5468	0
Haga Test	0	0.6052	0.6052
$\alpha=0.01$			
Student's t	0.8337	0.8337	0
Welch-Aspin's t	0.8093	0.8093	0
Yuen	0.9257	0.9257	0
Tukey's Quick	0.4533	0.4533	0
Haga	0	0.477	0.477
$\alpha=0.001$			
Student's t	0.6375	0.6375	0
Welch-Aspin's t	0.5887	0.5887	0
Yuen	0.7132	0.7132	0
Tukey's Quick	0.3274	0.3274	0
Haga	0	0.361	0.361

Table 580

T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8361	0.8361	0
Welch-Aspin's t	0.808	0.808	0
Yuen Test	0.7068	0.7068	0
Tukey's Quick Test	0.761	0.761	0
Haga Test	0	0.761	0.761
$\alpha=0.01$			
Student's t	0.6236	0.6236	0
Welch-Aspin's t	0.5531	0.5531	0
Yuen	0.3093	0.3093	0
Tukey's Quick	0.5628	0.5628	0
Haga	0	0.5628	0.5628
$\alpha=0.001$			
Student's t	0.2813	0.2813	0
Welch-Aspin's t	0.2063	0.2063	0
Yuen	0.0573	0.0573	0
Tukey's Quick	0	0	0
Haga	0	0.5633	0.5633

Table 581

T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9858	0.9858	0
Welch-Aspin's t	0.985	0.985	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	0.829	0.829	0
Haga Test	0	0.9356	0.9356
$\alpha=0.01$			
Student's t	0.9655	0.9655	0
Welch-Aspin's t	0.9622	0.9622	0
Yuen	0.9983	0.9983	0
Tukey's Quick	0.8036	0.8036	0
Haga	0	0.8825	0.8825
$\alpha=0.001$			
Student's t	0.9086	0.9086	0
Welch-Aspin's t	0.8973	0.8973	0
Yuen	0.9755	0.9755	0
Tukey's Quick	0.7554	0.7554	0
Haga	0	0.7732	0.7732

Table 582

T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.996	0.996	0
Welch-Aspin's t	0.9958	0.9958	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7894	0.7894	0
Haga Test	0	0.9103	0.9103
$\alpha=0.01$			
Student's t	0.9911	0.9911	0
Welch-Aspin's t	0.9905	0.9905	0
Yuen	1	1	0
Tukey's Quick	0.7681	0.7681	0
Haga	0	0.8861	0.8861
$\alpha=0.001$			
Student's t	0.9783	0.9783	0
Welch-Aspin's t	0.9761	0.9761	0
Yuen	1	1	0
Tukey's Quick	0.7328	0.7328	0
Haga	0	0.844	0.844

Table 583

T Distribution, $n_1=5, n_2=15, Effect Size=2.0\sigma, Scale=1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9358	0.9358	0
Welch-Aspin's t	0.886	0.886	0
Yuen Test	0.8136	0.8136	0
Tukey's Quick Test	0.7961	0.7961	0
Haga Test	0	0.8197	0.8197
$\alpha=0.01$			
Student's t	0.8491	0.8491	0
Welch-Aspin's t	0.7095	0.7095	0
Yuen	0.5706	0.5706	0
Tukey's Quick	0.7353	0.7353	0
Haga	0	0.706	0.706
$\alpha=0.001$			
Student's t	0.6487	0.6487	0
Welch-Aspin's t	0.4232	0.4232	0
Yuen	0.3407	0.3407	0
Tukey's Quick	0.5035	0.5035	0
Haga	0	0.6582	0.6582

Table 584

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.954	0.954	0
Welch-Aspin's t	0.892	0.892	0
Yuen Test	0.7869	0.7869	0
Tukey's Quick Test	0.7376	0.7376	0
Haga Test	0	0.8486	0.8486
$\alpha=0.01$			
Student's t	0.8907	0.8907	0
Welch-Aspin's t	0.7128	0.7128	0
Yuen	0.5397	0.5397	0
Tukey's Quick	0.696	0.696	0
Haga	0	0.8334	0.8334
$\alpha=0.001$			
Student's t	0.7407	0.7407	0
Welch-Aspin's t	0.4197	0.4197	0
Yuen	0.3126	0.3126	0
Tukey's Quick	0.6109	0.6109	0
Haga	0	0.8146	0.8146

Table 585

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9922	0.9922	0
Welch-Aspin's t	0.9901	0.9901	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8018	0.8018	0
Haga Test	0	0.9015	0.9015
$\alpha=0.01$			
Student's t	0.9822	0.9822	0
Welch-Aspin's t	0.976	0.976	0
Yuen	0.9993	0.9993	0
Tukey's Quick	0.7756	0.7756	0
Haga	0	0.8437	0.8437
$\alpha=0.001$			
Student's t	0.9542	0.9542	0
Welch-Aspin's t	0.9343	0.9343	0
Yuen	0.9873	0.9873	0
Tukey's Quick	0.7128	0.7128	0
Haga	0	0.7732	0.7732

Table 586

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0385	0.058	0.0196
Welch-Aspin's t	0.0274	0.041	0.0136
Yuen Test	0.0348	0.0552	0.0203
Tukey's Quick Test	0.0328	0.0494	0.0166
Haga Test	0.0166	0.0494	0.0328
$\alpha=0.01$			
Student's t	0.0091	0.0135	0.0044
Welch-Aspin's t	0.0054	0.008	0.0026
Yuen	0.009	0.0139	0.005
Tukey's Quick	0.0138	0.0208	0.007
Haga	0.007	0.0208	0.0138
$\alpha=0.001$			
Student's t	0.0014	0.0019	0.0006
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0012	0.0018	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	0.0067	0.0205	0.0138

Table 587

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0423	0.0559	0.0137
Welch-Aspin's t	0.0373	0.049	0.0117
Yuen Test	0.0433	0.057	0.0137
Tukey's Quick Test	0.023	0.0342	0.0112
Haga Test	0.0225	0.0768	0.0543
$\alpha=0.01$			
Student's t	0.0092	0.0115	0.0023
Welch-Aspin's t	0.0069	0.0084	0.0016
Yuen	0.01	0.0127	0.0027
Tukey's Quick	0.0058	0.0075	0.0017
Haga	0.0021	0.0095	0.0074
$\alpha=0.001$			
Student's t	0.0011	0.0013	0.0002
Welch-Aspin's t	0.0006	0.0007	0.0001
Yuen	0.0014	0.0017	0.0003
Tukey's Quick	0.0008	0.001	0.0002
Haga	0.0002	0.001	0.0008

Table 588

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0465	0.0577	0.0113
Welch-Aspin's t	0.043	0.0532	0.0102
Yuen Test	0.0508	0.0615	0.0108
Tukey's Quick Test	0.0223	0.0362	0.0139
Haga Test	0.0355	0.1224	0.0869
$\alpha=0.01$			
Student's t	0.0104	0.012	0.0016
Welch-Aspin's t	0.0086	0.0099	0.0013
Yuen	0.0118	0.0135	0.0017
Tukey's Quick	0.0114	0.0165	0.0052
Haga	0.0121	0.048	0.0359
$\alpha=0.001$			
Student's t	0.0012	0.0013	0.0001
Welch-Aspin's t	0.0007	0.0008	0.0001
Yuen	0.0015	0.0017	0.0002
Tukey's Quick	0.002	0.0025	0.0005
Haga	0.0016	0.0081	0.0065

Table 589

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1505	0.2421	0.0916
Welch-Aspin's t	0.0281	0.0422	0.0141
Yuen Test	0.0418	0.0672	0.0254
Tukey's Quick Test	0.0512	0.0789	0.0277
Haga Test	0.0171	0.0506	0.0335
$\alpha=0.01$			
Student's t	0.0717	0.1111	0.0394
Welch-Aspin's t	0.0065	0.0097	0.0031
Yuen	0.0179	0.0286	0.0108
Tukey's Quick	0.0286	0.0428	0.0142
Haga	0.0116	0.0353	0.0237
$\alpha=0.001$			
Student's t	0.0239	0.0356	0.0117
Welch-Aspin's t	0.0013	0.0019	0.0006
Yuen	0.0074	0.0116	0.0042
Tukey's Quick	0.0109	0.0159	0.005
Haga	0.0092	0.0282	0.019

Table 590

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2071	0.3427	0.1357
Welch-Aspin's t	0.0274	0.0412	0.0138
Yuen Test	0.0396	0.0639	0.0243
Tukey's Quick Test	0.0521	0.0803	0.0282
Haga Test	0.0181	0.0535	0.0355
$\alpha=0.01$			
Student's t	0.1225	0.1952	0.0727
Welch-Aspin's t	0.0061	0.009	0.0029
Yuen	0.0172	0.0278	0.0106
Tukey's Quick	0.0307	0.0463	0.0156
Haga	0.0164	0.0485	0.0321
$\alpha=0.001$			
Student's t	0.0551	0.0846	0.0295
Welch-Aspin's t	0.0012	0.0018	0.0006
Yuen	0.0077	0.0124	0.0047
Tukey's Quick	0.0165	0.0243	0.0078
Haga	0.0142	0.0429	0.0287

Table 591

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0922	0.1277	0.0355
Welch-Aspin's t	0.037	0.0485	0.0115
Yuen Test	0.0434	0.0568	0.0134
Tukey's Quick Test	0.0171	0.024	0.0069
Haga Test	0.0041	0.0166	0.0125
$\alpha=0.01$			
Student's t	0.0319	0.0414	0.0094
Welch-Aspin's t	0.0069	0.0084	0.0015
Yuen	0.0102	0.0128	0.0026
Tukey's Quick	0.0032	0.0039	0.0008
Haga	0.0004	0.0022	0.0018
$\alpha=0.001$			
Student's t	0.0068	0.0084	0.0016
Welch-Aspin's t	0.0006	0.0007	0.0001
Yuen	0.0016	0.0019	0.0003
Tukey's Quick	0.0005	0.0006	0.0001
Haga	0.0001	0.0006	0.0005

Table 592

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.059	0.0706	0.0116
Welch-Aspin's t	0.0428	0.0507	0.008
Yuen Test	0.0501	0.0633	0.0132
Tukey's Quick Test	0.0509	0.0608	0.0099
Haga Test	0.0099	0.0608	0.0509
$\alpha=0.01$			
Student's t	0.0157	0.0181	0.0024
Welch-Aspin's t	0.0093	0.0107	0.0014
Yuen	0.0132	0.0164	0.0031
Tukey's Quick	0.0229	0.0268	0.0039
Haga	0.0039	0.0268	0.0229
$\alpha=0.001$			
Student's t	0.0024	0.0027	0.0003
Welch-Aspin's t	0.0013	0.0014	0.0001
Yuen	0.0019	0.0023	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0038	0.0267	0.0229

Table 593

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0843	0.0894	0.0051
Welch-Aspin's t	0.0755	0.0798	0.0042
Yuen Test	0.0898	0.0948	0.0051
Tukey's Quick Test	0.0364	0.0425	0.0061
Haga Test	0.0109	0.1062	0.0953
$\alpha=0.01$			
Student's t	0.0229	0.0236	0.0007
Welch-Aspin's t	0.0176	0.0181	0.0005
Yuen	0.024	0.0248	0.0008
Tukey's Quick	0.0125	0.0131	0.0006
Haga	0.0007	0.0173	0.0166
$\alpha=0.001$			
Student's t	0.0034	0.0034	0
Welch-Aspin's t	0.0019	0.002	0
Yuen	0.0038	0.0038	0.0001
Tukey's Quick	0.0024	0.0024	0
Haga	0	0.0024	0.0024

Table 594

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1082	0.1114	0.0032
Welch-Aspin's t	0.1017	0.1045	0.0028
Yuen Test	0.1263	0.1289	0.0027
Tukey's Quick Test	0.031	0.0404	0.0095
Haga Test	0.017	0.1727	0.1557
$\alpha=0.01$			
Student's t	0.0313	0.0317	0.0004
Welch-Aspin's t	0.0268	0.027	0.0003
Yuen	0.0373	0.0376	0.0004
Tukey's Quick	0.0189	0.0214	0.0026
Haga	0.005	0.0788	0.0739
$\alpha=0.001$			
Student's t	0.0049	0.0049	0
Welch-Aspin's t	0.0033	0.0033	0
Yuen	0.0058	0.0059	0
Tukey's Quick	0.0048	0.0049	0.0001
Haga	0.0004	0.0171	0.0167

Table 595

T Distribution, $n_1=5, n_2=15, Effect Size=0.5\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2074	0.2683	0.0609
Welch-Aspin's t	0.0441	0.0523	0.0083
Yuen Test	0.0586	0.0756	0.0169
Tukey's Quick Test	0.077	0.0936	0.0166
Haga Test	0.0099	0.0625	0.0526
$\alpha=0.01$			
Student's t	0.1069	0.1309	0.024
Welch-Aspin's t	0.0108	0.0125	0.0017
Yuen	0.0254	0.0325	0.0071
Tukey's Quick	0.0448	0.0529	0.0081
Haga	0.0065	0.0445	0.038
$\alpha=0.001$			
Student's t	0.0395	0.0459	0.0064
Welch-Aspin's t	0.0023	0.0026	0.0003
Yuen	0.0106	0.0133	0.0026
Tukey's Quick	0.0184	0.0211	0.0027
Haga	0.0051	0.0366	0.0315

Table 596

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2738	0.3691	0.0954
Welch-Aspin's t	0.043	0.0509	0.008
Yuen Test	0.0552	0.0716	0.0164
Tukey's Quick Test	0.0785	0.0958	0.0173
Haga Test	0.0107	0.0663	0.0556
$\alpha=0.01$			
Student's t	0.1721	0.2196	0.0475
Welch-Aspin's t	0.0102	0.0118	0.0016
Yuen	0.0239	0.0308	0.0069
Tukey's Quick	0.0482	0.0571	0.0089
Haga	0.0094	0.0599	0.0506
$\alpha=0.001$			
Student's t	0.0852	0.1031	0.0179
Welch-Aspin's t	0.0021	0.0025	0.0003
Yuen	0.0106	0.0135	0.0029
Tukey's Quick	0.0279	0.0324	0.0045
Haga	0.0084	0.0548	0.0463

Table 597

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1649	0.1802	0.0153
Welch-Aspin's t	0.0772	0.0813	0.0041
Yuen Test	0.0904	0.0953	0.0049
Tukey's Quick Test	0.0311	0.0342	0.0031
Haga Test	0.0016	0.0282	0.0266
$\alpha=0.01$			
Student's t	0.068	0.0714	0.0034
Welch-Aspin's t	0.0179	0.0183	0.0004
Yuen	0.0245	0.0253	0.0008
Tukey's Quick	0.0076	0.0078	0.0002
Haga	0.0001	0.0048	0.0047
$\alpha=0.001$			
Student's t	0.018	0.0183	0.0004
Welch-Aspin's t	0.002	0.0021	0
Yuen	0.004	0.0041	0.0001
Tukey's Quick	0.0014	0.0014	0
Haga	0	0.0014	0.0014

Table 598

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0877	0.0944	0.0066
Welch-Aspin's t	0.0641	0.0686	0.0045
Yuen Test	0.0696	0.0779	0.0083
Tukey's Quick Test	0.0753	0.0809	0.0056
Haga Test	0.0056	0.0809	0.0753
$\alpha=0.01$			
Student's t	0.0252	0.0265	0.0012
Welch-Aspin's t	0.015	0.0157	0.0007
Yuen	0.0191	0.0211	0.0019
Tukey's Quick	0.0356	0.0377	0.0021
Haga	0.0021	0.0377	0.0356
$\alpha=0.001$			
Student's t	0.0043	0.0044	0.0001
Welch-Aspin's t	0.0022	0.0023	0.0001
Yuen	0.0029	0.0031	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0021	0.0377	0.0356

Table 599

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1518	0.1535	0.0017
Welch-Aspin's t	0.1385	0.1399	0.0014
Yuen Test	0.1633	0.1649	0.0016
Tukey's Quick Test	0.0557	0.059	0.0032
Haga Test	0.005	0.1629	0.1579
$\alpha=0.01$			
Student's t	0.0495	0.0497	0.0002
Welch-Aspin's t	0.0394	0.0395	0.0001
Yuen	0.0511	0.0514	0.0003
Tukey's Quick	0.0243	0.0245	0.0002
Haga	0.0003	0.0341	0.0338
$\alpha=0.001$			
Student's t	0.0092	0.0092	0
Welch-Aspin's t	0.0056	0.0056	0
Yuen	0.0092	0.0093	0
Tukey's Quick	0.006	0.006	0
Haga	0	0.0061	0.0061

Table 600

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2086	0.2093	0.0007
Welch-Aspin's t	0.1987	0.1993	0.0006
Yuen Test	0.2545	0.255	0.0005
Tukey's Quick Test	0.0417	0.0478	0.006
Haga Test	0.0079	0.2594	0.2515
$\alpha=0.01$			
Student's t	0.077	0.077	0
Welch-Aspin's t	0.0674	0.0675	0
Yuen	0.0939	0.0939	0
Tukey's Quick	0.0295	0.0307	0.0012
Haga	0.0019	0.1385	0.1365
$\alpha=0.001$			
Student's t	0.0161	0.0161	0
Welch-Aspin's t	0.0117	0.0117	0
Yuen	0.0191	0.0191	0
Tukey's Quick	0.0105	0.0105	0
Haga	0.0001	0.0389	0.0388

Table 601

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2743	0.3134	0.0391
Welch-Aspin's t	0.066	0.0705	0.0045
Yuen Test	0.0786	0.0892	0.0106
Tukey's Quick Test	0.1101	0.1198	0.0097
Haga Test	0.0055	0.0843	0.0788
$\alpha=0.01$			
Student's t	0.1523	0.1666	0.0143
Welch-Aspin's t	0.0169	0.0178	0.0009
Yuen	0.0347	0.039	0.0043
Tukey's Quick	0.0674	0.072	0.0045
Haga	0.0036	0.0614	0.0579
$\alpha=0.001$			
Student's t	0.0614	0.0651	0.0037
Welch-Aspin's t	0.0037	0.0038	0.0002
Yuen	0.0148	0.0165	0.0017
Tukey's Quick	0.0299	0.0314	0.0015
Haga	0.0028	0.0518	0.0489

Table 602

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3492	0.4136	0.0644
Welch-Aspin's t	0.065	0.0694	0.0044
Yuen Test	0.0741	0.0846	0.0105
Tukey's Quick Test	0.1117	0.1216	0.01
Haga Test	0.0059	0.0885	0.0826
$\alpha=0.01$			
Student's t	0.2329	0.2631	0.0302
Welch-Aspin's t	0.0161	0.0169	0.0008
Yuen	0.0322	0.0367	0.0044
Tukey's Quick	0.0728	0.0777	0.0049
Haga	0.0051	0.0812	0.0761
$\alpha=0.001$			
Student's t	0.1249	0.1355	0.0106
Welch-Aspin's t	0.0034	0.0036	0.0002
Yuen	0.0143	0.0163	0.002
Tukey's Quick	0.0443	0.0468	0.0025
Haga	0.0046	0.0749	0.0703

Table 603

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.263	0.2689	0.0059
Welch-Aspin's t	0.141	0.1423	0.0013
Yuen Test	0.1655	0.167	0.0016
Tukey's Quick Test	0.052	0.0534	0.0014
Haga Test	0.0006	0.0517	0.0511
$\alpha=0.01$			
Student's t	0.1276	0.1287	0.001
Welch-Aspin's t	0.0407	0.0408	0.0001
Yuen	0.052	0.0522	0.0002
Tukey's Quick	0.0164	0.0165	0.0001
Haga	0	0.011	0.011
$\alpha=0.001$			
Student's t	0.041	0.0411	0.0001
Welch-Aspin's t	0.0058	0.0058	0
Yuen	0.0095	0.0095	0
Tukey's Quick	0.0039	0.0039	0
Haga	0	0.0039	0.0039

Table 604

T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1387	0.1416	0.0029
Welch-Aspin's t	0.1038	0.1058	0.0019
Yuen Test	0.1031	0.1074	0.0043
Tukey's Quick Test	0.1194	0.1219	0.0025
Haga Test	0.0025	0.1219	0.1194
$\alpha=0.01$			
Student's t	0.0443	0.0449	0.0005
Welch-Aspin's t	0.0269	0.0272	0.0003
Yuen	0.0296	0.0306	0.001
Tukey's Quick	0.0604	0.0613	0.0009
Haga	0.0009	0.0613	0.0604
$\alpha=0.001$			
Student's t	0.0081	0.0082	0
Welch-Aspin's t	0.0041	0.0042	0
Yuen	0.0046	0.0047	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0612	0.0604

Table 605

T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2766	0.2769	0.0003
Welch-Aspin's t	0.2574	0.2576	0.0003
Yuen Test	0.3051	0.3054	0.0004
Tukey's Quick Test	0.0889	0.0902	0.0013
Haga Test	0.0018	0.2731	0.2713
$\alpha=0.01$			
Student's t	0.1153	0.1153	0
Welch-Aspin's t	0.0951	0.0951	0
Yuen	0.116	0.1161	0
Tukey's Quick	0.0509	0.051	0.0001
Haga	0.0001	0.0765	0.0765
$\alpha=0.001$			
Student's t	0.0287	0.0287	0
Welch-Aspin's t	0.0185	0.0185	0
Yuen	0.0257	0.0257	0
Tukey's Quick	0.0173	0.0173	0
Haga	0	0.0176	0.0176

Table 606

T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3926	0.3927	0.0001
Welch-Aspin's t	0.3794	0.3795	0.0001
Yuen Test	0.488	0.488	0
Tukey's Quick Test	0.0599	0.063	0.0031
Haga Test	0.0027	0.4136	0.4109
$\alpha=0.01$			
Student's t	0.1927	0.1927	0
Welch-Aspin's t	0.1743	0.1743	0
Yuen	0.2402	0.2402	0
Tukey's Quick	0.0488	0.0491	0.0004
Haga	0.0005	0.2629	0.2624
$\alpha=0.001$			
Student's t	0.0591	0.0591	0
Welch-Aspin's t	0.0456	0.0456	0
Yuen	0.068	0.068	0
Tukey's Quick	0.0247	0.0247	0
Haga	0	0.0991	0.0991

Table 607

T Distribution, $n_1=5, n_2=15, Effect Size=1.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3756	0.3958	0.0203
Welch-Aspin's t	0.1067	0.1086	0.0019
Yuen Test	0.1113	0.1169	0.0056
Tukey's Quick Test	0.1667	0.1709	0.0043
Haga Test	0.0024	0.1277	0.1253
$\alpha=0.01$			
Student's t	0.2296	0.2364	0.0068
Welch-Aspin's t	0.0296	0.03	0.0004
Yuen	0.0492	0.0514	0.0023
Tukey's Quick	0.1107	0.1126	0.0019
Haga	0.0016	0.0987	0.0972
$\alpha=0.001$			
Student's t	0.105	0.1065	0.0016
Welch-Aspin's t	0.0066	0.0066	0.0001
Yuen	0.0217	0.0225	0.0009
Tukey's Quick	0.0539	0.0545	0.0006
Haga	0.0012	0.085	0.0838

Table 608

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4567	0.4935	0.0368
Welch-Aspin's t	0.1056	0.1075	0.0018
Yuen Test	0.1047	0.1102	0.0055
Tukey's Quick Test	0.1686	0.1731	0.0045
Haga Test	0.0026	0.1335	0.1309
$\alpha=0.01$			
Student's t	0.3291	0.3448	0.0157
Welch-Aspin's t	0.0279	0.0282	0.0004
Yuen	0.0449	0.0473	0.0024
Tukey's Quick	0.1174	0.1196	0.0022
Haga	0.0023	0.1245	0.1222
$\alpha=0.001$			
Student's t	0.1947	0.1997	0.0049
Welch-Aspin's t	0.0059	0.006	0.0001
Yuen	0.0201	0.0211	0.001
Tukey's Quick	0.0768	0.0777	0.0009
Haga	0.0019	0.116	0.1141

Table 609

T Distribution, $n_1=15, n_2=25, Effect Size=1.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4215	0.4229	0.0014
Welch-Aspin's t	0.2635	0.2637	0.0002
Yuen Test	0.3093	0.3096	0.0003
Tukey's Quick Test	0.0915	0.092	0.0004
Haga Test	0.0002	0.1064	0.1062
$\alpha=0.01$			
Student's t	0.2448	0.245	0.0002
Welch-Aspin's t	0.0978	0.0978	0
Yuen	0.118	0.1181	0
Tukey's Quick	0.0397	0.0398	0
Haga	0	0.0289	0.0289
$\alpha=0.001$			
Student's t	0.1009	0.1009	0
Welch-Aspin's t	0.0191	0.0191	0
Yuen	0.0256	0.0256	0
Tukey's Quick	0.0114	0.0114	0
Haga	0	0.0114	0.0114

Table 610

T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.282	0.2826	0.0005
Welch-Aspin's t	0.2209	0.2212	0.0003
Yuen Test	0.1904	0.1915	0.0011
Tukey's Quick Test	0.2439	0.2443	0.0004
Haga Test	0.0004	0.2443	0.2439
$\alpha=0.01$			
Student's t	0.1123	0.1124	0.0001
Welch-Aspin's t	0.0694	0.0694	0
Yuen	0.062	0.0623	0.0002
Tukey's Quick	0.1421	0.1423	0.0002
Haga	0.0002	0.1423	0.1421
$\alpha=0.001$			
Student's t	0.0261	0.0261	0
Welch-Aspin's t	0.0131	0.0131	0
Yuen	0.0108	0.0109	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.1425	0.1424

Table 611

T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5793	0.5793	0
Welch-Aspin's t	0.5564	0.5564	0
Yuen Test	0.6468	0.6468	0
Tukey's Quick Test	0.1837	0.1839	0.0001
Haga Test	0.0002	0.5566	0.5565
$\alpha=0.01$			
Student's t	0.3526	0.3526	0
Welch-Aspin's t	0.311	0.311	0
Yuen	0.361	0.361	0
Tukey's Quick	0.1461	0.1461	0
Haga	0	0.2469	0.2469
$\alpha=0.001$			
Student's t	0.1444	0.1444	0
Welch-Aspin's t	0.1038	0.1038	0
Yuen	0.1163	0.1163	0
Tukey's Quick	0.0801	0.0801	0
Haga	0	0.0831	0.0831

Table 612

T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7483	0.7483	0
Welch-Aspin's t	0.7375	0.7375	0
Yuen Test	0.8753	0.8753	0
Tukey's Quick Test	0.1169	0.1175	0.0006
Haga Test	0.0003	0.715	0.7148
$\alpha=0.01$			
Student's t	0.5479	0.5479	0
Welch-Aspin's t	0.5211	0.5211	0
Yuen	0.6721	0.6721	0
Tukey's Quick	0.1077	0.1078	0
Haga	0	0.5819	0.5818
$\alpha=0.001$			
Student's t	0.298	0.298	0
Welch-Aspin's t	0.2552	0.2552	0
Yuen	0.3446	0.3446	0
Tukey's Quick	0.0831	0.0831	0
Haga	0	0.3485	0.3485

Table 613

T Distribution, $n_1=5, n_2=15, Effect Size=2.0\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5814	0.5866	0.0052
Welch-Aspin's t	0.2243	0.2246	0.0003
Yuen Test	0.1907	0.1921	0.0014
Tukey's Quick Test	0.3082	0.309	0.0008
Haga Test	0.0004	0.2557	0.2552
$\alpha=0.01$			
Student's t	0.4218	0.4232	0.0014
Welch-Aspin's t	0.0726	0.0726	0.0001
Yuen	0.0844	0.085	0.0006
Tukey's Quick	0.2342	0.2345	0.0003
Haga	0.0003	0.2145	0.2143
$\alpha=0.001$			
Student's t	0.2387	0.239	0.0003
Welch-Aspin's t	0.0174	0.0175	0
Yuen	0.0378	0.0381	0.0002
Tukey's Quick	0.1362	0.1363	0.0001
Haga	0.0002	0.1909	0.1907

Table 614

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6589	0.67	0.0111
Welch-Aspin's t	0.2233	0.2236	0.0003
Yuen Test	0.1817	0.183	0.0014
Tukey's Quick Test	0.3092	0.31	0.0008
Haga Test	0.0004	0.2634	0.2629
$\alpha=0.01$			
Student's t	0.5373	0.5411	0.0038
Welch-Aspin's t	0.0684	0.0684	0.0001
Yuen	0.074	0.0746	0.0006
Tukey's Quick	0.2424	0.2427	0.0004
Haga	0.0004	0.2508	0.2504
$\alpha=0.001$			
Student's t	0.3786	0.3796	0.001
Welch-Aspin's t	0.0155	0.0155	0
Yuen	0.0333	0.0335	0.0002
Tukey's Quick	0.1802	0.1803	0.0001
Haga	0.0003	0.2387	0.2384

Table 615

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7195	0.7195	0
Welch-Aspin's t	0.5656	0.5656	0
Yuen Test	0.6523	0.6523	0
Tukey's Quick Test	0.2051	0.2052	0
Haga Test	0	0.3051	0.3051
$\alpha=0.01$			
Student's t	0.5487	0.5487	0
Welch-Aspin's t	0.3192	0.3192	0
Yuen	0.3628	0.3628	0
Tukey's Quick	0.1364	0.1364	0
Haga	0	0.1185	0.1185
$\alpha=0.001$			
Student's t	0.3333	0.3333	0
Welch-Aspin's t	0.1075	0.1075	0
Yuen	0.1147	0.1147	0
Tukey's Quick	0.0584	0.0584	0
Haga	0	0.0586	0.0586

Table 616

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0355	0.0658	0.0303
Welch-Aspin's t	0.0203	0.0376	0.0172
Yuen Test	0.029	0.0546	0.0255
Tukey's Quick Test	0.0325	0.0606	0.0281
Haga Test	0.0281	0.0606	0.0325
$\alpha=0.01$			
Student's t	0.0102	0.0188	0.0087
Welch-Aspin's t	0.0037	0.0067	0.003
Yuen	0.0083	0.0156	0.0073
Tukey's Quick	0.0236	0.0436	0.0201
Haga	0.0201	0.0436	0.0236
$\alpha=0.001$			
Student's t	0.0021	0.0039	0.0018
Welch-Aspin's t	0.0005	0.0009	0.0004
Yuen	0.0021	0.004	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	0.0196	0.0431	0.0235

Table 617

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0295	0.0515	0.022
Welch-Aspin's t	0.0242	0.0421	0.0179
Yuen Test	0.0286	0.0495	0.0209
Tukey's Quick Test	0.0011	0.002	0.0009
Haga Test	0.0351	0.0809	0.0458
$\alpha=0.01$			
Student's t	0.0063	0.0106	0.0044
Welch-Aspin's t	0.0039	0.0066	0.0027
Yuen	0.0058	0.0099	0.0041
Tukey's Quick	0.0006	0.0011	0.0005
Haga	0.0036	0.0087	0.0051
$\alpha=0.001$			
Student's t	0.0008	0.0013	0.0005
Welch-Aspin's t	0.0003	0.0004	0.0002
Yuen	0.0007	0.0011	0.0004
Tukey's Quick	0.0002	0.0003	0.0001
Haga	0.0002	0.0005	0.0003

Table 618

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0294	0.05	0.0206
Welch-Aspin's t	0.0261	0.0443	0.0182
Yuen Test	0.0298	0.0496	0.0198
Tukey's Quick Test	0.0006	0.001	0.0005
Haga Test	0.0531	0.1251	0.072
$\alpha=0.01$			
Student's t	0.0057	0.0094	0.0037
Welch-Aspin's t	0.0043	0.007	0.0027
Yuen	0.006	0.0095	0.0036
Tukey's Quick	0.0005	0.0009	0.0004
Haga	0.0208	0.0506	0.0298
$\alpha=0.001$			
Student's t	0.0007	0.001	0.0003
Welch-Aspin's t	0.0003	0.0005	0.0002
Yuen	0.0006	0.001	0.0004
Tukey's Quick	0.0002	0.0004	0.0002
Haga	0.0036	0.0092	0.0056

Table 619

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1667	0.3154	0.1487
Welch-Aspin's t	0.0201	0.0371	0.0171
Yuen Test	0.0279	0.0527	0.0247
Tukey's Quick Test	0.0373	0.0694	0.0321
Haga Test	0.0282	0.0611	0.0328
$\alpha=0.01$			
Student's t	0.0919	0.1725	0.0806
Welch-Aspin's t	0.0035	0.0064	0.0029
Yuen	0.0072	0.0139	0.0066
Tukey's Quick	0.0316	0.0588	0.0272
Haga	0.0259	0.0562	0.0303
$\alpha=0.001$			
Student's t	0.0416	0.0771	0.0355
Welch-Aspin's t	0.0004	0.0008	0.0004
Yuen	0.0027	0.0051	0.0024
Tukey's Quick	0.0251	0.0461	0.0211
Haga	0.0247	0.054	0.0293

Table 620

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2401	0.4578	0.2178
Welch-Aspin's t	0.0202	0.0372	0.0171
Yuen Test	0.0281	0.0529	0.0248
Tukey's Quick Test	0.0378	0.0701	0.0323
Haga Test	0.0283	0.0616	0.0333
$\alpha=0.01$			
Student's t	0.1635	0.3088	0.1453
Welch-Aspin's t	0.0034	0.0062	0.0027
Yuen	0.0067	0.0124	0.0057
Tukey's Quick	0.0323	0.0597	0.0274
Haga	0.0274	0.0598	0.0324
$\alpha=0.001$			
Student's t	0.095	0.1782	0.0832
Welch-Aspin's t	0.0004	0.0007	0.0003
Yuen	0.0022	0.0041	0.002
Tukey's Quick	0.0278	0.0513	0.0235
Haga	0.0267	0.0581	0.0314

Table 621

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.077	0.1377	0.0607
Welch-Aspin's t	0.0244	0.0425	0.0181
Yuen Test	0.0285	0.0496	0.0211
Tukey's Quick Test	0.0015	0.0026	0.0011
Haga Test	0.008	0.0192	0.0112
$\alpha=0.01$			
Student's t	0.0273	0.0475	0.0202
Welch-Aspin's t	0.0039	0.0066	0.0027
Yuen	0.0059	0.01	0.0041
Tukey's Quick	0.0006	0.0011	0.0004
Haga	0.0005	0.0013	0.0008
$\alpha=0.001$			
Student's t	0.0063	0.0109	0.0045
Welch-Aspin's t	0.0003	0.0004	0.0002
Yuen	0.0006	0.001	0.0004
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0002	0.0001

Table 622

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0399	0.0665	0.0267
Welch-Aspin's t	0.023	0.038	0.015
Yuen Test	0.0318	0.0547	0.0229
Tukey's Quick Test	0.0368	0.0615	0.0247
Haga Test	0.0247	0.0615	0.0368
$\alpha=0.01$			
Student's t	0.0118	0.0191	0.0074
Welch-Aspin's t	0.0042	0.0068	0.0026
Yuen	0.0091	0.0159	0.0068
Tukey's Quick	0.0267	0.0441	0.0174
Haga	0.0174	0.0441	0.0267
$\alpha=0.001$			
Student's t	0.0025	0.004	0.0016
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0024	0.0041	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	0.0176	0.0444	0.0268

Table 623

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0366	0.0544	0.0178
Welch-Aspin's t	0.0304	0.0447	0.0143
Yuen Test	0.0353	0.0518	0.0166
Tukey's Quick Test	0.0013	0.0021	0.0008
Haga Test	0.0285	0.0841	0.0556
$\alpha=0.01$			
Student's t	0.0081	0.0113	0.0032
Welch-Aspin's t	0.0051	0.007	0.0019
Yuen	0.0073	0.0104	0.0031
Tukey's Quick	0.0007	0.0011	0.0004
Haga	0.0027	0.0091	0.0064
$\alpha=0.001$			
Student's t	0.0011	0.0014	0.0004
Welch-Aspin's t	0.0004	0.0005	0.0001
Yuen	0.0009	0.0012	0.0003
Tukey's Quick	0.0003	0.0004	0.0001
Haga	0.0001	0.0006	0.0004

Table 624

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0383	0.0538	0.0155
Welch-Aspin's t	0.0343	0.0479	0.0136
Yuen Test	0.0396	0.0544	0.0148
Tukey's Quick Test	0.0006	0.0011	0.0005
Haga Test	0.0421	0.1316	0.0894
$\alpha=0.01$			
Student's t	0.0082	0.0108	0.0026
Welch-Aspin's t	0.0062	0.0081	0.0019
Yuen	0.0084	0.0109	0.0026
Tukey's Quick	0.0005	0.0009	0.0004
Haga	0.0158	0.0545	0.0387
$\alpha=0.001$			
Student's t	0.001	0.0012	0.0002
Welch-Aspin's t	0.0005	0.0006	0.0001
Yuen	0.0009	0.0012	0.0002
Tukey's Quick	0.0002	0.0004	0.0001
Haga	0.0026	0.0105	0.0079

Table 625

T Distribution, $n_1=5, n_2=15, Effect Size=0.5\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1811	0.317	0.1359
Welch-Aspin's t	0.023	0.038	0.015
Yuen Test	0.0309	0.0535	0.0225
Tukey's Quick Test	0.0421	0.0707	0.0286
Haga Test	0.0251	0.0623	0.0372
$\alpha=0.01$			
Student's t	0.1022	0.1742	0.072
Welch-Aspin's t	0.004	0.0066	0.0025
Yuen	0.008	0.014	0.006
Tukey's Quick	0.0355	0.0593	0.0238
Haga	0.0227	0.0566	0.034
$\alpha=0.001$			
Student's t	0.0467	0.0778	0.0311
Welch-Aspin's t	0.0004	0.0008	0.0003
Yuen	0.003	0.0051	0.0022
Tukey's Quick	0.0281	0.0465	0.0184
Haga	0.0216	0.054	0.0324

Table 626

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.258	0.4601	0.2022
Welch-Aspin's t	0.0231	0.038	0.0149
Yuen Test	0.031	0.0533	0.0223
Tukey's Quick Test	0.0425	0.0713	0.0288
Haga Test	0.0252	0.0627	0.0375
$\alpha=0.01$			
Student's t	0.1775	0.3104	0.1329
Welch-Aspin's t	0.0039	0.0064	0.0025
Yuen	0.0073	0.0126	0.0053
Tukey's Quick	0.0366	0.0611	0.0245
Haga	0.0246	0.0612	0.0366
$\alpha=0.001$			
Student's t	0.1056	0.1803	0.0747
Welch-Aspin's t	0.0004	0.0007	0.0003
Yuen	0.0024	0.0042	0.0018
Tukey's Quick	0.0316	0.0524	0.0208
Haga	0.0238	0.0595	0.0357

Table 627

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0912	0.1417	0.0505
Welch-Aspin's t	0.0301	0.0444	0.0143
Yuen Test	0.035	0.0519	0.0169
Tukey's Quick Test	0.0017	0.0026	0.0009
Haga Test	0.0063	0.0202	0.014
$\alpha=0.01$			
Student's t	0.0336	0.0499	0.0163
Welch-Aspin's t	0.0051	0.0071	0.002
Yuen	0.0074	0.0105	0.0032
Tukey's Quick	0.0007	0.001	0.0003
Haga	0.0003	0.0013	0.001
$\alpha=0.001$			
Student's t	0.0083	0.0117	0.0034
Welch-Aspin's t	0.0004	0.0005	0.0001
Yuen	0.0008	0.0011	0.0003
Tukey's Quick	0.0002	0.0002	0.0001
Haga	0.0001	0.0002	0.0002

Table 628

T Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0451	0.0685	0.0234
Welch-Aspin's t	0.0263	0.0393	0.013
Yuen Test	0.0348	0.0559	0.0211
Tukey's Quick Test	0.0412	0.0628	0.0216
Haga Test	0.0216	0.0628	0.0412
$\alpha=0.01$			
Student's t	0.0135	0.0199	0.0064
Welch-Aspin's t	0.0048	0.0071	0.0023
Yuen	0.0101	0.0162	0.0061
Tukey's Quick	0.0302	0.0454	0.0152
Haga	0.0152	0.0454	0.0302
$\alpha=0.001$			
Student's t	0.0029	0.0042	0.0013
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0027	0.0043	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	0.0151	0.0452	0.03

Table 629

T Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0448	0.0587	0.0139
Welch-Aspin's t	0.0373	0.0485	0.0112
Yuen Test	0.0431	0.0563	0.0132
Tukey's Quick Test	0.0015	0.0021	0.0006
Haga Test	0.023	0.0896	0.0665
$\alpha=0.01$			
Student's t	0.0102	0.0127	0.0025
Welch-Aspin's t	0.0065	0.008	0.0015
Yuen	0.0093	0.0117	0.0024
Tukey's Quick	0.001	0.0013	0.0003
Haga	0.002	0.0105	0.0084
$\alpha=0.001$			
Student's t	0.0015	0.0018	0.0003
Welch-Aspin's t	0.0006	0.0007	0.0001
Yuen	0.0011	0.0014	0.0002
Tukey's Quick	0.0004	0.0005	0.0001
Haga	0.0001	0.0007	0.0006

Table 630

T Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.049	0.0603	0.0114
Welch-Aspin's t	0.044	0.0539	0.0098
Yuen Test	0.0519	0.0624	0.0105
Tukey's Quick Test	0.0007	0.0011	0.0005
Haga Test	0.0326	0.143	0.1104
$\alpha=0.01$			
Student's t	0.0111	0.0128	0.0017
Welch-Aspin's t	0.0084	0.0096	0.0012
Yuen	0.0117	0.0135	0.0018
Tukey's Quick	0.0006	0.0009	0.0003
Haga	0.012	0.0614	0.0495
$\alpha=0.001$			
Student's t	0.0014	0.0015	0.0001
Welch-Aspin's t	0.0007	0.0008	0.0001
Yuen	0.0014	0.0015	0.0001
Tukey's Quick	0.0003	0.0004	0.0001
Haga	0.0018	0.0125	0.0107

Table 631

T Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1966	0.3202	0.1235
Welch-Aspin's t	0.0261	0.039	0.013
Yuen Test	0.034	0.054	0.02
Tukey's Quick Test	0.0471	0.0721	0.025
Haga Test	0.0219	0.0637	0.0418
$\alpha=0.01$			
Student's t	0.1124	0.1776	0.0652
Welch-Aspin's t	0.0045	0.0067	0.0022
Yuen	0.0085	0.0139	0.0054
Tukey's Quick	0.0403	0.0612	0.0209
Haga	0.0199	0.0585	0.0386
$\alpha=0.001$			
Student's t	0.0522	0.0798	0.0275
Welch-Aspin's t	0.0005	0.0008	0.0002
Yuen	0.0032	0.0052	0.002
Tukey's Quick	0.0315	0.0477	0.0163
Haga	0.0191	0.0556	0.0365

Table 632

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2746	0.4619	0.1874
Welch-Aspin's t	0.026	0.0391	0.0131
Yuen Test	0.0334	0.0536	0.0202
Tukey's Quick Test	0.0473	0.0727	0.0254
Haga Test	0.0222	0.0642	0.0421
$\alpha=0.01$			
Student's t	0.1926	0.3141	0.1215
Welch-Aspin's t	0.0044	0.0066	0.0021
Yuen	0.0079	0.0128	0.0049
Tukey's Quick	0.0409	0.0624	0.0215
Haga	0.0215	0.0625	0.0409
$\alpha=0.001$			
Student's t	0.1158	0.1828	0.067
Welch-Aspin's t	0.0005	0.0007	0.0002
Yuen	0.0026	0.0042	0.0016
Tukey's Quick	0.0358	0.0543	0.0185
Haga	0.0211	0.0614	0.0403

Table 633

T Distribution, $n_1=15, n_2=25, Effect Size=0.8\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1074	0.1489	0.0415
Welch-Aspin's t	0.0375	0.0485	0.011
Yuen Test	0.043	0.0562	0.0132
Tukey's Quick Test	0.002	0.0028	0.0008
Haga Test	0.0047	0.0224	0.0177
$\alpha=0.01$			
Student's t	0.0412	0.0539	0.0127
Welch-Aspin's t	0.0067	0.0082	0.0015
Yuen	0.0093	0.0117	0.0023
Tukey's Quick	0.001	0.0013	0.0002
Haga	0.0003	0.0016	0.0014
$\alpha=0.001$			
Student's t	0.0107	0.0132	0.0025
Welch-Aspin's t	0.0006	0.0006	0.0001
Yuen	0.0011	0.0013	0.0002
Tukey's Quick	0.0002	0.0003	0
Haga	0	0.0003	0.0002

Table 634

T Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0522	0.072	0.0198
Welch-Aspin's t	0.0307	0.0417	0.011
Yuen Test	0.0394	0.0575	0.0181
Tukey's Quick Test	0.0479	0.0663	0.0184
Haga Test	0.0184	0.0663	0.0479
$\alpha=0.01$			
Student's t	0.016	0.0213	0.0053
Welch-Aspin's t	0.0058	0.0077	0.0019
Yuen	0.0114	0.0168	0.0053
Tukey's Quick	0.0352	0.048	0.0128
Haga	0.0128	0.048	0.0352
$\alpha=0.001$			
Student's t	0.0035	0.0046	0.0011
Welch-Aspin's t	0.0008	0.0011	0.0002
Yuen	0.0031	0.0044	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	0.0127	0.048	0.0353

Table 635

T Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0577	0.0677	0.01
Welch-Aspin's t	0.0485	0.0564	0.0079
Yuen Test	0.0561	0.0654	0.0093
Tukey's Quick Test	0.0019	0.0024	0.0005
Haga Test	0.0169	0.1008	0.0839
$\alpha=0.01$			
Student's t	0.0144	0.016	0.0016
Welch-Aspin's t	0.0093	0.0103	0.0009
Yuen	0.0128	0.0143	0.0015
Tukey's Quick	0.0013	0.0015	0.0002
Haga	0.0013	0.0129	0.0115
$\alpha=0.001$			
Student's t	0.0021	0.0023	0.0002
Welch-Aspin's t	0.0009	0.0009	0.0001
Yuen	0.0016	0.0018	0.0002
Tukey's Quick	0.0006	0.0006	0
Haga	0.0001	0.0009	0.0009

Table 636

T Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.067	0.0745	0.0075
Welch-Aspin's t	0.0607	0.0671	0.0064
Yuen Test	0.0718	0.0785	0.0067
Tukey's Quick Test	0.0007	0.0011	0.0004
Haga Test	0.0231	0.165	0.1419
$\alpha=0.01$			
Student's t	0.0165	0.0176	0.001
Welch-Aspin's t	0.0128	0.0136	0.0007
Yuen	0.0178	0.0188	0.001
Tukey's Quick	0.0006	0.0009	0.0003
Haga	0.008	0.075	0.067
$\alpha=0.001$			
Student's t	0.0023	0.0024	0.0001
Welch-Aspin's t	0.0012	0.0012	0
Yuen	0.0022	0.0023	0.0001
Tukey's Quick	0.0004	0.0004	0.0001
Haga	0.0011	0.0168	0.0156

Table 637

T Distribution, $n_1=5, n_2=15, Effect Size=1.2\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2179	0.3272	0.1093
Welch-Aspin's t	0.0306	0.0414	0.0108
Yuen Test	0.0381	0.0557	0.0176
Tukey's Quick Test	0.0543	0.0757	0.0214
Haga Test	0.0187	0.067	0.0483
$\alpha=0.01$			
Student's t	0.128	0.1839	0.0558
Welch-Aspin's t	0.0054	0.0071	0.0017
Yuen	0.0096	0.0145	0.0048
Tukey's Quick	0.0466	0.0643	0.0177
Haga	0.0168	0.0614	0.0446
$\alpha=0.001$			
Student's t	0.0604	0.0835	0.0232
Welch-Aspin's t	0.0007	0.0009	0.0002
Yuen	0.0035	0.0053	0.0018
Tukey's Quick	0.037	0.0504	0.0134
Haga	0.0159	0.0585	0.0426

Table 638

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3002	0.4672	0.1669
Welch-Aspin's t	0.0306	0.0416	0.011
Yuen Test	0.0381	0.0558	0.0177
Tukey's Quick Test	0.0547	0.0762	0.0216
Haga Test	0.0188	0.0674	0.0486
$\alpha=0.01$			
Student's t	0.2144	0.3208	0.1064
Welch-Aspin's t	0.0053	0.007	0.0017
Yuen	0.009	0.0132	0.0042
Tukey's Quick	0.0474	0.0654	0.018
Haga	0.018	0.0655	0.0475
$\alpha=0.001$			
Student's t	0.1314	0.1889	0.0576
Welch-Aspin's t	0.0006	0.0008	0.0002
Yuen	0.0028	0.0042	0.0015
Tukey's Quick	0.0414	0.0568	0.0153
Haga	0.0175	0.0641	0.0466

Table 639

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.131	0.1627	0.0317
Welch-Aspin's t	0.0484	0.0564	0.008
Yuen Test	0.0557	0.0653	0.0096
Tukey's Quick Test	0.0024	0.003	0.0006
Haga Test	0.0035	0.0269	0.0234
$\alpha=0.01$			
Student's t	0.0533	0.0622	0.009
Welch-Aspin's t	0.0094	0.0103	0.0009
Yuen	0.0128	0.0145	0.0017
Tukey's Quick	0.0014	0.0016	0.0002
Haga	0.0002	0.0021	0.0019
$\alpha=0.001$			
Student's t	0.0148	0.0165	0.0017
Welch-Aspin's t	0.0008	0.0009	0
Yuen	0.0015	0.0016	0.0002
Tukey's Quick	0.0003	0.0004	0
Haga	0	0.0004	0.0003

Table 640

T Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0694	0.083	0.0136
Welch-Aspin's t	0.0419	0.0492	0.0073
Yuen Test	0.0495	0.063	0.0135
Tukey's Quick Test	0.0633	0.076	0.0127
Haga Test	0.0127	0.076	0.0633
$\alpha=0.01$			
Student's t	0.022	0.0256	0.0036
Welch-Aspin's t	0.0079	0.0092	0.0012
Yuen	0.0144	0.0182	0.0039
Tukey's Quick	0.0471	0.0558	0.0086
Haga	0.0086	0.0558	0.0471
$\alpha=0.001$			
Student's t	0.005	0.0056	0.0007
Welch-Aspin's t	0.0012	0.0013	0.0002
Yuen	0.0039	0.0048	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0087	0.056	0.0472

Table 641

T Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0907	0.0956	0.0049
Welch-Aspin's t	0.0778	0.0815	0.0037
Yuen Test	0.0901	0.0947	0.0046
Tukey's Quick Test	0.0029	0.0032	0.0003
Haga Test	0.009	0.1369	0.1279
$\alpha=0.01$			
Student's t	0.0263	0.027	0.0007
Welch-Aspin's t	0.0178	0.0182	0.0004
Yuen	0.0228	0.0236	0.0007
Tukey's Quick	0.0023	0.0024	0.0001
Haga	0.0006	0.0216	0.021
$\alpha=0.001$			
Student's t	0.0044	0.0044	0
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.0029	0.003	0.0001
Tukey's Quick	0.0011	0.0011	0
Haga	0	0.0018	0.0018

Table 642

T Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1156	0.1186	0.0029
Welch-Aspin's t	0.1062	0.1087	0.0025
Yuen Test	0.13	0.1325	0.0025
Tukey's Quick Test	0.0008	0.0011	0.0003
Haga Test	0.0111	0.234	0.2229
$\alpha=0.01$			
Student's t	0.0348	0.0352	0.0003
Welch-Aspin's t	0.0279	0.0281	0.0002
Yuen	0.0376	0.038	0.0003
Tukey's Quick	0.0008	0.001	0.0002
Haga	0.0034	0.1207	0.1173
$\alpha=0.001$			
Student's t	0.006	0.006	0
Welch-Aspin's t	0.0035	0.0035	0
Yuen	0.0056	0.0056	0
Tukey's Quick	0.0006	0.0006	0
Haga	0.0004	0.0327	0.0323

Table 643

T Distribution, $n_1=5, n_2=15, Effect Size=2.0\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2636	0.3472	0.0836
Welch-Aspin's t	0.0414	0.0488	0.0074
Yuen Test	0.0481	0.0612	0.0131
Tukey's Quick Test	0.0709	0.0859	0.015
Haga Test	0.013	0.0767	0.0637
$\alpha=0.01$			
Student's t	0.1618	0.2023	0.0405
Welch-Aspin's t	0.0076	0.0088	0.0012
Yuen	0.0122	0.0158	0.0036
Tukey's Quick	0.0617	0.0739	0.0122
Haga	0.0116	0.071	0.0593
$\alpha=0.001$			
Student's t	0.08	0.0961	0.0162
Welch-Aspin's t	0.0009	0.001	0.0001
Yuen	0.0043	0.0057	0.0014
Tukey's Quick	0.0498	0.0589	0.0092
Haga	0.0109	0.0676	0.0567

Table 644

T Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.352	0.4851	0.1331
Welch-Aspin's t	0.0418	0.0493	0.0075
Yuen Test	0.0484	0.0614	0.013
Tukey's Quick Test	0.0714	0.0864	0.015
Haga Test	0.013	0.0772	0.0642
$\alpha=0.01$			
Student's t	0.2598	0.3415	0.0817
Welch-Aspin's t	0.0076	0.0087	0.0011
Yuen	0.0112	0.0144	0.0032
Tukey's Quick	0.0627	0.0752	0.0125
Haga	0.0125	0.0753	0.0628
$\alpha=0.001$			
Student's t	0.1666	0.2083	0.0417
Welch-Aspin's t	0.0008	0.0009	0.0001
Yuen	0.0035	0.0046	0.001
Tukey's Quick	0.0552	0.0658	0.0106
Haga	0.0122	0.0736	0.0614

Table 645

T Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1886	0.2062	0.0176
Welch-Aspin's t	0.0787	0.0827	0.004
Yuen Test	0.0902	0.0949	0.0047
Tukey's Quick Test	0.0039	0.0043	0.0004
Haga Test	0.0017	0.0421	0.0404
$\alpha=0.01$			
Student's t	0.0855	0.09	0.0045
Welch-Aspin's t	0.0175	0.0179	0.0004
Yuen	0.0228	0.0235	0.0007
Tukey's Quick	0.0025	0.0026	0.0001
Haga	0.0001	0.0039	0.0038
$\alpha=0.001$			
Student's t	0.0269	0.0276	0.0007
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.003	0.0031	0.0001
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0008	0.0008

Table 646

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0156	0.0311	0.0155
Welch-Aspin's t	0.0087	0.0174	0.0087
Yuen Test	0.0146	0.0292	0.0146
Tukey's Quick Test	0.0159	0.0318	0.0158
Haga Test	0.0158	0.0318	0.0159
<hr/>			
$\alpha=0.01$			
Student's t	0.0022	0.0043	0.0022
Welch-Aspin's t	0.0009	0.0018	0.0009
Yuen	0.0033	0.0066	0.0033
Tukey's Quick	0.004	0.0079	0.0039
Haga	0.0039	0.0079	0.004
<hr/>			
$\alpha=0.001$			
Student's t	0.0003	0.0005	0.0002
Welch-Aspin's t	0.0001	0.0002	0.0001
Yuen	0.0005	0.001	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.004	0.008	0.004

Table 647

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0 σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0209	0.0418	0.0209
Welch-Aspin's t	0.0185	0.0369	0.0185
Yuen Test	0.0149	0.0299	0.015
Tukey's Quick Test	0.0233	0.0468	0.0235
Haga Test	0.0241	0.0479	0.0239
$\alpha=0.01$			
Student's t	0.0026	0.0053	0.0027
Welch-Aspin's t	0.0018	0.0036	0.0019
Yuen	0.0018	0.0037	0.0019
Tukey's Quick	0.0033	0.0066	0.0033
Haga	0.0033	0.0066	0.0033
$\alpha=0.001$			
Student's t	0.0001	0.0002	0.0001
Welch-Aspin's t	0	0.0001	0.0001
Yuen	0.0001	0.0003	0.0001
Tukey's Quick	0.0004	0.0008	0.0004
Haga	0.0004	0.0008	0.0004

Table 648

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0 σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0224	0.045	0.0226
Welch-Aspin's t	0.0213	0.0428	0.0215
Yuen Test	0.018	0.0361	0.0181
Tukey's Quick Test	0.0251	0.0502	0.0251
Haga Test	0.0142	0.0284	0.0142
$\alpha=0.01$			
Student's t	0.0033	0.0066	0.0033
Welch-Aspin's t	0.0027	0.0055	0.0028
Yuen	0.0022	0.0045	0.0022
Tukey's Quick	0.004	0.0079	0.0039
Haga	0.004	0.0081	0.0041
$\alpha=0.001$			
Student's t	0.0002	0.0003	0.0002
Welch-Aspin's t	0.0001	0.0002	0.0001
Yuen	0.0001	0.0002	0.0001
Tukey's Quick	0.0003	0.0005	0.0002
Haga	0.0005	0.001	0.0006

Table 649

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0395	0.0429	0.0034
Welch-Aspin's t	0.0035	0.0746	0.071
Yuen Test	0.0162	0.0546	0.0384
Tukey's Quick Test	0.025	0.0498	0.0248
Haga Test	0.0066	0.0133	0.0067
$\alpha=0.01$			
Student's t	0.0107	0.0108	0.0001
Welch-Aspin's t	0.0005	0.0154	0.0149
Yuen	0.0059	0.0116	0.0057
Tukey's Quick	0.0036	0.0073	0.0037
Haga	0.002	0.004	0.002
$\alpha=0.001$			
Student's t	0.0018	0.0018	0
Welch-Aspin's t	0.0001	0.0009	0.0008
Yuen	0.0018	0.0022	0.0004
Tukey's Quick	0.0002	0.0005	0.0002
Haga	0.001	0.002	0.001

Table 650

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0453	0.0467	0.0014
Welch-Aspin's t	0.0028	0.1198	0.117
Yuen Test	0.0167	0.0921	0.0754
Tukey's Quick Test	0.0223	0.0449	0.0225
Haga Test	0.0076	0.0153	0.0077
$\alpha=0.01$			
Student's t	0.0154	0.0154	0
Welch-Aspin's t	0.0004	0.0479	0.0475
Yuen	0.0066	0.0268	0.0202
Tukey's Quick	0.0039	0.0078	0.004
Haga	0.0052	0.0103	0.0051
$\alpha=0.001$			
Student's t	0.0033	0.0033	0
Welch-Aspin's t	0.0001	0.0088	0.0087
Yuen	0.0024	0.0043	0.0018
Tukey's Quick	0.0004	0.0009	0.0004
Haga	0.0033	0.0065	0.0033

Table 651

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0285	0.0437	0.0151
Welch-Aspin's t	0.0103	0.0477	0.0374
Yuen Test	0.0115	0.0379	0.0264
Tukey's Quick Test	0.0191	0.0382	0.019
Haga Test	0.0127	0.0253	0.0127
$\alpha=0.01$			
Student's t	0.0055	0.0068	0.0013
Welch-Aspin's t	0.0007	0.0078	0.0071
Yuen	0.0014	0.0054	0.004
Tukey's Quick	0.0039	0.0077	0.0038
Haga	0.0023	0.0046	0.0023
$\alpha=0.001$			
Student's t	0.0005	0.0005	0
Welch-Aspin's t	0	0.0004	0.0004
Yuen	0.0001	0.0004	0.0002
Tukey's Quick	0.0003	0.0007	0.0003
Haga	0.0003	0.0007	0.0003

Table 652

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.053	0.0575	0.0046
Welch-Aspin's t	0.0348	0.0372	0.0023
Yuen Test	0.0397	0.0457	0.006
Tukey's Quick Test	0.071	0.0748	0.0039
Haga Test	0.0039	0.0748	0.071
$\alpha=0.01$			
Student's t	0.01	0.0107	0.0006
Welch-Aspin's t	0.0046	0.0049	0.0003
Yuen	0.0094	0.0108	0.0014
Tukey's Quick	0.0224	0.0235	0.0011
Haga	0.0011	0.0235	0.0224
$\alpha=0.001$			
Student's t	0.0011	0.0012	0.0001
Welch-Aspin's t	0.0005	0.0005	0
Yuen	0.0014	0.0016	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0011	0.0235	0.0225

Table 653

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0913	0.0943	0.003
Welch-Aspin's t	0.0861	0.0886	0.0025
Yuen Test	0.1011	0.1027	0.0016
Tukey's Quick Test	0.4219	0.4219	0.0001
Haga Test	0.0001	0.4915	0.4914
$\alpha=0.01$			
Student's t	0.0213	0.0215	0.0002
Welch-Aspin's t	0.0173	0.0174	0.0001
Yuen	0.0211	0.0213	0.0002
Tukey's Quick	0.1663	0.1663	0
Haga	0	0.169	0.169
$\alpha=0.001$			
Student's t	0.0021	0.0021	0
Welch-Aspin's t	0.0011	0.0011	0
Yuen	0.0021	0.0021	0
Tukey's Quick	0.0362	0.0362	0
Haga	0	0.0362	0.0362

Table 654

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1201	0.1223	0.0022
Welch-Aspin's t	0.1178	0.1198	0.0019
Yuen Test	0.1587	0.1596	0.0009
Tukey's Quick Test	0.5352	0.5352	0
Haga Test	0	0.8017	0.8017
$\alpha=0.01$			
Student's t	0.0331	0.0332	0.0002
Welch-Aspin's t	0.0305	0.0306	0.0001
Yuen	0.0433	0.0433	0.0001
Tukey's Quick	0.4587	0.4587	0
Haga	0	0.607	0.607
$\alpha=0.001$			
Student's t	0.0041	0.0041	0
Welch-Aspin's t	0.0031	0.0031	0
Yuen	0.0049	0.0049	0
Tukey's Quick	0.1874	0.1874	0
Haga	0	0.2833	0.2833

Table 655

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0846	0.0847	0.0002
Welch-Aspin's t	0.0125	0.0275	0.015
Yuen Test	0.0403	0.0446	0.0043
Tukey's Quick Test	0.1356	0.1356	0
Haga Test	0	0.0321	0.032
$\alpha=0.01$			
Student's t	0.0275	0.0275	0
Welch-Aspin's t	0.0016	0.0031	0.0014
Yuen	0.0139	0.0144	0.0005
Tukey's Quick	0.0162	0.0163	0
Haga	0	0.008	0.008
$\alpha=0.001$			
Student's t	0.0053	0.0053	0
Welch-Aspin's t	0.0002	0.0003	0
Yuen	0.0043	0.0043	0
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0037	0.0037

Table 656

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0886	0.0886	0
Welch-Aspin's t	0.0093	0.0431	0.0337
Yuen Test	0.0414	0.0485	0.0071
Tukey's Quick Test	0.129	0.129	0
Haga Test	0	0.034	0.034
$\alpha=0.01$			
Student's t	0.0335	0.0335	0
Welch-Aspin's t	0.0012	0.0077	0.0064
Yuen	0.0161	0.0169	0.0008
Tukey's Quick	0.0167	0.0167	0
Haga	0	0.0209	0.0209
$\alpha=0.001$			
Student's t	0.0085	0.0085	0
Welch-Aspin's t	0.0002	0.0005	0.0003
Yuen	0.0058	0.0058	0
Tukey's Quick	0.0012	0.0012	0
Haga	0	0.0124	0.0124

Table 657

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1066	0.1077	0.0011
Welch-Aspin's t	0.0622	0.0671	0.0049
Yuen Test	0.0905	0.092	0.0015
Tukey's Quick Test	0.4007	0.4007	0
Haga Test	0	0.635	0.635
$\alpha=0.01$			
Student's t	0.0318	0.0318	0
Welch-Aspin's t	0.0088	0.0092	0.0004
Yuen	0.016	0.0161	0.0001
Tukey's Quick	0.3024	0.3024	0
Haga	0	0.3099	0.3099
$\alpha=0.001$			
Student's t	0.0047	0.0047	0
Welch-Aspin's t	0.0003	0.0004	0
Yuen	0.0015	0.0015	0
Tukey's Quick	0.0829	0.0829	0
Haga	0	0.0887	0.0887

Table 658

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1794	0.1803	0.0009
Welch-Aspin's t	0.1441	0.1445	0.0005
Yuen Test	0.1278	0.1295	0.0018
Tukey's Quick Test	0.1897	0.1904	0.0007
Haga Test	0.0007	0.1904	0.1897
$\alpha=0.01$			
Student's t	0.0581	0.0583	0.0001
Welch-Aspin's t	0.0354	0.0355	0.0001
Yuen	0.0355	0.0359	0.0004
Tukey's Quick	0.0978	0.098	0.0002
Haga	0.0002	0.098	0.0978
$\alpha=0.001$			
Student's t	0.0111	0.0111	0
Welch-Aspin's t	0.0054	0.0054	0
Yuen	0.0059	0.0059	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0976	0.0974

Table 659

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3404	0.3405	0.0001
Welch-Aspin's t	0.335	0.3351	0.0001
Yuen Test	0.4497	0.4498	0.0001
Tukey's Quick Test	0.5989	0.5989	0
Haga Test	0	0.8479	0.8479
$\alpha=0.01$			
Student's t	0.1539	0.1539	0
Welch-Aspin's t	0.1437	0.1437	0
Yuen	0.2113	0.2114	0
Tukey's Quick	0.4774	0.4774	0
Haga	0	0.5294	0.5294
$\alpha=0.001$			
Student's t	0.0402	0.0402	0
Welch-Aspin's t	0.0315	0.0315	0
Yuen	0.0517	0.0517	0
Tukey's Quick	0.2083	0.2083	0
Haga	0	0.2088	0.2088

Table 660

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4682	0.4682	0
Welch-Aspin's t	0.4664	0.4665	0
Yuen Test	0.6492	0.6492	0
Tukey's Quick Test	0.6043	0.6043	0
Haga Test	0	0.9897	0.9897
$\alpha=0.01$			
Student's t	0.2531	0.2531	0
Welch-Aspin's t	0.2487	0.2487	0
Yuen	0.4095	0.4095	0
Tukey's Quick	0.6026	0.6026	0
Haga	0	0.9607	0.9607
$\alpha=0.001$			
Student's t	0.0856	0.0856	0
Welch-Aspin's t	0.079	0.079	0
Yuen	0.1607	0.1607	0
Tukey's Quick	0.5537	0.5537	0
Haga	0	0.8166	0.8166

Table 661

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2171	0.2171	0
Welch-Aspin's t	0.0859	0.0865	0.0006
Yuen Test	0.1651	0.1653	0.0002
Tukey's Quick Test	0.3136	0.3136	0
Haga Test	0	0.1702	0.1702
$\alpha=0.01$			
Student's t	0.0927	0.0927	0
Welch-Aspin's t	0.0159	0.0159	0
Yuen	0.0623	0.0623	0
Tukey's Quick	0.0986	0.0986	0
Haga	0	0.0544	0.0544
$\alpha=0.001$			
Student's t	0.0249	0.0249	0
Welch-Aspin's t	0.0024	0.0024	0
Yuen	0.0196	0.0196	0
Tukey's Quick	0.0064	0.0064	0
Haga	0	0.0274	0.0274

Table 662

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2116	0.2116	0
Welch-Aspin's t	0.0687	0.0697	0.001
Yuen Test	0.1818	0.1818	0.0001
Tukey's Quick Test	0.2355	0.2355	0
Haga Test	0	0.2361	0.2361
$\alpha=0.01$			
Student's t	0.098	0.098	0
Welch-Aspin's t	0.0109	0.011	0.0001
Yuen	0.0744	0.0744	0
Tukey's Quick	0.1175	0.1175	0
Haga	0	0.1626	0.1626
$\alpha=0.001$			
Student's t	0.0304	0.0304	0
Welch-Aspin's t	0.0017	0.0017	0
Yuen	0.027	0.027	0
Tukey's Quick	0.0091	0.0091	0
Haga	0	0.1046	0.1046

Table 663

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3789	0.3789	0
Welch-Aspin's t	0.3435	0.3436	0.0001
Yuen Test	0.5277	0.5277	0
Tukey's Quick Test	0.4797	0.4797	0
Haga Test	0	0.9611	0.9611
$\alpha=0.01$			
Student's t	0.1898	0.1898	0
Welch-Aspin's t	0.1241	0.1241	0
Yuen	0.2366	0.2366	0
Tukey's Quick	0.4758	0.4758	0
Haga	0	0.8337	0.8337
$\alpha=0.001$			
Student's t	0.0602	0.0602	0
Welch-Aspin's t	0.0194	0.0194	0
Yuen	0.0539	0.0539	0
Tukey's Quick	0.4009	0.4009	0
Haga	0	0.5544	0.5544

Table 664

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.347	0.3472	0.0002
Welch-Aspin's t	0.3042	0.3043	0.0001
Yuen Test	0.254	0.2546	0.0006
Tukey's Quick Test	0.3186	0.3188	0.0001
Haga Test	0.0001	0.3188	0.3186
$\alpha=0.01$			
Student's t	0.1548	0.1548	0
Welch-Aspin's t	0.1094	0.1094	0
Yuen	0.0825	0.0827	0.0001
Tukey's Quick	0.2064	0.2065	0
Haga	0	0.2065	0.2064
$\alpha=0.001$			
Student's t	0.0425	0.0425	0
Welch-Aspin's t	0.0234	0.0234	0
Yuen	0.0159	0.016	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.2062	0.2061

Table 665

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6292	0.6292	0
Welch-Aspin's t	0.6248	0.6248	0
Yuen Test	0.7624	0.7624	0
Tukey's Quick Test	0.6668	0.6668	0
Haga Test	0	0.9587	0.9587
$\alpha=0.01$			
Student's t	0.4133	0.4133	0
Welch-Aspin's t	0.4023	0.4023	0
Yuen	0.539	0.539	0
Tukey's Quick	0.6363	0.6363	0
Haga	0	0.7653	0.7653
$\alpha=0.001$			
Student's t	0.1888	0.1888	0
Welch-Aspin's t	0.1705	0.1705	0
Yuen	0.2477	0.2477	0
Tukey's Quick	0.4222	0.4222	0
Haga	0	0.4265	0.4265

Table 666

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7997	0.7997	0
Welch-Aspin's t	0.7979	0.7979	0
Yuen Test	0.9247	0.9247	0
Tukey's Quick Test	0.6624	0.6624	0
Haga Test	0	0.9994	0.9994
$\alpha=0.01$			
Student's t	0.6161	0.6161	0
Welch-Aspin's t	0.6125	0.6125	0
Yuen	0.8073	0.8073	0
Tukey's Quick	0.6636	0.6636	0
Haga	0	0.9968	0.9968
$\alpha=0.001$			
Student's t	0.3628	0.3628	0
Welch-Aspin's t	0.354	0.354	0
Yuen	0.5693	0.5693	0
Tukey's Quick	0.6591	0.6591	0
Haga	0	0.9687	0.9687

Table 667

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4062	0.4062	0
Welch-Aspin's t	0.2961	0.2961	0
Yuen Test	0.3899	0.3899	0
Tukey's Quick Test	0.4104	0.4104	0
Haga Test	0	0.3707	0.3707
$\alpha=0.01$			
Student's t	0.2223	0.2223	0
Welch-Aspin's t	0.0919	0.0919	0
Yuen	0.1821	0.1821	0
Tukey's Quick	0.2429	0.2429	0
Haga	0	0.163	0.163
$\alpha=0.001$			
Student's t	0.082	0.082	0
Welch-Aspin's t	0.0203	0.0203	0
Yuen	0.0675	0.0675	0
Tukey's Quick	0.0285	0.0285	0
Haga	0	0.0954	0.0954

Table 668

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4024	0.4024	0
Welch-Aspin's t	0.3018	0.3018	0
Yuen Test	0.4472	0.4472	0
Tukey's Quick Test	0.2918	0.2918	0
Haga Test	0	0.5415	0.5415
$\alpha=0.01$			
Student's t	0.2266	0.2266	0
Welch-Aspin's t	0.0869	0.0869	0
Yuen	0.231	0.231	0
Tukey's Quick	0.2512	0.2512	0
Haga	0	0.4343	0.4343
$\alpha=0.001$			
Student's t	0.0912	0.0912	0
Welch-Aspin's t	0.0187	0.0187	0
Yuen	0.1031	0.1031	0
Tukey's Quick	0.0517	0.0517	0
Haga	0	0.3295	0.3295

Table 669

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6959	0.6959	0
Welch-Aspin's t	0.7176	0.7176	0
Yuen Test	0.8861	0.8861	0
Tukey's Quick Test	0.5442	0.5442	0
Haga Test	0	0.996	0.996
$\alpha=0.01$			
Student's t	0.4873	0.4873	0
Welch-Aspin's t	0.4568	0.4568	0
Yuen	0.6736	0.6736	0
Tukey's Quick	0.545	0.545	0
Haga	0	0.9716	0.9716
$\alpha=0.001$			
Student's t	0.2511	0.2511	0
Welch-Aspin's t	0.1726	0.1726	0
Yuen	0.3262	0.3262	0
Tukey's Quick	0.5375	0.5375	0
Haga	0	0.8574	0.8574

Table 670

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5555	0.5555	0
Welch-Aspin's t	0.5125	0.5125	0
Yuen Test	0.4271	0.4273	0.0001
Tukey's Quick Test	0.4744	0.4744	0
Haga Test	0	0.4744	0.4744
$\alpha=0.01$			
Student's t	0.3234	0.3234	0
Welch-Aspin's t	0.2533	0.2533	0
Yuen	0.1665	0.1665	0
Tukey's Quick	0.365	0.365	0
Haga	0	0.365	0.365
$\alpha=0.001$			
Student's t	0.1238	0.1238	0
Welch-Aspin's t	0.0756	0.0756	0
Yuen	0.0385	0.0386	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.3652	0.3652

Table 671

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8728	0.8728	0
Welch-Aspin's t	0.8688	0.8688	0
Yuen Test	0.9421	0.9421	0
Tukey's Quick Test	0.7406	0.7406	0
Haga Test	0	0.9932	0.9932
$\alpha=0.01$			
Student's t	0.7331	0.7331	0
Welch-Aspin's t	0.7237	0.7237	0
Yuen	0.8379	0.8379	0
Tukey's Quick	0.7366	0.7366	0
Haga	0	0.9179	0.9179
$\alpha=0.001$			
Student's t	0.5007	0.5007	0
Welch-Aspin's t	0.479	0.479	0
Yuen	0.5962	0.5962	0
Tukey's Quick	0.6385	0.6385	0
Haga	0	0.6558	0.6558

Table 672

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9681	0.9681	0
Welch-Aspin's t	0.9671	0.9671	0
Yuen Test	0.9948	0.9948	0
Tukey's Quick Test	0.7327	0.7327	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9074	0.9074	0
Welch-Aspin's t	0.9042	0.9042	0
Yuen	0.9764	0.9764	0
Tukey's Quick	0.7328	0.7328	0
Haga	0	0.9999	0.9999
$\alpha=0.001$			
Student's t	0.765	0.765	0
Welch-Aspin's t	0.7572	0.7572	0
Yuen	0.9072	0.9072	0
Tukey's Quick	0.7322	0.7322	0
Haga	0	0.9976	0.9976

Table 673

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6552	0.6552	0
Welch-Aspin's t	0.6391	0.6391	0
Yuen Test	0.6519	0.6519	0
Tukey's Quick Test	0.5109	0.5109	0
Haga Test	0	0.6099	0.6099
$\alpha=0.01$			
Student's t	0.4511	0.4511	0
Welch-Aspin's t	0.3203	0.3203	0
Yuen	0.3878	0.3878	0
Tukey's Quick	0.4326	0.4326	0
Haga	0	0.3501	0.3501
$\alpha=0.001$			
Student's t	0.2317	0.2317	0
Welch-Aspin's t	0.1116	0.1116	0
Yuen	0.1847	0.1847	0
Tukey's Quick	0.1005	0.1005	0
Haga	0	0.2457	0.2457

Table 674

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6793	0.6793	0
Welch-Aspin's t	0.7018	0.7018	0
Yuen Test	0.686	0.686	0
Tukey's Quick Test	0.3759	0.3759	0
Haga Test	0	0.8282	0.8282
$\alpha=0.01$			
Student's t	0.4736	0.4736	0
Welch-Aspin's t	0.3614	0.3614	0
Yuen	0.446	0.446	0
Tukey's Quick	0.3696	0.3696	0
Haga	0	0.747	0.747
$\alpha=0.001$			
Student's t	0.2553	0.2553	0
Welch-Aspin's t	0.1331	0.1331	0
Yuen	0.2596	0.2596	0
Tukey's Quick	0.1891	0.1891	0
Haga	0	0.6477	0.6477

Table 675

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9253	0.9253	0
Welch-Aspin's t	0.9504	0.9504	0
Yuen Test	0.9919	0.9919	0
Tukey's Quick Test	0.6271	0.6271	0
Haga Test	0	0.9998	0.9998
$\alpha=0.01$			
Student's t	0.8168	0.8168	0
Welch-Aspin's t	0.8444	0.8444	0
Yuen	0.9514	0.9514	0
Tukey's Quick	0.6281	0.6281	0
Haga	0	0.9976	0.9976
$\alpha=0.001$			
Student's t	0.6135	0.6135	0
Welch-Aspin's t	0.5887	0.5887	0
Yuen	0.7664	0.7664	0
Tukey's Quick	0.6282	0.6282	0
Haga	0	0.9768	0.9768

Table 676

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8196	0.8196	0
Welch-Aspin's t	0.7883	0.7883	0
Yuen Test	0.6906	0.6906	0
Tukey's Quick Test	0.707	0.707	0
Haga Test	0	0.707	0.707
$\alpha=0.01$			
Student's t	0.6334	0.6334	0
Welch-Aspin's t	0.5494	0.5494	0
Yuen	0.3514	0.3514	0
Tukey's Quick	0.6297	0.6297	0
Haga	0	0.6297	0.6297
$\alpha=0.001$			
Student's t	0.359	0.359	0
Welch-Aspin's t	0.2493	0.2493	0
Yuen	0.1052	0.1052	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.6296	0.6296

Table 677

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9911	0.9911	0
Welch-Aspin's t	0.9901	0.9901	0
Yuen Test	0.9977	0.9977	0
Tukey's Quick Test	0.8482	0.8482	0
Haga Test	0	0.9998	0.9998
$\alpha=0.01$			
Student's t	0.9687	0.9687	0
Welch-Aspin's t	0.9644	0.9644	0
Yuen	0.9869	0.9869	0
Tukey's Quick	0.8478	0.8478	0
Haga	0	0.9915	0.9915
$\alpha=0.001$			
Student's t	0.8998	0.8998	0
Welch-Aspin's t	0.8858	0.8858	0
Yuen	0.9327	0.9327	0
Tukey's Quick	0.8371	0.8371	0
Haga	0	0.8816	0.8816

Table 678

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9996	0.9996	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8411	0.8411	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9979	0.9979	0
Welch-Aspin's t	0.9976	0.9976	0
Yuen	0.9999	0.9999	0
Tukey's Quick	0.8405	0.8405	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9889	0.9889	0
Welch-Aspin's t	0.987	0.987	0
Yuen	0.9983	0.9983	0
Tukey's Quick	0.8408	0.8408	0
Haga	0	1	1

Table 679

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9234	0.9234	0
Welch-Aspin's t	0.947	0.947	0
Yuen Test	0.8719	0.8719	0
Tukey's Quick Test	0.6871	0.6871	0
Haga Test	0	0.8777	0.8777
$\alpha=0.01$			
Student's t	0.8119	0.8119	0
Welch-Aspin's t	0.7532	0.7532	0
Yuen	0.6506	0.6506	0
Tukey's Quick	0.6779	0.6779	0
Haga	0	0.6475	0.6475
$\alpha=0.001$			
Student's t	0.6108	0.6108	0
Welch-Aspin's t	0.4471	0.4471	0
Yuen	0.4233	0.4233	0
Tukey's Quick	0.3468	0.3468	0
Haga	0	0.5664	0.5664

Table 680

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9567	0.9567	0
Welch-Aspin's t	0.9638	0.9638	0
Yuen Test	0.8618	0.8618	0
Tukey's Quick Test	0.5585	0.5585	0
Haga Test	0	0.9865	0.9865
$\alpha=0.01$			
Student's t	0.8656	0.8656	0
Welch-Aspin's t	0.7855	0.7855	0
Yuen	0.6444	0.6444	0
Tukey's Quick	0.5584	0.5584	0
Haga	0	0.971	0.971
$\alpha=0.001$			
Student's t	0.685	0.685	0
Welch-Aspin's t	0.4967	0.4967	0
Yuen	0.4476	0.4476	0
Tukey's Quick	0.5129	0.5129	0
Haga	0	0.9455	0.9455

Table 681

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9983	0.9983	0
Welch-Aspin's t	0.9995	0.9995	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7681	0.7681	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9905	0.9905	0
Welch-Aspin's t	0.9961	0.9961	0
Yuen	0.9997	0.9997	0
Tukey's Quick	0.7687	0.7687	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9581	0.9581	0
Welch-Aspin's t	0.9715	0.9715	0
Yuen	0.9901	0.9901	0
Tukey's Quick	0.769	0.769	0
Haga	0	0.9996	0.9996

Table 682

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0389	0.0446	0.0058
Welch-Aspin's t	0.0235	0.0265	0.003
Yuen Test	0.0295	0.0367	0.0072
Tukey's Quick Test	0.0534	0.0583	0.0049
Haga Test	0.0049	0.0583	0.0534
$\alpha=0.01$			
Student's t	0.0061	0.0069	0.0008
Welch-Aspin's t	0.0026	0.003	0.0003
Yuen	0.0068	0.0085	0.0016
Tukey's Quick	0.0141	0.0155	0.0014
Haga	0.0014	0.0155	0.0141
$\alpha=0.001$			
Student's t	0.0007	0.0008	0.0001
Welch-Aspin's t	0.0002	0.0003	0
Yuen	0.001	0.0012	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0013	0.0155	0.0142

Table 683

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.074	0.0781	0.0041
Welch-Aspin's t	0.0682	0.0716	0.0034
Yuen Test	0.0653	0.068	0.0027
Tukey's Quick Test	0.3552	0.3554	0.0002
Haga Test	0.0003	0.3805	0.3803
$\alpha=0.01$			
Student's t	0.0146	0.015	0.0003
Welch-Aspin's t	0.011	0.0113	0.0002
Yuen	0.0107	0.011	0.0003
Tukey's Quick	0.1058	0.1058	0.0001
Haga	0.0001	0.1063	0.1062
$\alpha=0.001$			
Student's t	0.0011	0.0011	0
Welch-Aspin's t	0.0005	0.0005	0
Yuen	0.001	0.001	0
Tukey's Quick	0.0195	0.0195	0
Haga	0	0.0195	0.0195

Table 684

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1009	0.1038	0.0029
Welch-Aspin's t	0.0981	0.1008	0.0026
Yuen Test	0.1048	0.1066	0.0018
Tukey's Quick Test	0.5553	0.5553	0
Haga Test	0	0.6584	0.6584
$\alpha=0.01$			
Student's t	0.0243	0.0245	0.0002
Welch-Aspin's t	0.0217	0.0219	0.0002
Yuen	0.0221	0.0222	0.0001
Tukey's Quick	0.3786	0.3786	0
Haga	0	0.4289	0.4289
$\alpha=0.001$			
Student's t	0.0023	0.0023	0
Welch-Aspin's t	0.0015	0.0015	0
Yuen	0.0017	0.0017	0
Tukey's Quick	0.0975	0.0975	0
Haga	0	0.1536	0.1536

Table 685

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0818	0.0822	0.0004
Welch-Aspin's t	0.0096	0.033	0.0234
Yuen Test	0.0314	0.0399	0.0085
Tukey's Quick Test	0.1004	0.1006	0.0002
Haga Test	0.0001	0.0222	0.0221
$\alpha=0.01$			
Student's t	0.0259	0.0259	0
Welch-Aspin's t	0.0013	0.004	0.0027
Yuen	0.0114	0.0124	0.001
Tukey's Quick	0.0116	0.0117	0.0001
Haga	0	0.0063	0.0062
$\alpha=0.001$			
Student's t	0.0048	0.0048	0
Welch-Aspin's t	0.0002	0.0003	0.0001
Yuen	0.0035	0.0036	0.0001
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0031	0.0031

Table 686

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0922	0.0923	0.0001
Welch-Aspin's t	0.0075	0.0549	0.0474
Yuen Test	0.033	0.0492	0.0162
Tukey's Quick Test	0.0991	0.0991	0
Haga Test	0.0001	0.0243	0.0242
$\alpha=0.01$			
Student's t	0.0355	0.0355	0
Welch-Aspin's t	0.0011	0.0133	0.0123
Yuen	0.013	0.0153	0.0023
Tukey's Quick	0.0127	0.0127	0
Haga	0	0.0159	0.0158
$\alpha=0.001$			
Student's t	0.0089	0.0089	0
Welch-Aspin's t	0.0002	0.0011	0.001
Yuen	0.005	0.0051	0.0001
Tukey's Quick	0.0012	0.0012	0
Haga	0	0.0098	0.0098

Table 687

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.097	0.0989	0.0019
Welch-Aspin's t	0.0485	0.0555	0.007
Yuen Test	0.0555	0.0588	0.0032
Tukey's Quick Test	0.3976	0.3976	0
Haga Test	0	0.463	0.463
$\alpha=0.01$			
Student's t	0.0266	0.0266	0.0001
Welch-Aspin's t	0.0056	0.0063	0.0007
Yuen	0.0084	0.0088	0.0003
Tukey's Quick	0.2158	0.2158	0
Haga	0	0.1678	0.1677
$\alpha=0.001$			
Student's t	0.0037	0.0037	0
Welch-Aspin's t	0.0002	0.0002	0
Yuen	0.0007	0.0007	0
Tukey's Quick	0.0337	0.0337	0
Haga	0	0.0345	0.0345

Table 688

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1471	0.1482	0.0011
Welch-Aspin's t	0.1118	0.1124	0.0006
Yuen Test	0.101	0.1032	0.0021
Tukey's Quick Test	0.1696	0.1705	0.0009
Haga Test	0.0009	0.1705	0.1696
$\alpha=0.01$			
Student's t	0.041	0.0411	0.0002
Welch-Aspin's t	0.023	0.023	0.0001
Yuen	0.0265	0.0269	0.0005
Tukey's Quick	0.0776	0.0779	0.0003
Haga	0.0003	0.0779	0.0776
$\alpha=0.001$			
Student's t	0.0068	0.0068	0
Welch-Aspin's t	0.0031	0.0031	0
Yuen	0.0044	0.0045	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.078	0.0778

Table 689

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3012	0.3013	0.0002
Welch-Aspin's t	0.2944	0.2945	0.0001
Yuen Test	0.3721	0.3722	0.0001
Tukey's Quick Test	0.6254	0.6254	0
Haga Test	0	0.82	0.82
$\alpha=0.01$			
Student's t	0.1204	0.1204	0
Welch-Aspin's t	0.1087	0.1087	0
Yuen	0.1451	0.1451	0
Tukey's Quick	0.4587	0.4587	0
Haga	0	0.4892	0.4892
$\alpha=0.001$			
Student's t	0.0249	0.0249	0
Welch-Aspin's t	0.0178	0.0178	0
Yuen	0.0274	0.0274	0
Tukey's Quick	0.1811	0.1811	0
Haga	0	0.1813	0.1813

Table 690

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4292	0.4292	0
Welch-Aspin's t	0.4268	0.4269	0
Yuen Test	0.5687	0.5688	0
Tukey's Quick Test	0.6486	0.6486	0
Haga Test	0	0.9842	0.9842
$\alpha=0.01$			
Student's t	0.2123	0.2123	0
Welch-Aspin's t	0.2063	0.2063	0
Yuen	0.3131	0.3131	0
Tukey's Quick	0.6455	0.6455	0
Haga	0	0.9426	0.9426
$\alpha=0.001$			
Student's t	0.0601	0.0601	0
Welch-Aspin's t	0.0528	0.0528	0
Yuen	0.0936	0.0936	0
Tukey's Quick	0.5557	0.5557	0
Haga	0	0.7653	0.7653

Table 691

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2047	0.2047	0
Welch-Aspin's t	0.0601	0.0613	0.0012
Yuen Test	0.1225	0.1228	0.0002
Tukey's Quick Test	0.314	0.314	0
Haga Test	0	0.1438	0.1438
$\alpha=0.01$			
Student's t	0.0841	0.0841	0
Welch-Aspin's t	0.0094	0.0094	0
Yuen	0.045	0.045	0
Tukey's Quick	0.0807	0.0807	0
Haga	0	0.0434	0.0434
$\alpha=0.001$			
Student's t	0.0209	0.0209	0
Welch-Aspin's t	0.0013	0.0013	0
Yuen	0.0143	0.0143	0
Tukey's Quick	0.0048	0.0048	0
Haga	0	0.0213	0.0213

Table 692

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2095	0.2095	0
Welch-Aspin's t	0.047	0.0492	0.0022
Yuen Test	0.1313	0.1314	0.0002
Tukey's Quick Test	0.2555	0.2555	0
Haga Test	0	0.1908	0.1908
$\alpha=0.01$			
Student's t	0.0965	0.0965	0
Welch-Aspin's t	0.0066	0.0068	0.0001
Yuen	0.052	0.052	0
Tukey's Quick	0.0998	0.0998	0
Haga	0	0.1282	0.1282
$\alpha=0.001$			
Student's t	0.0302	0.0302	0
Welch-Aspin's t	0.0011	0.0011	0
Yuen	0.0191	0.0191	0
Tukey's Quick	0.0073	0.0073	0
Haga	0	0.0811	0.0811

Table 693

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3517	0.3517	0
Welch-Aspin's t	0.2915	0.2916	0.0001
Yuen Test	0.4222	0.4222	0
Tukey's Quick Test	0.5217	0.5217	0
Haga Test	0	0.9452	0.9452
$\alpha=0.01$			
Student's t	0.165	0.165	0
Welch-Aspin's t	0.0878	0.0878	0
Yuen	0.1525	0.1525	0
Tukey's Quick	0.513	0.513	0
Haga	0	0.7837	0.7837
$\alpha=0.001$			
Student's t	0.0456	0.0456	0
Welch-Aspin's t	0.01	0.01	0
Yuen	0.0265	0.0265	0
Tukey's Quick	0.3855	0.3855	0
Haga	0	0.4799	0.4799

Table 694

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3085	0.3087	0.0002
Welch-Aspin's t	0.2624	0.2626	0.0001
Yuen Test	0.2159	0.2166	0.0007
Tukey's Quick Test	0.2996	0.2998	0.0002
Haga Test	0.0002	0.2998	0.2996
$\alpha=0.01$			
Student's t	0.1239	0.1239	0
Welch-Aspin's t	0.0829	0.0829	0
Yuen	0.0655	0.0656	0.0002
Tukey's Quick	0.1818	0.1818	0.0001
Haga	0.0001	0.1818	0.1818
$\alpha=0.001$			
Student's t	0.0304	0.0304	0
Welch-Aspin's t	0.0158	0.0158	0
Yuen	0.0123	0.0123	0
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.1817	0.1817

Table 695

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5974	0.5974	0
Welch-Aspin's t	0.5924	0.5924	0
Yuen Test	0.7153	0.7153	0
Tukey's Quick Test	0.6975	0.6975	0
Haga Test	0	0.9522	0.9522
$\alpha=0.01$			
Student's t	0.3655	0.3655	0
Welch-Aspin's t	0.3521	0.3521	0
Yuen	0.4621	0.4621	0
Tukey's Quick	0.6518	0.6518	0
Haga	0	0.7502	0.7502
$\alpha=0.001$			
Student's t	0.1444	0.1444	0
Welch-Aspin's t	0.1248	0.1248	0
Yuen	0.1779	0.1779	0
Tukey's Quick	0.4072	0.4072	0
Haga	0	0.4097	0.4097

Table 696

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7748	0.7748	0
Welch-Aspin's t	0.7732	0.7732	0
Yuen Test	0.8996	0.8996	0
Tukey's Quick Test	0.7033	0.7033	0
Haga Test	0	0.9992	0.9992
$\alpha=0.01$			
Student's t	0.5721	0.5721	0
Welch-Aspin's t	0.5678	0.5678	0
Yuen	0.7515	0.7515	0
Tukey's Quick	0.7024	0.7024	0
Haga	0	0.9955	0.9955
$\alpha=0.001$			
Student's t	0.3063	0.3063	0
Welch-Aspin's t	0.2949	0.2949	0
Yuen	0.4729	0.4729	0
Tukey's Quick	0.695	0.695	0
Haga	0	0.9605	0.9605

Table 697

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3879	0.3879	0
Welch-Aspin's t	0.2339	0.234	0
Yuen Test	0.3213	0.3213	0
Tukey's Quick Test	0.4271	0.4271	0
Haga Test	0	0.3463	0.3463
$\alpha=0.01$			
Student's t	0.2045	0.2045	0
Welch-Aspin's t	0.0626	0.0626	0
Yuen	0.1415	0.1415	0
Tukey's Quick	0.2257	0.2257	0
Haga	0	0.1458	0.1458
$\alpha=0.001$			
Student's t	0.0711	0.0711	0
Welch-Aspin's t	0.0122	0.0122	0
Yuen	0.0502	0.0502	0
Tukey's Quick	0.0236	0.0236	0
Haga	0	0.0837	0.0837

Table 698

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3916	0.3916	0
Welch-Aspin's t	0.229	0.229	0
Yuen Test	0.3669	0.3669	0
Tukey's Quick Test	0.3163	0.3163	0
Haga Test	0	0.5008	0.5008
$\alpha=0.01$			
Student's t	0.2187	0.2187	0
Welch-Aspin's t	0.0552	0.0552	0
Yuen	0.1779	0.1779	0
Tukey's Quick	0.2535	0.2535	0
Haga	0	0.3948	0.3948
$\alpha=0.001$			
Student's t	0.0859	0.0859	0
Welch-Aspin's t	0.0103	0.0103	0
Yuen	0.0747	0.0747	0
Tukey's Quick	0.0425	0.0425	0
Haga	0	0.2938	0.2938

Table 699

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6716	0.6716	0
Welch-Aspin's t	0.6724	0.6724	0
Yuen Test	0.8373	0.8373	0
Tukey's Quick Test	0.5829	0.5829	0
Haga Test	0	0.995	0.995
$\alpha=0.01$			
Student's t	0.4517	0.4517	0
Welch-Aspin's t	0.3857	0.3857	0
Yuen	0.5704	0.5704	0
Tukey's Quick	0.5831	0.5831	0
Haga	0	0.9639	0.9639
$\alpha=0.001$			
Student's t	0.2136	0.2136	0
Welch-Aspin's t	0.1172	0.1172	0
Yuen	0.2238	0.2238	0
Tukey's Quick	0.5668	0.5668	0
Haga	0	0.8303	0.8303

Table 700

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.521	0.5211	0
Welch-Aspin's t	0.4739	0.4739	0
Yuen Test	0.3852	0.3854	0.0002
Tukey's Quick Test	0.4595	0.4596	0
Haga Test	0	0.4596	0.4595
$\alpha=0.01$			
Student's t	0.2834	0.2835	0
Welch-Aspin's t	0.2144	0.2144	0
Yuen	0.1416	0.1416	0
Tukey's Quick	0.3393	0.3393	0
Haga	0	0.3393	0.3393
$\alpha=0.001$			
Student's t	0.0984	0.0984	0
Welch-Aspin's t	0.0578	0.0579	0
Yuen	0.0315	0.0315	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.3398	0.3398

Table 701

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8585	0.8585	0
Welch-Aspin's t	0.8549	0.8549	0
Yuen Test	0.9296	0.9296	0
Tukey's Quick Test	0.7643	0.7643	0
Haga Test	0	0.9924	0.9924
$\alpha=0.01$			
Student's t	0.7007	0.7007	0
Welch-Aspin's t	0.6908	0.6908	0
Yuen	0.8029	0.8029	0
Tukey's Quick	0.7585	0.7585	0
Haga	0	0.913	0.913
$\alpha=0.001$			
Student's t	0.4481	0.4481	0
Welch-Aspin's t	0.4231	0.4231	0
Yuen	0.5226	0.5226	0
Tukey's Quick	0.6408	0.6408	0
Haga	0	0.653	0.653

Table 702

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9626	0.9626	0
Welch-Aspin's t	0.9616	0.9616	0
Yuen Test	0.9925	0.9925	0
Tukey's Quick Test	0.7653	0.7653	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.8926	0.8926	0
Welch-Aspin's t	0.8898	0.8898	0
Yuen	0.9681	0.9681	0
Tukey's Quick	0.7659	0.7659	0
Haga	0	0.9998	0.9998
$\alpha=0.001$			
Student's t	0.7277	0.7277	0
Welch-Aspin's t	0.7196	0.7196	0
Yuen	0.8759	0.8759	0
Tukey's Quick	0.7655	0.7655	0
Haga	0	0.9971	0.9971

Table 703

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6377	0.6377	0
Welch-Aspin's t	0.5726	0.5726	0
Yuen Test	0.5885	0.5885	0
Tukey's Quick Test	0.5275	0.5275	0
Haga Test	0	0.5949	0.5949
$\alpha=0.01$			
Student's t	0.4302	0.4302	0
Welch-Aspin's t	0.2562	0.2562	0
Yuen	0.3302	0.3302	0
Tukey's Quick	0.4291	0.4291	0
Haga	0	0.3375	0.3375
$\alpha=0.001$			
Student's t	0.2107	0.2107	0
Welch-Aspin's t	0.0796	0.0796	0
Yuen	0.1498	0.1498	0
Tukey's Quick	0.0894	0.0894	0
Haga	0	0.2317	0.2317

Table 704

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6641	0.6641	0
Welch-Aspin's t	0.6268	0.6268	0
Yuen Test	0.6244	0.6244	0
Tukey's Quick Test	0.3983	0.3983	0
Haga Test	0	0.8107	0.8107
$\alpha=0.01$			
Student's t	0.4586	0.4586	0
Welch-Aspin's t	0.2846	0.2846	0
Yuen	0.3864	0.3864	0
Tukey's Quick	0.3892	0.3892	0
Haga	0	0.7257	0.7257
$\alpha=0.001$			
Student's t	0.243	0.243	0
Welch-Aspin's t	0.0925	0.0925	0
Yuen	0.214	0.214	0
Tukey's Quick	0.1769	0.1769	0
Haga	0	0.6236	0.6236

Table 705

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.917	0.917	0
Welch-Aspin's t	0.9394	0.9394	0
Yuen Test	0.9871	0.9871	0
Tukey's Quick Test	0.6612	0.6612	0
Haga Test	0	0.9998	0.9998
$\alpha=0.01$			
Student's t	0.7964	0.7964	0
Welch-Aspin's t	0.8052	0.8052	0
Yuen	0.9228	0.9228	0
Tukey's Quick	0.6606	0.6606	0
Haga	0	0.9971	0.9971
$\alpha=0.001$			
Student's t	0.5777	0.5777	0
Welch-Aspin's t	0.5088	0.5088	0
Yuen	0.6757	0.6757	0
Tukey's Quick	0.6599	0.6599	0
Haga	0	0.9732	0.9732

Table 706

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8037	0.8037	0
Welch-Aspin's t	0.7693	0.7693	0
Yuen Test	0.6581	0.6581	0
Tukey's Quick Test	0.6974	0.6974	0
Haga Test	0	0.6974	0.6974
$\alpha=0.01$			
Student's t	0.6015	0.6015	0
Welch-Aspin's t	0.5116	0.5116	0
Yuen	0.3199	0.3199	0
Tukey's Quick	0.6124	0.6124	0
Haga	0	0.6124	0.6124
$\alpha=0.001$			
Student's t	0.3187	0.3187	0
Welch-Aspin's t	0.2143	0.2143	0
Yuen	0.0909	0.0909	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.6116	0.6116

Table 707

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9901	0.9901	0
Welch-Aspin's t	0.9891	0.9891	0
Yuen Test	0.9973	0.9973	0
Tukey's Quick Test	0.8632	0.8632	0
Haga Test	0	0.9998	0.9998
$\alpha=0.01$			
Student's t	0.9643	0.9643	0
Welch-Aspin's t	0.9601	0.9601	0
Yuen	0.9842	0.9842	0
Tukey's Quick	0.8626	0.8626	0
Haga			
$\alpha=0.001$			
Student's t	0.8837	0.8837	0
Welch-Aspin's t	0.8691	0.8691	0
Yuen	0.9175	0.9175	0
Tukey's Quick	0.8484	0.8484	0
Haga	0	0.8852	0.8852

Table 708

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9996	0.9996	0
Yuen Test	1	1	0
Tukey's Quick Test	0.8608	0.8608	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9976	0.9976	0
Welch-Aspin's t	0.9973	0.9973	0
Yuen	0.9998	0.9998	0
Tukey's Quick	0.8613	0.8613	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9869	0.9869	0
Welch-Aspin's t	0.985	0.985	0
Yuen	0.9978	0.9978	0
Tukey's Quick	0.8612	0.8612	0
Haga	0	1	1

Table 709

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9183	0.9183	0
Welch-Aspin's t	0.9269	0.9269	0
Yuen Test	0.8361	0.8361	0
Tukey's Quick Test	0.6978	0.6978	0
Haga Test	0	0.8741	0.8741
$\alpha=0.01$			
Student's t	0.8021	0.8021	0
Welch-Aspin's t	0.6968	0.6968	0
Yuen	0.6003	0.6003	0
Tukey's Quick	0.6857	0.6857	0
Haga	0	0.6495	0.6495
$\alpha=0.001$			
Student's t	0.5911	0.5911	0
Welch-Aspin's t	0.3822	0.3822	0
Yuen	0.3755	0.3755	0
Tukey's Quick	0.3314	0.3314	0
Haga	0	0.5606	0.5606

Table 710

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9519	0.9519	0
Welch-Aspin's t	0.946	0.946	0
Yuen Test	0.825	0.825	0
Tukey's Quick Test	0.5738	0.5738	0
Haga Test	0	0.9849	0.9849
$\alpha=0.01$			
Student's t	0.8563	0.8563	0
Welch-Aspin's t	0.7292	0.7292	0
Yuen	0.5962	0.5962	0
Tukey's Quick	0.5739	0.5739	0
Haga	0	0.9681	0.9681
$\alpha=0.001$			
Student's t	0.6715	0.6715	0
Welch-Aspin's t	0.4292	0.4292	0
Yuen	0.402	0.402	0
Tukey's Quick	0.5159	0.5159	0
Haga	0	0.94	0.94

Table 711

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9981	0.9981	0
Welch-Aspin's t	0.9994	0.9994	0
Yuen Test	1	1	0
Tukey's Quick Test	0.7903	0.7903	0
Haga Test	0	1	1
$\alpha=0.01$			
Student's t	0.9891	0.9891	0
Welch-Aspin's t	0.9947	0.9947	0
Yuen	0.9992	0.9992	0
Tukey's Quick	0.7896	0.7896	0
Haga	0	1	1
$\alpha=0.001$			
Student's t	0.9524	0.9524	0
Welch-Aspin's t	0.9589	0.9589	0
Yuen	0.9807	0.9807	0
Tukey's Quick	0.7901	0.7901	0
Haga	0	0.9995	0.9995

Table 712

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0055	0.1476	0.1422
Welch-Aspin's t	0.0025	0.1332	0.1307
Yuen Test	0.006	0.1719	0.1659
Tukey's Quick Test	0.0046	0.1071	0.1025
Haga Test	0.1025	0.1071	0.0046
$\alpha=0.01$			
Student's t	0.0009	0.0782	0.0773
Welch-Aspin's t	0.0003	0.0642	0.0639
Yuen	0.0016	0.0657	0.0641
Tukey's Quick	0.002	0.0783	0.0763
Haga	0.0763	0.0783	0.002
$\alpha=0.001$			
Student's t	0.0001	0.0303	0.0301
Welch-Aspin's t	0	0.0204	0.0204
Yuen	0.0003	0.0151	0.0148
Tukey's Quick	n/a	n/a	n/a
Haga	0.0761	0.0781	0.002

Table 713

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0075	0.0867	0.0792
Welch-Aspin's t	0.0055	0.0822	0.0768
Yuen Test	0.0009	0.236	0.235
Tukey's Quick Test	0	0.0675	0.0675
Haga Test	0.4572	0.4574	0.0002
$\alpha=0.01$			
Student's t	0.0005	0.041	0.0405
Welch-Aspin's t	0.0002	0.0386	0.0384
Yuen	0.0001	0.1341	0.134
Tukey's Quick	0	0.0568	0.0568
Haga	0.1417	0.1417	0
$\alpha=0.001$			
Student's t	0	0.017	0.017
Welch-Aspin's t	0	0.0155	0.0155
Yuen	0	0.0613	0.0613
Tukey's Quick	0	0.0242	0.0242
Haga	0.026	0.026	0

Table 714

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0113	0.0679	0.0566
Welch-Aspin's t	0.0094	0.0647	0.0552
Yuen Test	0.0005	0.2806	0.2801
Tukey's Quick Test	0	0.0289	0.0289
Haga Test	0.7832	0.7832	0
$\alpha=0.01$			
Student's t	0.0007	0.0273	0.0266
Welch-Aspin's t	0.0004	0.0259	0.0254
Yuen	0	0.1611	0.1611
Tukey's Quick	0	0.0289	0.0289
Haga	0.6217	0.6217	0
$\alpha=0.001$			
Student's t	0	0.0101	0.0101
Welch-Aspin's t	0	0.0094	0.0094
Yuen	0	0.0755	0.0755
Tukey's Quick	0	0.027	0.027
Haga	0.3313	0.3313	0

Table 715

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0703	0.293	0.2227
Welch-Aspin's t	0.0023	0.1561	0.1538
Yuen Test	0.0069	0.2121	0.2052
Tukey's Quick Test	0.0076	0.1405	0.1329
Haga Test	0.099	0.1043	0.0052
$\alpha=0.01$			
Student's t	0.0225	0.1702	0.1477
Welch-Aspin's t	0.0003	0.0976	0.0973
Yuen	0.0024	0.1345	0.1321
Tukey's Quick	0.0042	0.096	0.0918
Haga	0.0861	0.0895	0.0034
$\alpha=0.001$			
Student's t	0.0053	0.0839	0.0785
Welch-Aspin's t	0	0.0556	0.0556
Yuen	0.001	0.0815	0.0805
Tukey's Quick	0.0015	0.0769	0.0755
Haga	0.0818	0.0846	0.0028

Table 716

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1288	0.3803	0.2515
Welch-Aspin's t	0.0023	0.1568	0.1545
Yuen Test	0.0068	0.2034	0.1966
Tukey's Quick Test	0.008	0.1412	0.1333
Haga Test	0.098	0.1039	0.0058
$\alpha=0.01$			
Student's t	0.0605	0.2366	0.176
Welch-Aspin's t	0.0003	0.0976	0.0973
Yuen	0.0024	0.1286	0.1262
Tukey's Quick	0.0051	0.0989	0.0938
Haga	0.0938	0.0991	0.0053
$\alpha=0.001$			
Student's t	0.0207	0.1218	0.1011
Welch-Aspin's t	0	0.0559	0.0559
Yuen	0.001	0.0793	0.0783
Tukey's Quick	0.0023	0.0806	0.0783
Haga	0.0892	0.0937	0.0046

Table 717

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0345	0.1457	0.1113
Welch-Aspin's t	0.0052	0.0868	0.0816
Yuen Test	0.0009	0.2388	0.2379
Tukey's Quick Test	0	0.0916	0.0916
Haga Test	0.2601	0.2601	0
$\alpha=0.01$			
Student's t	0.0057	0.0699	0.0642
Welch-Aspin's t	0.0002	0.0435	0.0433
Yuen	0.0001	0.1386	0.1385
Tukey's Quick	0	0.0656	0.0656
Haga	0.0601	0.0601	0
$\alpha=0.001$			
Student's t	0.0004	0.0317	0.0313
Welch-Aspin's t	0	0.0197	0.0197
Yuen	0	0.0674	0.0674
Tukey's Quick	0	0.0145	0.0145
Haga	0.0145	0.0145	0

Table 718

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0083	0.1141	0.1058
Welch-Aspin's t	0.0039	0.1008	0.0969
Yuen Test	0.0082	0.1367	0.1285
Tukey's Quick Test	0.0072	0.0847	0.0775
Haga Test	0.0775	0.0847	0.0072
$\alpha=0.01$			
Student's t	0.0013	0.0548	0.0535
Welch-Aspin's t	0.0005	0.0441	0.0436
Yuen	0.0023	0.048	0.0458
Tukey's Quick	0.003	0.0577	0.0548
Haga	0.0548	0.0577	0.003
$\alpha=0.001$			
Student's t	0.0002	0.0191	0.0189
Welch-Aspin's t	0.0001	0.0125	0.0125
Yuen	0.0004	0.0101	0.0097
Tukey's Quick	n/a	n/a	n/a
Haga	0.0549	0.0579	0.003

Table 719

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0177	0.0633	0.0456
Welch-Aspin's t	0.0133	0.0576	0.0443
Yuen Test	0.0022	0.1604	0.1582
Tukey's Quick Test	0	0.0562	0.0562
Haga Test	0.3598	0.3603	0.0005
$\alpha=0.01$			
Student's t	0.0014	0.0226	0.0212
Welch-Aspin's t	0.0006	0.021	0.0203
Yuen	0.0002	0.0839	0.0837
Tukey's Quick	0	0.043	0.043
Haga	0.0942	0.0942	0
$\alpha=0.001$			
Student's t	0	0.0079	0.0079
Welch-Aspin's t	0	0.0073	0.0073
Yuen	0	0.0345	0.0345
Tukey's Quick	0	0.0147	0.0147
Haga	0.0154	0.0154	0

Table 720

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0316	0.0573	0.0257
Welch-Aspin's t	0.0273	0.0524	0.0251
Yuen Test	0.0016	0.1703	0.1688
Tukey's Quick Test	0	0.0237	0.0237
Haga Test	0.6814	0.6815	0.0001
$\alpha=0.01$			
Student's t	0.0027	0.0137	0.0109
Welch-Aspin's t	0.0018	0.0123	0.0105
Yuen	0.0001	0.0878	0.0877
Tukey's Quick	0	0.0238	0.0238
Haga	0.4974	0.4974	0
$\alpha=0.001$			
Student's t	0.0001	0.0037	0.0036
Welch-Aspin's t	0	0.0035	0.0035
Yuen	0	0.0369	0.0369
Tukey's Quick	0	0.021	0.021
Haga	0.2237	0.2237	0

Table 721

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.098	0.2645	0.1665
Welch-Aspin's t	0.0035	0.1259	0.1223
Yuen Test	0.0091	0.1826	0.1735
Tukey's Quick Test	0.0119	0.1174	0.1055
Haga Test	0.0747	0.0828	0.0081
$\alpha=0.01$			
Student's t	0.0331	0.1343	0.1012
Welch-Aspin's t	0.0005	0.0766	0.0761
Yuen	0.0032	0.1141	0.1109
Tukey's Quick	0.0065	0.0746	0.0681
Haga	0.0631	0.0683	0.0052
$\alpha=0.001$			
Student's t	0.0075	0.055	0.0475
Welch-Aspin's t	0.0001	0.0427	0.0426
Yuen	0.0013	0.0673	0.066
Tukey's Quick	0.0021	0.0562	0.0541
Haga	0.0595	0.0636	0.0041

Table 722

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1704	0.3587	0.1883
Welch-Aspin's t	0.0033	0.1276	0.1243
Yuen Test	0.0091	0.177	0.1679
Tukey's Quick Test	0.0123	0.1189	0.1065
Haga Test	0.0744	0.0832	0.0089
$\alpha=0.01$			
Student's t	0.0836	0.2042	0.1207
Welch-Aspin's t	0.0004	0.078	0.0775
Yuen	0.0032	0.1102	0.107
Tukey's Quick	0.0076	0.0777	0.0701
Haga	0.0701	0.078	0.0079
$\alpha=0.001$			
Student's t	0.0299	0.0904	0.0605
Welch-Aspin's t	0.0001	0.045	0.0449
Yuen	0.0014	0.0692	0.0678
Tukey's Quick	0.0036	0.0603	0.0567
Haga	0.0666	0.0737	0.007

Table 723

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0681	0.1325	0.0643
Welch-Aspin's t	0.0126	0.0603	0.0477
Yuen Test	0.0024	0.1638	0.1615
Tukey's Quick Test	0	0.0762	0.0762
Haga Test	0.1866	0.1867	0
$\alpha=0.01$			
Student's t	0.0131	0.0469	0.0338
Welch-Aspin's t	0.0006	0.0246	0.024
Yuen	0.0002	0.0895	0.0892
Tukey's Quick	0	0.0474	0.0474
Haga	0.0384	0.0384	0
$\alpha=0.001$			
Student's t	0.0011	0.0156	0.0145
Welch-Aspin's t	0	0.0101	0.0101
Yuen	0	0.0412	0.0412
Tukey's Quick	0	0.0087	0.0086
Haga	0.0086	0.0087	0

Table 724

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0131	0.0862	0.0732
Welch-Aspin's t	0.006	0.0724	0.0664
Yuen Test	0.0111	0.1026	0.0915
Tukey's Quick Test	0.0113	0.067	0.0557
Haga Test	0.0557	0.067	0.0113
$\alpha=0.01$			
Student's t	0.002	0.0358	0.0338
Welch-Aspin's t	0.0007	0.0274	0.0267
Yuen	0.003	0.0334	0.0304
Tukey's Quick	0.0046	0.0413	0.0367
Haga	0.0367	0.0413	0.0046
$\alpha=0.001$			
Student's t	0.0003	0.0108	0.0105
Welch-Aspin's t	0.0001	0.0068	0.0067
Yuen	0.0005	0.0065	0.0059
Tukey's Quick	n/a	n/a	n/a
Haga	0.0363	0.041	0.0046

Table 725

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0392	0.0611	0.0219
Welch-Aspin's t	0.0304	0.0518	0.0214
Yuen Test	0.0054	0.098	0.0926
Tukey's Quick Test	0	0.0457	0.0457
Haga Test	0.2584	0.2596	0.0013
$\alpha=0.01$			
Student's t	0.0036	0.0129	0.0093
Welch-Aspin's t	0.0018	0.0108	0.0089
Yuen	0.0006	0.0453	0.0447
Tukey's Quick	0	0.0299	0.0298
Haga	0.0562	0.0562	0.0001
$\alpha=0.001$			
Student's t	0.0001	0.003	0.0029
Welch-Aspin's t	0	0.0027	0.0027
Yuen	0	0.0161	0.016
Tukey's Quick	0	0.0078	0.0078
Haga	0.0081	0.0081	0

Table 726

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0804	0.0898	0.0093
Welch-Aspin's t	0.0713	0.0805	0.0092
Yuen Test	0.0056	0.0893	0.0837
Tukey's Quick Test	0	0.0193	0.0193
Haga Test	0.5462	0.5466	0.0004
$\alpha=0.01$			
Student's t	0.0098	0.0131	0.0033
Welch-Aspin's t	0.0067	0.01	0.0032
Yuen	0.0004	0.0388	0.0383
Tukey's Quick	0	0.019	0.019
Haga	0.3568	0.3569	0.0001
$\alpha=0.001$			
Student's t	0.0003	0.0012	0.0009
Welch-Aspin's t	0.0001	0.001	0.0009
Yuen	0	0.014	0.014
Tukey's Quick	0	0.0147	0.0147
Haga	0.1288	0.1288	0

Table 727

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1361	0.2502	0.1141
Welch-Aspin's t	0.0054	0.0986	0.0932
Yuen Test	0.0128	0.1536	0.1408
Tukey's Quick Test	0.0187	0.0989	0.0802
Haga Test	0.0533	0.0659	0.0125
$\alpha=0.01$			
Student's t	0.0488	0.1105	0.0617
Welch-Aspin's t	0.0007	0.0575	0.0568
Yuen	0.0045	0.0933	0.0888
Tukey's Quick	0.0103	0.0584	0.048
Haga	0.0439	0.0521	0.0083
$\alpha=0.001$			
Student's t	0.0117	0.0359	0.0242
Welch-Aspin's t	0.0001	0.0306	0.0305
Yuen	0.0019	0.0518	0.0499
Tukey's Quick	0.0031	0.039	0.0359
Haga	0.0404	0.0466	0.0062

Table 728

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2233	0.3513	0.128
Welch-Aspin's t	0.0053	0.1004	0.0952
Yuen Test	0.0123	0.15	0.1377
Tukey's Quick Test	0.0197	0.1007	0.081
Haga Test	0.0526	0.0666	0.014
$\alpha=0.01$			
Student's t	0.1162	0.1894	0.0733
Welch-Aspin's t	0.0007	0.0604	0.0597
Yuen	0.0046	0.0932	0.0886
Tukey's Quick	0.0118	0.0616	0.0498
Haga	0.0498	0.0621	0.0123
$\alpha=0.001$			
Student's t	0.0433	0.0731	0.0298
Welch-Aspin's t	0.0001	0.0342	0.0341
Yuen	0.0019	0.0582	0.0563
Tukey's Quick	0.0053	0.0435	0.0382
Haga	0.0464	0.0574	0.011

Table 729

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1272	0.1587	0.0315
Welch-Aspin's t	0.029	0.0533	0.0243
Yuen Test	0.0055	0.102	0.0965
Tukey's Quick Test	0	0.0611	0.0611
Haga Test	0.1208	0.1209	0.0001
$\alpha=0.01$			
Student's t	0.0299	0.0448	0.0149
Welch-Aspin's t	0.0017	0.0131	0.0114
Yuen	0.0006	0.0508	0.0502
Tukey's Quick	0	0.0307	0.0307
Haga	0.0219	0.0219	0
$\alpha=0.001$			
Student's t	0.003	0.0085	0.0055
Welch-Aspin's t	0	0.0045	0.0044
Yuen	0	0.0215	0.0215
Tukey's Quick	0	0.0045	0.0045
Haga	0.0045	0.0045	0

Table 730

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0234	0.061	0.0375
Welch-Aspin's t	0.0107	0.0436	0.033
Yuen Test	0.017	0.0658	0.0487
Tukey's Quick Test	0.0208	0.0519	0.0311
Haga Test	0.0311	0.0519	0.0209
$\alpha=0.01$			
Student's t	0.0036	0.0176	0.014
Welch-Aspin's t	0.0013	0.0115	0.0103
Yuen	0.0045	0.0184	0.0139
Tukey's Quick	0.0082	0.0257	0.0175
Haga	0.0175	0.0257	0.0082
$\alpha=0.001$			
Student's t	0.0005	0.0041	0.0035
Welch-Aspin's t	0.0001	0.0022	0.002
Yuen	0.0009	0.0034	0.0025
Tukey's Quick	n/a	n/a	n/a
Haga	0.0177	0.0262	0.0085

Table 731

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1039	0.11	0.0061
Welch-Aspin's t	0.0844	0.0904	0.0059
Yuen Test	0.0171	0.0505	0.0333
Tukey's Quick Test	0.0001	0.0327	0.0326
Haga Test	0.1346	0.1388	0.0042
$\alpha=0.01$			
Student's t	0.0132	0.0151	0.0019
Welch-Aspin's t	0.0072	0.009	0.0018
Yuen	0.002	0.0151	0.0131
Tukey's Quick	0.0001	0.0146	0.0144
Haga	0.0216	0.0219	0.0003
$\alpha=0.001$			
Student's t	0.0006	0.0011	0.0005
Welch-Aspin's t	0.0002	0.0006	0.0004
Yuen	0.0001	0.0036	0.0035
Tukey's Quick	0.0001	0.0025	0.0024
Haga	0.0024	0.0025	0.0001

Table 732

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2289	0.2303	0.0014
Welch-Aspin's t	0.2103	0.2117	0.0014
Yuen Test	0.0276	0.0481	0.0206
Tukey's Quick Test	0	0.0148	0.0148
Haga Test	0.3267	0.3288	0.0021
$\alpha=0.01$			
Student's t	0.0445	0.0449	0.0004
Welch-Aspin's t	0.033	0.0334	0.0004
Yuen	0.0027	0.0102	0.0075
Tukey's Quick	0	0.0139	0.0139
Haga	0.1711	0.1716	0.0005
$\alpha=0.001$			
Student's t	0.0025	0.0026	0.0001
Welch-Aspin's t	0.0011	0.0012	0.0001
Yuen	0.0001	0.0021	0.002
Tukey's Quick	0	0.0071	0.0071
Haga	0.0421	0.0421	0

Table 733

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2079	0.2624	0.0545
Welch-Aspin's t	0.0099	0.0675	0.0577
Yuen Test	0.0195	0.1149	0.0954
Tukey's Quick Test	0.0362	0.0863	0.0501
Haga Test	0.0293	0.0529	0.0236
$\alpha=0.01$			
Student's t	0.0807	0.1033	0.0226
Welch-Aspin's t	0.0013	0.0345	0.0332
Yuen	0.0073	0.0644	0.0572
Tukey's Quick	0.0187	0.0443	0.0255
Haga	0.0226	0.0373	0.0148
$\alpha=0.001$			
Student's t	0.0201	0.0262	0.0061
Welch-Aspin's t	0.0002	0.016	0.0158
Yuen	0.0028	0.0297	0.0269
Tukey's Quick	0.0053	0.0224	0.0171
Haga	0.0202	0.0312	0.011

Table 734

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3165	0.3763	0.0598
Welch-Aspin's t	0.0094	0.0703	0.0609
Yuen Test	0.019	0.1147	0.0957
Tukey's Quick Test	0.0374	0.0888	0.0515
Haga Test	0.0293	0.055	0.0258
$\alpha=0.01$			
Student's t	0.1777	0.2025	0.0248
Welch-Aspin's t	0.0012	0.0381	0.0369
Yuen	0.007	0.0683	0.0613
Tukey's Quick	0.0218	0.0484	0.0265
Haga	0.0265	0.0492	0.0227
$\alpha=0.001$			
Student's t	0.071	0.0775	0.0066
Welch-Aspin's t	0.0002	0.0215	0.0213
Yuen	0.003	0.0416	0.0386
Tukey's Quick	0.0095	0.0283	0.0188
Haga	0.0249	0.0449	0.02

Table 735

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2652	0.2735	0.0083
Welch-Aspin's t	0.0818	0.089	0.0073
Yuen Test	0.0172	0.054	0.0368
Tukey's Quick Test	0.0002	0.0398	0.0397
Haga Test	0.0535	0.0539	0.0004
$\alpha=0.01$			
Student's t	0.0821	0.0851	0.0029
Welch-Aspin's t	0.0067	0.0095	0.0028
Yuen	0.002	0.019	0.017
Tukey's Quick	0.0001	0.0132	0.013
Haga	0.0077	0.0078	0.0001
$\alpha=0.001$			
Student's t	0.011	0.0119	0.0008
Welch-Aspin's t	0.0001	0.0011	0.0009
Yuen	0.0001	0.0062	0.0061
Tukey's Quick	0.0001	0.0015	0.0014
Haga	0.0014	0.0015	0.0001

Table 736

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0846	0.0866	0.0021
Welch-Aspin's t	0.0424	0.0437	0.0013
Yuen Test	0.0436	0.0469	0.0033
Tukey's Quick Test	0.0947	0.0971	0.0024
Haga Test	0.0024	0.0971	0.0947
$\alpha=0.01$			
Student's t	0.0136	0.0139	0.0003
Welch-Aspin's t	0.0046	0.0047	0.0001
Yuen	0.0116	0.0123	0.0007
Tukey's Quick	0.0337	0.0343	0.0005
Haga	0.0005	0.0343	0.0337
$\alpha=0.001$			
Student's t	0.0018	0.0018	0
Welch-Aspin's t	0.0005	0.0006	0
Yuen	0.0021	0.0022	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0337	0.0331

Table 737

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4742	0.4743	0
Welch-Aspin's t	0.4312	0.4313	0
Yuen Test	0.1629	0.1631	0.0003
Tukey's Quick Test	0.0493	0.0513	0.002
Haga Test	0.0024	0.1075	0.1051
$\alpha=0.01$			
Student's t	0.1368	0.1368	0
Welch-Aspin's t	0.0925	0.0925	0
Yuen	0.0252	0.0253	0
Tukey's Quick	0.0302	0.0303	0.0001
Haga	0.0001	0.0345	0.0344
$\alpha=0.001$			
Student's t	0.0128	0.0128	0
Welch-Aspin's t	0.0044	0.0044	0
Yuen	0.0022	0.0022	0
Tukey's Quick	0.014	0.0141	0
Haga	0	0.0141	0.0141

Table 738

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7855	0.7855	0
Welch-Aspin's t	0.7694	0.7694	0
Yuen Test	0.3847	0.3847	0
Tukey's Quick Test	0.0098	0.0127	0.0029
Haga Test	0.0032	0.1089	0.1057
$\alpha=0.01$			
Student's t	0.4151	0.4151	0
Welch-Aspin's t	0.3652	0.3652	0
Yuen	0.091	0.091	0
Tukey's Quick	0.0081	0.0084	0.0004
Haga	0.0005	0.0457	0.0452
$\alpha=0.001$			
Student's t	0.082	0.082	0
Welch-Aspin's t	0.0496	0.0496	0
Yuen	0.007	0.007	0
Tukey's Quick	0.0048	0.0048	0
Haga	0	0.0118	0.0118

Table 739

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.453	0.4538	0.0008
Welch-Aspin's t	0.0368	0.0441	0.0073
Yuen Test	0.0504	0.0608	0.0104
Tukey's Quick Test	0.1797	0.1865	0.0068
Haga Test	0.002	0.1024	0.1004
$\alpha=0.01$			
Student's t	0.2198	0.2198	0
Welch-Aspin's t	0.0044	0.0065	0.0021
Yuen	0.0185	0.0207	0.0022
Tukey's Quick	0.077	0.0783	0.0013
Haga	0.0009	0.0586	0.0577
$\alpha=0.001$			
Student's t	0.0653	0.0653	0
Welch-Aspin's t	0.0007	0.0009	0.0002
Yuen	0.0074	0.0076	0.0002
Tukey's Quick	0.0187	0.019	0.0003
Haga	0.0006	0.0422	0.0416

Table 740

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5793	0.5798	0.0005
Welch-Aspin's t	0.0356	0.0463	0.0107
Yuen Test	0.0499	0.0661	0.0162
Tukey's Quick Test	0.1922	0.2004	0.0082
Haga Test	0.0022	0.115	0.1129
$\alpha=0.01$			
Student's t	0.3867	0.3867	0
Welch-Aspin's t	0.0041	0.0089	0.0048
Yuen	0.0184	0.0249	0.0064
Tukey's Quick	0.092	0.0937	0.0017
Haga	0.0017	0.0975	0.0958
$\alpha=0.001$			
Student's t	0.1864	0.1864	0
Welch-Aspin's t	0.0006	0.0019	0.0013
Yuen	0.0079	0.009	0.0012
Tukey's Quick	0.0339	0.0343	0.0004
Haga	0.0013	0.0825	0.0812

Table 741

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7259	0.726	0
Welch-Aspin's t	0.4355	0.4356	0.0001
Yuen Test	0.1666	0.1669	0.0004
Tukey's Quick Test	0.0499	0.0512	0.0013
Haga Test	0.0006	0.0494	0.0489
$\alpha=0.01$			
Student's t	0.4115	0.4115	0
Welch-Aspin's t	0.0882	0.0882	0
Yuen	0.0256	0.0257	0.0001
Tukey's Quick	0.0339	0.0341	0.0001
Haga	0.0001	0.029	0.0289
$\alpha=0.001$			
Student's t	0.1153	0.1153	0
Welch-Aspin's t	0.004	0.004	0
Yuen	0.0023	0.0023	0
Tukey's Quick	0.0156	0.0156	0
Haga	0	0.0156	0.0156

Table 742

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0043	0.2005	0.1962
Welch-Aspin's t	0.0018	0.1688	0.167
Yuen Test	0.0042	0.2262	0.2219
Tukey's Quick Test	0.0036	0.141	0.1374
Haga Test	0.1374	0.141	0.0036
$\alpha=0.01$			
Student's t	0.0008	0.1347	0.1339
Welch-Aspin's t	0.0002	0.0975	0.0973
Yuen	0.001	0.109	0.108
Tukey's Quick	0.0024	0.1315	0.1291
Haga	0.1291	0.1315	0.0024
$\alpha=0.001$			
Student's t	0.0001	0.0793	0.0792
Welch-Aspin's t	0	0.0458	0.0458
Yuen	0.0002	0.0417	0.0414
Tukey's Quick	n/a	n/a	n/a
Haga	0.1288	0.1312	0.0024

Table 743

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0043	0.1202	0.1158
Welch-Aspin's t	0.003	0.1114	0.1084
Yuen Test	0.0003	0.3441	0.3438
Tukey's Quick Test	0	0.0093	0.0093
Haga Test	0.4473	0.4478	0.0005
$\alpha=0.01$			
Student's t	0.0002	0.0698	0.0695
Welch-Aspin's t	0.0001	0.0608	0.0607
Yuen	0	0.21	0.21
Tukey's Quick	0	0.0093	0.0093
Haga	0.1365	0.1365	0
$\alpha=0.001$			
Student's t	0	0.0375	0.0375
Welch-Aspin's t	0	0.0286	0.0286
Yuen	0	0.1006	0.1006
Tukey's Quick	0	0.0086	0.0086
Haga	0.0217	0.0217	0

Table 744

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0059	0.0954	0.0894
Welch-Aspin's t	0.0048	0.09	0.0853
Yuen Test	0.0001	0.442	0.4419
Tukey's Quick Test	0	0.0007	0.0007
Haga Test	0.7133	0.7134	0.0001
$\alpha=0.01$			
Student's t	0.0003	0.049	0.0487
Welch-Aspin's t	0.0002	0.0442	0.0441
Yuen	0	0.2852	0.2852
Tukey's Quick	0	0.0007	0.0007
Haga	0.5497	0.5497	0
$\alpha=0.001$			
Student's t	0	0.0232	0.0232
Welch-Aspin's t	0	0.0193	0.0193
Yuen	0	0.1498	0.1498
Tukey's Quick	0	0.0007	0.0007
Haga	0.2922	0.2922	0

Table 745

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0673	0.3833	0.316
Welch-Aspin's t	0.0018	0.1677	0.1659
Yuen Test	0.0042	0.2216	0.2174
Tukey's Quick Test	0.0041	0.1493	0.1452
Haga Test	0.1355	0.1393	0.0038
$\alpha=0.01$			
Student's t	0.0228	0.2829	0.2601
Welch-Aspin's t	0.0002	0.0947	0.0945
Yuen	0.0009	0.0964	0.0954
Tukey's Quick	0.0037	0.1373	0.1336
Haga	0.1319	0.1354	0.0035
$\alpha=0.001$			
Student's t	0.006	0.2092	0.2032
Welch-Aspin's t	0	0.0422	0.0422
Yuen	0.0003	0.0435	0.0433
Tukey's Quick	0.0026	0.1319	0.1293
Haga	0.1311	0.1343	0.0032

Table 746

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1322	0.4957	0.3635
Welch-Aspin's t	0.0018	0.168	0.1663
Yuen Test	0.0042	0.2221	0.2179
Tukey's Quick Test	0.0041	0.1493	0.1452
Haga Test	0.1351	0.1389	0.0038
$\alpha=0.01$			
Student's t	0.066	0.3789	0.3128
Welch-Aspin's t	0.0002	0.0942	0.094
Yuen	0.0009	0.0934	0.0925
Tukey's Quick	0.0037	0.1378	0.1341
Haga	0.1341	0.1378	0.0037
$\alpha=0.001$			
Student's t	0.0254	0.2857	0.2603
Welch-Aspin's t	0	0.0391	0.0391
Yuen	0.0002	0.0356	0.0354
Tukey's Quick	0.0032	0.133	0.1298
Haga	0.1331	0.1369	0.0038

Table 747

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0249	0.1906	0.1657
Welch-Aspin's t	0.003	0.1117	0.1088
Yuen Test	0.0003	0.3434	0.3431
Tukey's Quick Test	0	0.0114	0.0114
Haga Test	0.2435	0.2436	0
$\alpha=0.01$			
Student's t	0.0038	0.1156	0.1117
Welch-Aspin's t	0.0001	0.0604	0.0603
Yuen	0	0.2089	0.2089
Tukey's Quick	0	0.0108	0.0108
Haga	0.0416	0.0416	0
$\alpha=0.001$			
Student's t	0.0003	0.0703	0.07
Welch-Aspin's t	0	0.0287	0.0287
Yuen	0	0.0989	0.0989
Tukey's Quick	0	0.0073	0.0073
Haga	0.0073	0.0073	0

Table 748

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0047	0.1907	0.1861
Welch-Aspin's t	0.002	0.1607	0.1587
Yuen Test	0.0046	0.2183	0.2136
Tukey's Quick Test	0.004	0.1338	0.1298
Haga Test	0.1298	0.1338	0.004
$\alpha=0.01$			
Student's t	0.0009	0.1281	0.1272
Welch-Aspin's t	0.0002	0.093	0.0928
Yuen	0.0011	0.1054	0.1043
Tukey's Quick	0.0027	0.1252	0.1224
Haga	0.1224	0.1252	0.0027
$\alpha=0.001$			
Student's t	0.0001	0.0753	0.0752
Welch-Aspin's t	0	0.0439	0.0438
Yuen	0.0002	0.0396	0.0394
Tukey's Quick	n/a	n/a	n/a
Haga	0.1224	0.125	0.0027

Table 749

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0053	0.1094	0.1041
Welch-Aspin's t	0.0037	0.1012	0.0975
Yuen Test	0.0004	0.322	0.3216
Tukey's Quick Test	0	0.0083	0.0083
Haga Test	0.4245	0.4251	0.0006
$\alpha=0.01$			
Student's t	0.0003	0.0619	0.0617
Welch-Aspin's t	0.0001	0.0539	0.0538
Yuen	0	0.1934	0.1933
Tukey's Quick	0	0.0083	0.0083
Haga	0.1253	0.1253	0
$\alpha=0.001$			
Student's t	0	0.0331	0.0331
Welch-Aspin's t	0	0.0254	0.0254
Yuen	0	0.0912	0.0912
Tukey's Quick	0	0.0077	0.0077
Haga	0.0191	0.0191	0

Table 750

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0077	0.0841	0.0764
Welch-Aspin's t	0.0063	0.0791	0.0728
Yuen Test	0.0001	0.4103	0.4102
Tukey's Quick Test	0	0.0006	0.0006
Haga Test	0.6898	0.69	0.0002
$\alpha=0.01$			
Student's t	0.0005	0.0415	0.041
Welch-Aspin's t	0.0003	0.0374	0.0371
Yuen	0	0.2596	0.2596
Tukey's Quick	0	0.0006	0.0006
Haga	0.5232	0.5232	0
$\alpha=0.001$			
Student's t	0	0.0195	0.0195
Welch-Aspin's t	0	0.0161	0.0161
Yuen	0	0.133	0.133
Tukey's Quick	0	0.0006	0.0006
Haga	0.2683	0.2683	0

Table 751

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0727	0.3758	0.3031
Welch-Aspin's t	0.002	0.1598	0.1578
Yuen Test	0.0044	0.2136	0.2091
Tukey's Quick Test	0.0046	0.1429	0.1383
Haga Test	0.1285	0.1327	0.0042
$\alpha=0.01$			
Student's t	0.0249	0.2731	0.2482
Welch-Aspin's t	0.0002	0.09	0.0898
Yuen	0.001	0.0924	0.0914
Tukey's Quick	0.004	0.1311	0.1271
Haga	0.1254	0.1292	0.0038
$\alpha=0.001$			
Student's t	0.0065	0.199	0.1925
Welch-Aspin's t	0	0.0401	0.0401
Yuen	0.0003	0.0428	0.0425
Tukey's Quick	0.0029	0.125	0.1221
Haga	0.1239	0.1275	0.0036

Table 752

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1421	0.4914	0.3494
Welch-Aspin's t	0.002	0.1608	0.1588
Yuen Test	0.0045	0.2135	0.209
Tukey's Quick Test	0.0046	0.1433	0.1387
Haga Test	0.1289	0.1331	0.0042
$\alpha=0.01$			
Student's t	0.0721	0.371	0.2989
Welch-Aspin's t	0.0002	0.0893	0.0891
Yuen	0.0011	0.0895	0.0884
Tukey's Quick	0.0042	0.1313	0.1271
Haga	0.1271	0.1313	0.0042
$\alpha=0.001$			
Student's t	0.0279	0.2772	0.2493
Welch-Aspin's t	0	0.0373	0.0373
Yuen	0.0002	0.0349	0.0346
Tukey's Quick	0.0035	0.1271	0.1237
Haga	0.1269	0.131	0.0041

Table 753

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0295	0.1798	0.1502
Welch-Aspin's t	0.0037	0.1011	0.0974
Yuen Test	0.0004	0.3214	0.321
Tukey's Quick Test	0	0.0103	0.0103
Haga Test	0.2264	0.2265	0
$\alpha=0.01$			
Student's t	0.0045	0.1049	0.1004
Welch-Aspin's t	0.0001	0.054	0.0539
Yuen	0	0.1932	0.1931
Tukey's Quick	0	0.0101	0.0101
Haga	0.0376	0.0376	0
$\alpha=0.001$			
Student's t	0.0003	0.0621	0.0618
Welch-Aspin's t	0	0.0254	0.0254
Yuen	0	0.0902	0.0902
Tukey's Quick	0	0.0065	0.0065
Haga	0.0065	0.0065	0

Table 754

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0052	0.182	0.1768
Welch-Aspin's t	0.0022	0.1527	0.1506
Yuen Test	0.0049	0.2104	0.2055
Tukey's Quick Test	0.0045	0.1277	0.1233
Haga Test	0.1233	0.1277	0.0045
$\alpha=0.01$			
Student's t	0.0009	0.1211	0.1202
Welch-Aspin's t	0.0003	0.0879	0.0876
Yuen	0.0012	0.1015	0.1003
Tukey's Quick	0.003	0.1186	0.1156
Haga	0.1156	0.1186	0.003
$\alpha=0.001$			
Student's t	0.0002	0.0707	0.0706
Welch-Aspin's t	0	0.0415	0.0415
Yuen	0.0003	0.0382	0.0379
Tukey's Quick	n/a	n/a	n/a
Haga	0.1156	0.1186	0.003

Table 755

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0067	0.0995	0.0928
Welch-Aspin's t	0.0046	0.0913	0.0867
Yuen Test	0.0005	0.3011	0.3006
Tukey's Quick Test	0	0.0074	0.0074
Haga Test	0.4032	0.4039	0.0006
$\alpha=0.01$			
Student's t	0.0004	0.0552	0.0548
Welch-Aspin's t	0.0002	0.0477	0.0476
Yuen	0.0001	0.178	0.178
Tukey's Quick	0	0.0076	0.0076
Haga	0.1149	0.1149	0
$\alpha=0.001$			
Student's t	0	0.0288	0.0288
Welch-Aspin's t	0	0.022	0.022
Yuen	0	0.0828	0.0828
Tukey's Quick	0	0.0068	0.0068
Haga	0.0167	0.0167	0

Table 756

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0102	0.0755	0.0654
Welch-Aspin's t	0.0082	0.0704	0.0622
Yuen Test	0.0002	0.3779	0.3777
Tukey's Quick Test	0	0.0005	0.0005
Haga Test	0.6642	0.6644	0.0002
$\alpha=0.01$			
Student's t	0.0006	0.0348	0.0342
Welch-Aspin's t	0.0004	0.0313	0.0309
Yuen	0	0.2339	0.2339
Tukey's Quick	0	0.0005	0.0005
Haga	0.4935	0.4936	0
$\alpha=0.001$			
Student's t	0	0.0161	0.0161
Welch-Aspin's t	0	0.0132	0.0132
Yuen	0	0.1182	0.1182
Tukey's Quick	0	0.0005	0.0005
Haga	0.2464	0.2464	0

Table 757

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0791	0.3692	0.2901
Welch-Aspin's t	0.0021	0.1526	0.1504
Yuen Test	0.0048	0.2063	0.2015
Tukey's Quick Test	0.0051	0.1369	0.1318
Haga Test	0.1221	0.1268	0.0047
$\alpha=0.01$			
Student's t	0.0277	0.2646	0.2369
Welch-Aspin's t	0.0003	0.0851	0.0848
Yuen	0.0011	0.0894	0.0882
Tukey's Quick	0.0044	0.125	0.1206
Haga	0.1189	0.1231	0.0042
$\alpha=0.001$			
Student's t	0.0071	0.1905	0.1834
Welch-Aspin's t	0	0.0382	0.0382
Yuen	0.0003	0.0417	0.0413
Tukey's Quick	0.0031	0.119	0.1159
Haga	0.1177	0.1216	0.0039

Table 758

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1531	0.4873	0.3342
Welch-Aspin's t	0.0022	0.1525	0.1503
Yuen Test	0.0049	0.2059	0.201
Tukey's Quick Test	0.0051	0.1361	0.131
Haga Test	0.1213	0.1261	0.0047
$\alpha=0.01$			
Student's t	0.0785	0.3651	0.2867
Welch-Aspin's t	0.0002	0.0846	0.0844
Yuen	0.0011	0.0864	0.0853
Tukey's Quick	0.0046	0.125	0.1204
Haga	0.1204	0.125	0.0046
$\alpha=0.001$			
Student's t	0.0306	0.2671	0.2366
Welch-Aspin's t	0	0.0353	0.0352
Yuen	0.0002	0.0341	0.0339
Tukey's Quick	0.0038	0.1198	0.116
Haga	0.1191	0.1236	0.0045

Table 759

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0357	0.1715	0.1358
Welch-Aspin's t	0.0046	0.0918	0.0872
Yuen Test	0.0005	0.3004	0.2998
Tukey's Quick Test	0	0.0092	0.0092
Haga Test	0.2103	0.2104	0.0001
$\alpha=0.01$			
Student's t	0.0059	0.0956	0.0897
Welch-Aspin's t	0.0002	0.048	0.0478
Yuen	0.0001	0.1781	0.178
Tukey's Quick	0	0.0092	0.0092
Haga	0.0339	0.0339	0
$\alpha=0.001$			
Student's t	0.0005	0.0554	0.055
Welch-Aspin's t	0	0.0219	0.0219
Yuen	0	0.0817	0.0817
Tukey's Quick	0	0.0056	0.0056
Haga	0.0056	0.0056	0

Table 760

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0059	0.1716	0.1657
Welch-Aspin's t	0.0025	0.1436	0.141
Yuen Test	0.0053	0.2012	0.1959
Tukey's Quick Test	0.0051	0.1202	0.115
Haga Test	0.115	0.1202	0.0051
$\alpha=0.01$			
Student's t	0.001	0.1134	0.1124
Welch-Aspin's t	0.0003	0.0823	0.0821
Yuen	0.0013	0.0968	0.0955
Tukey's Quick	0.0034	0.111	0.1076
Haga	0.1076	0.111	0.0034
$\alpha=0.001$			
Student's t	0.0002	0.0651	0.0649
Welch-Aspin's t	0	0.0384	0.0384
Yuen	0.0003	0.0362	0.0359
Tukey's Quick	n/a	n/a	n/a
Haga	0.1069	0.1103	0.0034

Table 761

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0091	0.0887	0.0796
Welch-Aspin's t	0.0063	0.0805	0.0742
Yuen Test	0.0007	0.2727	0.2721
Tukey's Quick Test	0	0.0064	0.0064
Haga Test	0.3735	0.3744	0.0009
$\alpha=0.01$			
Student's t	0.0006	0.0467	0.0461
Welch-Aspin's t	0.0002	0.0402	0.04
Yuen	0.0001	0.1593	0.1592
Tukey's Quick	0	0.0065	0.0065
Haga	0.1013	0.1013	0
$\alpha=0.001$			
Student's t	0	0.0241	0.0241
Welch-Aspin's t	0	0.0182	0.0182
Yuen	0	0.0731	0.0731
Tukey's Quick	0	0.0058	0.0058
Haga	0.0141	0.0141	0

Table 762

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0148	0.0667	0.0519
Welch-Aspin's t	0.0122	0.0615	0.0493
Yuen Test	0.0002	0.3364	0.3362
Tukey's Quick Test	0	0.0004	0.0004
Haga Test	0.6287	0.629	0.0003
$\alpha=0.01$			
Student's t	0.001	0.0275	0.0265
Welch-Aspin's t	0.0006	0.0246	0.024
Yuen	0	0.2033	0.2033
Tukey's Quick	0	0.0004	0.0004
Haga	0.4558	0.4559	0.0001
$\alpha=0.001$			
Student's t	0	0.0122	0.0122
Welch-Aspin's t	0	0.0099	0.0099
Yuen	0	0.0992	0.0992
Tukey's Quick	0	0.0004	0.0004
Haga	0.2165	0.2166	0

Table 763

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0889	0.3624	0.2735
Welch-Aspin's t	0.0025	0.1425	0.14
Yuen Test	0.0053	0.1956	0.1903
Tukey's Quick Test	0.0059	0.1288	0.1229
Haga Test	0.1134	0.1188	0.0054
$\alpha=0.01$			
Student's t	0.0315	0.2534	0.2219
Welch-Aspin's t	0.0003	0.0795	0.0792
Yuen	0.0013	0.0856	0.0844
Tukey's Quick	0.0052	0.1172	0.112
Haga	0.1104	0.1153	0.0049
$\alpha=0.001$			
Student's t	0.0084	0.1792	0.1708
Welch-Aspin's t	0	0.0354	0.0354
Yuen	0.0003	0.0404	0.0401
Tukey's Quick	0.0038	0.111	0.1073
Haga	0.109	0.1136	0.0046

Table 764

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1683	0.4843	0.316
Welch-Aspin's t	0.0025	0.1431	0.1406
Yuen Test	0.0054	0.1962	0.1908
Tukey's Quick Test	0.0059	0.1287	0.1228
Haga Test	0.1132	0.1186	0.0054
$\alpha=0.01$			
Student's t	0.0882	0.3571	0.2689
Welch-Aspin's t	0.0003	0.0787	0.0784
Yuen	0.0011	0.0813	0.0802
Tukey's Quick	0.0053	0.1174	0.1121
Haga	0.1121	0.1174	0.0053
$\alpha=0.001$			
Student's t	0.0345	0.2559	0.2214
Welch-Aspin's t	0	0.033	0.033
Yuen	0.0003	0.0336	0.0333
Tukey's Quick	0.0044	0.1128	0.1084
Haga	0.1115	0.1167	0.0052

Table 765

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0452	0.163	0.1178
Welch-Aspin's t	0.0063	0.0808	0.0745
Yuen Test	0.0008	0.2732	0.2725
Tukey's Quick Test	0	0.0083	0.0083
Haga Test	0.1902	0.1903	0.0001
$\alpha=0.01$			
Student's t	0.0078	0.0842	0.0764
Welch-Aspin's t	0.0002	0.0403	0.0401
Yuen	0.0001	0.1581	0.1581
Tukey's Quick	0	0.008	0.008
Haga	0.0288	0.0288	0
$\alpha=0.001$			
Student's t	0.0006	0.0467	0.0461
Welch-Aspin's t	0	0.0182	0.0182
Yuen	0	0.0713	0.0713
Tukey's Quick	0	0.0047	0.0047
Haga	0.0047	0.0047	0

Table 766

Chi-Squared Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.008	0.1509	0.1429
Welch-Aspin's t	0.0034	0.125	0.1216
Yuen Test	0.0066	0.1814	0.1748
Tukey's Quick Test	0.0069	0.1051	0.0982
Haga Test	0.0982	0.1051	0.0069
$\alpha=0.01$			
Student's t	0.0014	0.0961	0.0947
Welch-Aspin's t	0.0004	0.0701	0.0697
Yuen	0.0017	0.0863	0.0846
Tukey's Quick	0.0046	0.0951	0.0905
Haga	0.0905	0.0951	0.0046
$\alpha=0.001$			
Student's t	0.0002	0.0541	0.0539
Welch-Aspin's t	0	0.0327	0.0327
Yuen	0.0004	0.0317	0.0313
Tukey's Quick	n/a	n/a	n/a
Haga	0.0897	0.0943	0.0046

Table 767

Chi-Squared Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0161	0.0728	0.0567
Welch-Aspin's t	0.0116	0.0641	0.0526
Yuen Test	0.0012	0.22	0.2188
Tukey's Quick Test	0	0.0048	0.0048
Haga Test	0.3153	0.3169	0.0016
$\alpha=0.01$			
Student's t	0.0012	0.0328	0.0316
Welch-Aspin's t	0.0005	0.0278	0.0273
Yuen	0.0001	0.1228	0.1226
Tukey's Quick	0	0.0048	0.0048
Haga	0.0769	0.0769	0.0001
$\alpha=0.001$			
Student's t	0	0.0161	0.016
Welch-Aspin's t	0	0.0122	0.0122
Yuen	0	0.0545	0.0545
Tukey's Quick	0	0.0042	0.0042
Haga	0.0098	0.0098	0

Table 768

Chi-Squared Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0296	0.0602	0.0307
Welch-Aspin's t	0.025	0.0539	0.0289
Yuen Test	0.0006	0.2558	0.2552
Tukey's Quick Test	0	0.0003	0.0003
Haga Test	0.5496	0.5503	0.0006
$\alpha=0.01$			
Student's t	0.0023	0.0176	0.0152
Welch-Aspin's t	0.0014	0.015	0.0136
Yuen	0	0.1454	0.1454
Tukey's Quick	0	0.0003	0.0003
Haga	0.3772	0.3773	0.0001
$\alpha=0.001$			
Student's t	0.0001	0.0067	0.0067
Welch-Aspin's t	0	0.0055	0.0055
Yuen	0	0.0671	0.0671
Tukey's Quick	0	0.0003	0.0003
Haga	0.1625	0.1626	0

Table 769

Chi-Squared Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1122	0.3504	0.2382
Welch-Aspin's t	0.0034	0.1233	0.1199
Yuen Test	0.0066	0.1761	0.1695
Tukey's Quick Test	0.008	0.1129	0.105
Haga Test	0.096	0.1033	0.0073
$\alpha=0.01$			
Student's t	0.0407	0.2321	0.1913
Welch-Aspin's t	0.0004	0.0676	0.0672
Yuen	0.0015	0.0763	0.0747
Tukey's Quick	0.0067	0.1015	0.0948
Haga	0.0932	0.0996	0.0064
$\alpha=0.001$			
Student's t	0.0107	0.1562	0.1455
Welch-Aspin's t	0	0.0307	0.0307
Yuen	0.0004	0.0377	0.0373
Tukey's Quick	0.0048	0.0954	0.0906
Haga	0.0923	0.0982	0.0059

Table 770

Chi-Squared Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2043	0.4812	0.2769
Welch-Aspin's t	0.0033	0.1242	0.1209
Yuen Test	0.0066	0.1759	0.1693
Tukey's Quick Test	0.0077	0.1135	0.1058
Haga Test	0.0967	0.1038	0.0071
$\alpha=0.01$			
Student's t	0.1096	0.3438	0.2342
Welch-Aspin's t	0.0004	0.0669	0.0665
Yuen	0.0014	0.0717	0.0703
Tukey's Quick	0.0069	0.1023	0.0954
Haga	0.0954	0.1023	0.0069
$\alpha=0.001$			
Student's t	0.0444	0.2347	0.1903
Welch-Aspin's t	0	0.0282	0.0282
Yuen	0.0004	0.0317	0.0314
Tukey's Quick	0.0057	0.0967	0.0911
Haga	0.094	0.1007	0.0068

Table 771

Chi-Squared Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0708	0.1552	0.0845
Welch-Aspin's t	0.0113	0.0636	0.0523
Yuen Test	0.0012	0.2187	0.2175
Tukey's Quick Test	0	0.006	0.006
Haga Test	0.1494	0.1495	0.0002
$\alpha=0.01$			
Student's t	0.0139	0.0675	0.0537
Welch-Aspin's t	0.0005	0.0277	0.0273
Yuen	0.0001	0.1219	0.1218
Tukey's Quick	0	0.0058	0.0058
Haga	0.0205	0.0205	0
$\alpha=0.001$			
Student's t	0.0012	0.0325	0.0312
Welch-Aspin's t	0	0.0121	0.0121
Yuen	0	0.0536	0.0536
Tukey's Quick	0	0.0032	0.0032
Haga	0.0032	0.0032	0

Table 772

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0256	0.0511	0.0254
Welch-Aspin's t	0.0229	0.0455	0.0226
Yuen Test	0.0205	0.0412	0.0207
Tukey's Quick Test	0.0013	0.0026	0.0013
Haga Test	0.0016	0.0033	0.0017
$\alpha=0.01$			
Student's t	0.0052	0.0103	0.0051
Welch-Aspin's t	0.004	0.008	0.004
Yuen	0.0037	0.0073	0.0036
Tukey's Quick	0.0003	0.0006	0.0003
Haga	0.0004	0.0008	0.0004
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0003	0.0007	0.0003
Yuen	0.0004	0.0008	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0004	0.0008	0.0004

Table 773

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0252	0.0504	0.0252
Welch-Aspin's t	0.0249	0.0499	0.0249
Yuen Test	0.0252	0.0504	0.0252
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.005	0.0101	0.0051
Welch-Aspin's t	0.0048	0.0098	0.005
Yuen	0.005	0.0102	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.0011	0.0006
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0006	0.0011	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 774

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0253	0.0503	0.0249
Welch-Aspin's t	0.0252	0.0501	0.0248
Yuen Test	0.0253	0.0503	0.025
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.005	0.01	0.0051
Welch-Aspin's t	0.0049	0.0099	0.005
Yuen	0.0051	0.0104	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0006	0.0011	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 775

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0255	0.0505	0.025
Welch-Aspin's t	0.0279	0.0557	0.0278
Yuen Test	0.0346	0.0691	0.0345
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0049	0.01	0.0051
Welch-Aspin's t	0.007	0.0142	0.0072
Yuen	0.0108	0.0217	0.0109
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0012	0.0024	0.0012
Yuen	0.0022	0.0045	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 776

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.025	0.0497	0.0247
Welch-Aspin's t	0.0288	0.0582	0.0294
Yuen Test	0.0397	0.0798	0.0401
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0049	0.0097	0.0048
Welch-Aspin's t	0.008	0.0162	0.0081
Yuen	0.0155	0.0312	0.0157
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0017	0.0036	0.0019
Yuen	0.0049	0.0101	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 777

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0251	0.05	0.0249
Welch-Aspin's t	0.0252	0.0502	0.025
Yuen Test	0.0258	0.0516	0.0258
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0053	0.0103	0.005
Welch-Aspin's t	0.0053	0.0103	0.005
Yuen	0.0056	0.0111	0.0055
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0005	0.0011	0.0006
Yuen	0.0007	0.0013	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 778

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0469	0.0599	0.0131
Welch-Aspin's t	0.0421	0.0535	0.0115
Yuen Test	0.0336	0.0454	0.0117
Tukey's Quick Test	0.0049	0.0073	0.0024
Haga Test	0.0029	0.0089	0.006
$\alpha=0.01$			
Student's t	0.0104	0.0129	0.0025
Welch-Aspin's t	0.0082	0.0101	0.0019
Yuen	0.0065	0.0086	0.0021
Tukey's Quick	0.0007	0.001	0.0003
Haga	0.0004	0.0012	0.0009
$\alpha=0.001$			
Student's t	0.0011	0.0014	0.0003
Welch-Aspin's t	0.0007	0.0009	0.0002
Yuen	0.0007	0.001	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0011	0.0008

Table 779

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0756	0.0821	0.0065
Welch-Aspin's t	0.0749	0.0814	0.0065
Yuen Test	0.0678	0.0754	0.0076
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0195	0.0205	0.001
Welch-Aspin's t	0.019	0.02	0.001
Yuen	0.0173	0.0186	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0027	0.0001
Welch-Aspin's t	0.0025	0.0026	0.0001
Yuen	0.0022	0.0023	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 780

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1025	0.1067	0.0042
Welch-Aspin's t	0.1022	0.1064	0.0041
Yuen Test	0.0917	0.0967	0.005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0293	0.0299	0.0006
Welch-Aspin's t	0.0291	0.0297	0.0006
Yuen	0.0253	0.026	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0044	0.0044	0
Welch-Aspin's t	0.0043	0.0043	0
Yuen	0.0037	0.0038	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 781

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0554	0.0654	0.0099
Welch-Aspin's t	0.0571	0.0694	0.0123
Yuen Test	0.0625	0.0801	0.0176
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0131	0.0149	0.0018
Welch-Aspin's t	0.0159	0.0188	0.0028
Yuen	0.0214	0.0267	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0016	0.0018	0.0002
Welch-Aspin's t	0.0029	0.0034	0.0005
Yuen	0.0048	0.0057	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 782

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0586	0.0678	0.0092
Welch-Aspin's t	0.0597	0.0723	0.0126
Yuen Test	0.0722	0.0925	0.0203
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0142	0.0157	0.0015
Welch-Aspin's t	0.0183	0.0215	0.0032
Yuen	0.0302	0.0377	0.0075
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0017	0.0018	0.0001
Welch-Aspin's t	0.0042	0.0048	0.0006
Yuen	0.0102	0.0125	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 783

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0859	0.0911	0.0053
Welch-Aspin's t	0.0849	0.0903	0.0054
Yuen Test	0.0774	0.084	0.0066
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0234	0.0242	0.0008
Welch-Aspin's t	0.0231	0.0239	0.0009
Yuen	0.0212	0.0224	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0033	0.0034	0.0001
Welch-Aspin's t	0.0033	0.0034	0.0001
Yuen	0.0033	0.0034	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 784

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1026	0.1067	0.0041
Welch-Aspin's t	0.0931	0.0967	0.0036
Yuen Test	0.0677	0.0726	0.0049
Tukey's Quick Test	0.0186	0.019	0.0004
Haga Test	0.0004	0.0223	0.0219
$\alpha=0.01$			
Student's t	0.0266	0.0273	0.0007
Welch-Aspin's t	0.0214	0.0219	0.0005
Yuen	0.0137	0.0145	0.0008
Tukey's Quick	0.0032	0.0032	0
Haga	0.0001	0.0038	0.0038
$\alpha=0.001$			
Student's t	0.0032	0.0033	0.0001
Welch-Aspin's t	0.0021	0.0022	0
Yuen	0.0016	0.0017	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.004	0.0039

Table 785

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.26	0.2605	0.0005
Welch-Aspin's t	0.2583	0.2588	0.0005
Yuen Test	0.216	0.2168	0.0009
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0975	0.0976	0.0001
Welch-Aspin's t	0.0957	0.0958	0.0001
Yuen	0.0735	0.0736	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0202	0.0202	0
Welch-Aspin's t	0.0193	0.0193	0
Yuen	0.0133	0.0134	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 786

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4093	0.4094	0.0001
Welch-Aspin's t	0.4086	0.4087	0.0001
Yuen Test	0.3452	0.3454	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1909	0.1909	0
Welch-Aspin's t	0.1899	0.1899	0
Yuen	0.1465	0.1465	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0516	0.0516	0
Welch-Aspin's t	0.0508	0.0508	0
Yuen	0.0354	0.0354	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 787

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1475	0.1496	0.0021
Welch-Aspin's t	0.1379	0.1409	0.003
Yuen Test	0.1322	0.1376	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0447	0.045	0.0003
Welch-Aspin's t	0.0455	0.0461	0.0006
Yuen	0.0504	0.052	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0071	0.0071	0
Welch-Aspin's t	0.01	0.0101	0.0001
Yuen	0.0132	0.0134	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 788

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1645	0.1661	0.0015
Welch-Aspin's t	0.146	0.1489	0.0029
Yuen Test	0.1487	0.155	0.0063
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0525	0.0527	0.0002
Welch-Aspin's t	0.0505	0.0512	0.0007
Yuen	0.0679	0.07	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.009	0.009	0
Welch-Aspin's t	0.0135	0.0136	0.0001
Yuen	0.0258	0.0263	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 789

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3185	0.3188	0.0003
Welch-Aspin's t	0.3134	0.3138	0.0003
Yuen Test	0.2644	0.265	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1317	0.1318	0
Welch-Aspin's t	0.1274	0.1274	0
Yuen	0.1006	0.1007	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0308	0.0308	0
Welch-Aspin's t	0.0294	0.0294	0
Yuen	0.0219	0.0219	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 790

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1951	0.1963	0.0011
Welch-Aspin's t	0.1793	0.1803	0.001
Yuen Test	0.1167	0.1183	0.0016
Tukey's Quick Test	0.0328	0.0329	0.0002
Haga Test	0.0002	0.038	0.0378
$\alpha=0.01$			
Student's t	0.0596	0.0598	0.0002
Welch-Aspin's t	0.0486	0.0487	0.0001
Yuen	0.0259	0.0262	0.0003
Tukey's Quick	0.0068	0.0068	0
Haga	0	0.0077	0.0077
$\alpha=0.001$			
Student's t	0.0087	0.0087	0
Welch-Aspin's t	0.0058	0.0058	0
Yuen	0.0026	0.0027	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0079	0.0079

Table 791

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5589	0.559	0
Welch-Aspin's t	0.5569	0.5569	0
Yuen Test	0.4639	0.464	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3003	0.3003	0
Welch-Aspin's t	0.2965	0.2965	0
Yuen	0.2151	0.2151	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0934	0.0934	0
Welch-Aspin's t	0.09	0.09	0
Yuen	0.0535	0.0535	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 792

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7924	0.7924	0
Welch-Aspin's t	0.7919	0.7919	0
Yuen Test	0.701	0.701	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5601	0.5601	0
Welch-Aspin's t	0.5586	0.5586	0
Yuen	0.4401	0.4401	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2646	0.2646	0
Welch-Aspin's t	0.2621	0.2621	0
Yuen	0.1726	0.1726	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 793

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3067	0.307	0.0003
Welch-Aspin's t	0.2695	0.2701	0.0005
Yuen Test	0.2348	0.2361	0.0014
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0	0
$\alpha=0.01$			
Student's t	0.1199	0.1199	0
Welch-Aspin's t	0.106	0.1061	0.0001
Yuen	0.102	0.1023	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0244	0.0244	0
Welch-Aspin's t	0.0277	0.0277	0
Yuen	0.03	0.03	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 794

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3492	0.3494	0.0002
Welch-Aspin's t	0.2844	0.2849	0.0005
Yuen Test	0.2559	0.2574	0.0016
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1479	0.1479	0
Welch-Aspin's t	0.1139	0.114	0.0001
Yuen	0.128	0.1285	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0345	0.0345	0
Welch-Aspin's t	0.0344	0.0344	0
Yuen	0.0553	0.0554	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 795

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6645	0.6645	0
Welch-Aspin's t	0.6568	0.6568	0
Yuen Test	0.5588	0.5588	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4054	0.4054	0
Welch-Aspin's t	0.3909	0.3909	0
Yuen	0.2956	0.2956	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1534	0.1534	0
Welch-Aspin's t	0.1426	0.1426	0
Yuen	0.0936	0.0936	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 796

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3778	0.378	0.0001
Welch-Aspin's t	0.3537	0.3538	0.0001
Yuen Test	0.2141	0.2145	0.0003
Tukey's Quick Test	0.0855	0.0855	0
Haga Test	0	0.0925	0.0924
$\alpha=0.01$			
Student's t	0.1434	0.1434	0
Welch-Aspin's t	0.1188	0.1188	0
Yuen	0.0525	0.0526	0.0001
Tukey's Quick	0.0217	0.0217	0
Haga	0	0.0238	0.0238
$\alpha=0.001$			
Student's t	0.0256	0.0256	0
Welch-Aspin's t	0.0174	0.0174	0
Yuen	0.0053	0.0053	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0237	0.0237

Table 797

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8886	0.8886	0
Welch-Aspin's t	0.8876	0.8876	0
Yuen Test	0.7958	0.7958	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.695	0.695	0
Welch-Aspin's t	0.6912	0.6912	0
Yuen	0.5311	0.5311	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3702	0.3702	0
Welch-Aspin's t	0.362	0.362	0
Yuen	0.2097	0.2097	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 798

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9867	0.9867	0
Welch-Aspin's t	0.9867	0.9867	0
Yuen Test	0.9602	0.9602	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9376	0.9376	0
Welch-Aspin's t	0.9371	0.9371	0
Yuen	0.8492	0.8492	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7629	0.7629	0
Welch-Aspin's t	0.7606	0.7606	0
Yuen	0.572	0.572	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 799

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5906	0.5906	0
Welch-Aspin's t	0.5074	0.5074	0
Yuen Test	0.4023	0.4025	0.0001
Tukey's Quick Test	0.0002	0.0002	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.3168	0.3168	0
Welch-Aspin's t	0.243	0.243	0
Yuen	0.2032	0.2032	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0945	0.0945	0
Welch-Aspin's t	0.0795	0.0795	0
Yuen	0.0746	0.0746	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 800

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6555	0.6555	0
Welch-Aspin's t	0.5244	0.5244	0
Yuen Test	0.4171	0.4172	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3902	0.3902	0
Welch-Aspin's t	0.2509	0.2509	0
Yuen	0.2288	0.2288	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1392	0.1392	0
Welch-Aspin's t	0.0881	0.0881	0
Yuen	0.114	0.114	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 801

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9485	0.9485	0
Welch-Aspin's t	0.9455	0.9455	0
Yuen Test	0.8783	0.8783	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8263	0.8263	0
Welch-Aspin's t	0.8119	0.8119	0
Yuen	0.6636	0.6636	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.546	0.546	0
Welch-Aspin's t	0.512	0.512	0
Yuen	0.3345	0.3345	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 802

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.789	0.789	0
Welch-Aspin's t	0.7663	0.7663	0
Yuen Test	0.4776	0.4776	0
Tukey's Quick Test	0.2851	0.2851	0
Haga Test	0	0.2882	0.2882
$\alpha=0.01$			
Student's t	0.4664	0.4664	0
Welch-Aspin's t	0.4098	0.4098	0
Yuen	0.1545	0.1545	0
Tukey's Quick	0.116	0.116	0
Haga	0	0.1176	0.1176
$\alpha=0.001$			
Student's t	0.132	0.132	0
Welch-Aspin's t	0.0941	0.0941	0
Yuen	0.0194	0.0194	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1178	0.1178

Table 803

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen Test	0.996	0.996	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9958	0.9958	0
Welch-Aspin's t	0.9957	0.9957	0
Yuen	0.9619	0.9619	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9546	0.9546	0
Welch-Aspin's t	0.9522	0.9522	0
Yuen	0.7653	0.7653	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 804

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	1	1	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9996	0.9996	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen	0.9918	0.9918	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 805

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9575	0.9575	0
Welch-Aspin's t	0.8997	0.8997	0
Yuen Test	0.6952	0.6952	0
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0	0.0003	0.0003
$\alpha=0.01$			
Student's t	0.8264	0.8264	0
Welch-Aspin's t	0.6238	0.6238	0
Yuen	0.4326	0.4326	0
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002
$\alpha=0.001$			
Student's t	0.4968	0.4968	0
Welch-Aspin's t	0.289	0.289	0
Yuen	0.2209	0.2209	0
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001

Table 806

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9779	0.9779	0
Welch-Aspin's t	0.911	0.911	0
Yuen Test	0.6802	0.6802	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8979	0.8979	0
Welch-Aspin's t	0.6165	0.6165	0
Yuen	0.42	0.42	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6531	0.6531	0
Welch-Aspin's t	0.2742	0.2742	0
Yuen	0.2427	0.2427	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 807

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9992	0.9992	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9995	0.9995	0
Yuen	0.9884	0.9884	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9928	0.9928	0
Welch-Aspin's t	0.9888	0.9888	0
Yuen	0.8869	0.8869	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 808

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0458	0.0592	0.0134
Welch-Aspin's t	0.041	0.0529	0.0119
Yuen Test	0.0338	0.0461	0.0124
Tukey's Quick Test	0.0066	0.0083	0.0017
Haga Test	0.0021	0.0102	0.0081
$\alpha=0.01$			
Student's t	0.0102	0.0127	0.0025
Welch-Aspin's t	0.008	0.01	0.0019
Yuen	0.0063	0.0086	0.0022
Tukey's Quick	0.0009	0.0012	0.0002
Haga	0.0003	0.0014	0.0011
$\alpha=0.001$			
Student's t	0.0011	0.0013	0.0003
Welch-Aspin's t	0.0007	0.0009	0.0002
Yuen	0.0007	0.0009	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0015	0.0012

Table 809

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0726	0.0796	0.0071
Welch-Aspin's t	0.0718	0.0788	0.007
Yuen Test	0.0655	0.0738	0.0082
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0184	0.0196	0.0011
Welch-Aspin's t	0.0179	0.019	0.0011
Yuen	0.0162	0.0176	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0027	0.0001
Welch-Aspin's t	0.0024	0.0025	0.0001
Yuen	0.0022	0.0023	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 810

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0966	0.1011	0.0045
Welch-Aspin's t	0.0962	0.1007	0.0045
Yuen Test	0.0865	0.0919	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0273	0.0279	0.0007
Welch-Aspin's t	0.027	0.0276	0.0007
Yuen	0.0236	0.0244	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0041	0
Welch-Aspin's t	0.004	0.004	0
Yuen	0.0035	0.0035	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 811

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0625	0.076	0.0135
Welch-Aspin's t	0.0542	0.0675	0.0133
Yuen Test	0.0618	0.081	0.0193
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0164	0.019	0.0026
Welch-Aspin's t	0.0155	0.0187	0.0032
Yuen	0.022	0.028	0.006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0023	0.0025	0.0003
Welch-Aspin's t	0.0029	0.0034	0.0005
Yuen	0.0052	0.0065	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 812

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0699	0.0834	0.0135
Welch-Aspin's t	0.0569	0.0705	0.0136
Yuen Test	0.07	0.0922	0.0222
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0192	0.0218	0.0026
Welch-Aspin's t	0.017	0.0206	0.0036
Yuen	0.0299	0.0385	0.0087
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0029	0.0031	0.0003
Welch-Aspin's t	0.0042	0.0049	0.0008
Yuen	0.0109	0.0136	0.0027
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 813

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0879	0.0946	0.0067
Welch-Aspin's t	0.0798	0.0858	0.006
Yuen Test	0.0742	0.0814	0.0072
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0247	0.0258	0.0011
Welch-Aspin's t	0.021	0.022	0.001
Yuen	0.0198	0.0211	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0037	0.0038	0.0001
Welch-Aspin's t	0.003	0.0031	0.0001
Yuen	0.003	0.0031	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 814

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0971	0.1018	0.0047
Welch-Aspin's t	0.0878	0.0919	0.0041
Yuen Test	0.0636	0.0689	0.0053
Tukey's Quick Test	0.0174	0.0179	0.0005
Haga Test	0.0006	0.0214	0.0208
$\alpha=0.01$			
Student's t	0.0253	0.026	0.0008
Welch-Aspin's t	0.0201	0.0207	0.0006
Yuen	0.0131	0.014	0.0009
Tukey's Quick	0.0033	0.0034	0
Haga	0.0001	0.0041	0.004
$\alpha=0.001$			
Student's t	0.0031	0.0031	0.0001
Welch-Aspin's t	0.002	0.002	0
Yuen	0.0014	0.0014	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.004	0.0039

Table 815

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2392	0.2399	0.0007
Welch-Aspin's t	0.2374	0.2381	0.0007
Yuen Test	0.1995	0.2005	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0876	0.0877	0.0001
Welch-Aspin's t	0.0858	0.0859	0.0001
Yuen	0.0667	0.0668	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0176	0.0176	0
Welch-Aspin's t	0.0167	0.0167	0
Yuen	0.0116	0.0116	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 816

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.376	0.3761	0.0002
Welch-Aspin's t	0.3752	0.3753	0.0002
Yuen Test	0.317	0.3173	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1688	0.1689	0
Welch-Aspin's t	0.1677	0.1677	0
Yuen	0.1305	0.1306	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0439	0.0439	0
Welch-Aspin's t	0.0431	0.0431	0
Yuen	0.0304	0.0304	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 817

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1533	0.1565	0.0032
Welch-Aspin's t	0.1249	0.1286	0.0037
Yuen Test	0.1235	0.1303	0.0068
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0498	0.0503	0.0005
Welch-Aspin's t	0.0407	0.0415	0.0007
Yuen	0.0486	0.0505	0.0019
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0087	0.0088	0
Welch-Aspin's t	0.0093	0.0094	0.0001
Yuen	0.0132	0.0136	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 818

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1758	0.1788	0.0029
Welch-Aspin's t	0.13	0.1338	0.0038
Yuen Test	0.1373	0.1451	0.0078
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.062	0.0625	0.0004
Welch-Aspin's t	0.0444	0.0453	0.0009
Yuen	0.0627	0.0655	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.012	0.012	0
Welch-Aspin's t	0.0119	0.0121	0.0002
Yuen	0.0251	0.0259	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 819

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3037	0.3041	0.0005
Welch-Aspin's t	0.2816	0.282	0.0004
Yuen Test	0.2397	0.2404	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1258	0.1258	0.0001
Welch-Aspin's t	0.1095	0.1095	0.0001
Yuen	0.0883	0.0884	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0299	0.0299	0
Welch-Aspin's t	0.0238	0.0238	0
Yuen	0.0186	0.0186	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 820

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1821	0.1835	0.0014
Welch-Aspin's t	0.1668	0.168	0.0012
Yuen Test	0.1094	0.1113	0.0019
Tukey's Quick Test	0.0376	0.0377	0.0001
Haga Test	0.0001	0.0433	0.0431
$\alpha=0.01$			
Student's t	0.0541	0.0543	0.0002
Welch-Aspin's t	0.0438	0.0439	0.0002
Yuen	0.0236	0.0239	0.0003
Tukey's Quick	0.0074	0.0074	0
Haga	0	0.0083	0.0083
$\alpha=0.001$			
Student's t	0.0077	0.0077	0
Welch-Aspin's t	0.0051	0.0051	0
Yuen	0.0025	0.0026	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0084	0.0084

Table 821

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5189	0.519	0.0001
Welch-Aspin's t	0.5166	0.5166	0
Yuen Test	0.4282	0.4283	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2664	0.2664	0
Welch-Aspin's t	0.2627	0.2627	0
Yuen	0.1912	0.1912	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0791	0.0791	0
Welch-Aspin's t	0.0758	0.0758	0
Yuen	0.046	0.046	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 822

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7505	0.7505	0
Welch-Aspin's t	0.7499	0.7499	0
Yuen Test	0.6567	0.6567	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.507	0.507	0
Welch-Aspin's t	0.5051	0.5051	0
Yuen	0.3946	0.3946	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2241	0.2241	0
Welch-Aspin's t	0.2215	0.2215	0
Yuen	0.1454	0.1454	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 823

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.305	0.3056	0.0006
Welch-Aspin's t	0.2392	0.24	0.0008
Yuen Test	0.213	0.215	0.002
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0	0
$\alpha=0.01$			
Student's t	0.1229	0.123	0.0001
Welch-Aspin's t	0.0897	0.0898	0.0002
Yuen	0.0919	0.0925	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0275	0.0275	0
Welch-Aspin's t	0.0236	0.0236	0
Yuen	0.0289	0.029	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 824

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3496	0.3501	0.0004
Welch-Aspin's t	0.2481	0.2489	0.0008
Yuen Test	0.2299	0.2323	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1566	0.1567	0.0001
Welch-Aspin's t	0.0948	0.095	0.0002
Yuen	0.1132	0.114	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0408	0.0408	0
Welch-Aspin's t	0.0285	0.0285	0
Yuen	0.0499	0.0501	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 825

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6286	0.6286	0
Welch-Aspin's t	0.6002	0.6002	0
Yuen Test	0.5064	0.5065	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3748	0.3748	0
Welch-Aspin's t	0.3358	0.3358	0
Yuen	0.2551	0.2551	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1398	0.1398	0
Welch-Aspin's t	0.1129	0.1129	0
Yuen	0.0764	0.0764	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 826

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3493	0.3495	0.0002
Welch-Aspin's t	0.3254	0.3256	0.0002
Yuen Test	0.1984	0.1988	0.0005
Tukey's Quick Test	0.088	0.088	0
Haga Test	0	0.0959	0.0959
$\alpha=0.01$			
Student's t	0.1275	0.1275	0
Welch-Aspin's t	0.1054	0.1054	0
Yuen	0.0483	0.0483	0.0001
Tukey's Quick	0.0222	0.0222	0
Haga	0	0.0239	0.0239
$\alpha=0.001$			
Student's t	0.0221	0.0221	0
Welch-Aspin's t	0.0149	0.0149	0
Yuen	0.0049	0.0049	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.024	0.024

Table 827

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8555	0.8555	0
Welch-Aspin's t	0.8541	0.8541	0
Yuen Test	0.7557	0.7557	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6401	0.6401	0
Welch-Aspin's t	0.6354	0.6354	0
Yuen	0.4796	0.4796	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3181	0.3181	0
Welch-Aspin's t	0.3094	0.3094	0
Yuen	0.1781	0.1781	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 828

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9778	0.9778	0
Welch-Aspin's t	0.9777	0.9777	0
Yuen Test	0.9418	0.9418	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9086	0.9086	0
Welch-Aspin's t	0.9078	0.9078	0
Yuen	0.8055	0.8055	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6979	0.6979	0
Welch-Aspin's t	0.6945	0.6945	0
Yuen	0.5067	0.5067	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 829

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5683	0.5684	0.0001
Welch-Aspin's t	0.4465	0.4466	0.0001
Yuen Test	0.3603	0.3606	0.0003
Tukey's Quick Test	0.0002	0.0002	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.3072	0.3072	0
Welch-Aspin's t	0.2021	0.2021	0
Yuen	0.1785	0.1785	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0951	0.0951	0
Welch-Aspin's t	0.0641	0.0641	0
Yuen	0.0666	0.0666	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 830

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6339	0.6339	0
Welch-Aspin's t	0.4579	0.458	0.0001
Yuen Test	0.3702	0.3705	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3836	0.3836	0
Welch-Aspin's t	0.2059	0.2059	0
Yuen	0.1987	0.1987	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1451	0.1451	0
Welch-Aspin's t	0.069	0.069	0
Yuen	0.0982	0.0982	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 831

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9283	0.9283	0
Welch-Aspin's t	0.9159	0.9159	0
Yuen Test	0.8343	0.8343	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7859	0.7859	0
Welch-Aspin's t	0.745	0.745	0
Yuen	0.5927	0.5927	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4969	0.4969	0
Welch-Aspin's t	0.4248	0.4248	0
Yuen	0.2738	0.2738	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 832

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7469	0.7469	0
Welch-Aspin's t	0.7215	0.7215	0
Yuen Test	0.444	0.444	0
Tukey's Quick Test	0.2783	0.2783	0
Haga Test	0	0.283	0.283
$\alpha=0.01$			
Student's t	0.4188	0.4188	0
Welch-Aspin's t	0.3645	0.3645	0
Yuen	0.1377	0.1377	0
Tukey's Quick	0.1151	0.1151	0
Haga	0	0.1171	0.1171
$\alpha=0.001$			
Student's t	0.1129	0.1129	0
Welch-Aspin's t	0.0799	0.0799	0
Yuen	0.0176	0.0176	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1175	0.1175

Table 833

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9992	0.9992	0
Welch-Aspin's t	0.9992	0.9992	0
Yuen Test	0.9924	0.9924	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9914	0.9914	0
Welch-Aspin's t	0.9911	0.9911	0
Yuen	0.941	0.941	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9246	0.9246	0
Welch-Aspin's t	0.9206	0.9206	0
Yuen	0.7033	0.7033	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 834

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	1	1	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.999	0.999	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9991	0.9991	0
Welch-Aspin's t	0.9991	0.9991	0
Yuen	0.9832	0.9832	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 835

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9412	0.9412	0
Welch-Aspin's t	0.8447	0.8447	0
Yuen Test	0.6354	0.6354	0
Tukey's Quick Test	0.0005	0.0005	0
Haga Test	0	0.0003	0.0003
$\alpha=0.01$			
Student's t	0.7939	0.7939	0
Welch-Aspin's t	0.5363	0.5363	0
Yuen	0.3813	0.3813	0
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002
$\alpha=0.001$			
Student's t	0.4678	0.4678	0
Welch-Aspin's t	0.229	0.229	0
Yuen	0.1903	0.1903	0
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001

Table 836

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9664	0.9664	0
Welch-Aspin's t	0.8543	0.8543	0
Yuen Test	0.6205	0.6205	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8735	0.8735	0
Welch-Aspin's t	0.5266	0.5266	0
Yuen	0.3696	0.3696	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6244	0.6244	0
Welch-Aspin's t	0.2143	0.2143	0
Yuen	0.207	0.207	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 837

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen Test	0.9979	0.9979	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9989	0.9989	0
Welch-Aspin's t	0.998	0.998	0
Yuen	0.9743	0.9743	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9857	0.9857	0
Welch-Aspin's t	0.9709	0.9709	0
Yuen	0.8193	0.8193	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 838

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0447	0.0747	0.03
Welch-Aspin's t	0.0327	0.0547	0.0219
Yuen Test	0.0368	0.064	0.0272
Tukey's Quick Test	0.0061	0.0099	0.0037
Haga Test	0.0055	0.0147	0.0091
$\alpha=0.01$			
Student's t	0.0131	0.0217	0.0086
Welch-Aspin's t	0.008	0.0132	0.0052
Yuen	0.01	0.017	0.0069
Tukey's Quick	0.0018	0.0029	0.0011
Haga	0.0016	0.0043	0.0027
$\alpha=0.001$			
Student's t	0.0023	0.0038	0.0014
Welch-Aspin's t	0.0012	0.002	0.0008
Yuen	0.0011	0.0019	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	0.0016	0.0043	0.0026

Table 839

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0418	0.0611	0.0193
Welch-Aspin's t	0.037	0.054	0.0169
Yuen Test	0.0387	0.0582	0.0195
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0109	0.0154	0.0045
Welch-Aspin's t	0.0082	0.0115	0.0033
Yuen	0.0096	0.0139	0.0043
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.0024	0.0006
Welch-Aspin's t	0.001	0.0013	0.0003
Yuen	0.0015	0.0021	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 840

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0454	0.0613	0.0159
Welch-Aspin's t	0.0422	0.0568	0.0146
Yuen Test	0.042	0.0585	0.0165
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0113	0.0146	0.0033
Welch-Aspin's t	0.0094	0.0121	0.0026
Yuen	0.0099	0.0132	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0017	0.0021	0.0004
Welch-Aspin's t	0.0011	0.0014	0.0002
Yuen	0.0014	0.0018	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 841

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1508	0.2595	0.1087
Welch-Aspin's t	0.0316	0.053	0.0214
Yuen Test	0.0432	0.0754	0.0322
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0828	0.1391	0.0563
Welch-Aspin's t	0.0077	0.013	0.0053
Yuen	0.0191	0.0332	0.0141
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0345	0.0571	0.0226
Welch-Aspin's t	0.0015	0.0026	0.0011
Yuen	0.007	0.0124	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 842

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2045	0.355	0.1506
Welch-Aspin's t	0.0307	0.0512	0.0205
Yuen Test	0.0403	0.0705	0.0302
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1305	0.2226	0.0921
Welch-Aspin's t	0.0071	0.0119	0.0047
Yuen	0.0177	0.0311	0.0134
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0697	0.117	0.0472
Welch-Aspin's t	0.0014	0.0024	0.001
Yuen	0.007	0.0123	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 843

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0888	0.1328	0.044
Welch-Aspin's t	0.0374	0.0541	0.0167
Yuen Test	0.0392	0.0585	0.0192
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0347	0.05	0.0153
Welch-Aspin's t	0.0083	0.0116	0.0032
Yuen	0.0099	0.0142	0.0044
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0094	0.013	0.0037
Welch-Aspin's t	0.001	0.0014	0.0004
Yuen	0.0015	0.0022	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 844

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0587	0.0805	0.0218
Welch-Aspin's t	0.0432	0.0592	0.0159
Yuen Test	0.0467	0.0676	0.0209
Tukey's Quick Test	0.0077	0.0107	0.003
Haga Test	0.0043	0.0157	0.0114
$\alpha=0.01$			
Student's t	0.0182	0.0241	0.0059
Welch-Aspin's t	0.011	0.0146	0.0036
Yuen	0.0125	0.0178	0.0053
Tukey's Quick	0.0025	0.0033	0.0008
Haga	0.0012	0.0049	0.0037
$\alpha=0.001$			
Student's t	0.0033	0.0044	0.0011
Welch-Aspin's t	0.0018	0.0024	0.0006
Yuen	0.0015	0.002	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.0047	0.0035

Table 845

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0721	0.0822	0.0101
Welch-Aspin's t	0.0643	0.0731	0.0087
Yuen Test	0.063	0.0738	0.0108
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0208	0.023	0.0021
Welch-Aspin's t	0.0159	0.0175	0.0016
Yuen	0.0168	0.0191	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0038	0.0041	0.0003
Welch-Aspin's t	0.0021	0.0023	0.0002
Yuen	0.0028	0.0031	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 846

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0894	0.0956	0.0062
Welch-Aspin's t	0.0837	0.0893	0.0057
Yuen Test	0.0777	0.0848	0.007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0267	0.0279	0.0012
Welch-Aspin's t	0.0227	0.0236	0.0009
Yuen	0.0213	0.0226	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0045	0.0046	0.0001
Welch-Aspin's t	0.0031	0.0032	0.0001
Yuen	0.0033	0.0035	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 847

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1901	0.2726	0.0825
Welch-Aspin's t	0.0421	0.0574	0.0153
Yuen Test	0.0526	0.078	0.0254
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1072	0.1483	0.0411
Welch-Aspin's t	0.0106	0.0145	0.0038
Yuen	0.0234	0.0342	0.0109
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0469	0.0627	0.0158
Welch-Aspin's t	0.0021	0.0029	0.0008
Yuen	0.009	0.013	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 848

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2532	0.3696	0.1164
Welch-Aspin's t	0.0405	0.0556	0.0151
Yuen Test	0.049	0.073	0.024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1672	0.2365	0.0693
Welch-Aspin's t	0.0097	0.0132	0.0035
Yuen	0.0216	0.032	0.0104
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0928	0.1265	0.0337
Welch-Aspin's t	0.0019	0.0026	0.0007
Yuen	0.0087	0.0128	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 849

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1413	0.1653	0.0241
Welch-Aspin's t	0.0649	0.0735	0.0086
Yuen Test	0.0636	0.0744	0.0108
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0604	0.0678	0.0074
Welch-Aspin's t	0.0163	0.0178	0.0015
Yuen	0.0171	0.0194	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0182	0.0198	0.0016
Welch-Aspin's t	0.0021	0.0022	0.0001
Yuen	0.0028	0.0032	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 850

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0762	0.0918	0.0156
Welch-Aspin's t	0.0566	0.0681	0.0115
Yuen Test	0.0575	0.0735	0.0161
Tukey's Quick Test	0.0118	0.0136	0.0017
Haga Test	0.0025	0.0198	0.0173
$\alpha=0.01$			
Student's t	0.0246	0.0288	0.0042
Welch-Aspin's t	0.0147	0.0173	0.0026
Yuen	0.0162	0.0201	0.0039
Tukey's Quick	0.004	0.0045	0.0005
Haga	0.0006	0.0064	0.0058
$\alpha=0.001$			
Student's t	0.0045	0.0052	0.0007
Welch-Aspin's t	0.0023	0.0027	0.0004
Yuen	0.0019	0.0022	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0007	0.0065	0.0059

Table 851

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1154	0.1203	0.0049
Welch-Aspin's t	0.104	0.1082	0.0042
Yuen Test	0.0965	0.1023	0.0058
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0371	0.0379	0.0009
Welch-Aspin's t	0.029	0.0296	0.0006
Yuen	0.0281	0.0292	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0075	0.0076	0.0001
Welch-Aspin's t	0.0044	0.0044	0.0001
Yuen	0.0051	0.0052	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 852

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1596	0.1619	0.0023
Welch-Aspin's t	0.1509	0.153	0.0021
Yuen Test	0.1341	0.1369	0.0028
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0551	0.0555	0.0003
Welch-Aspin's t	0.0475	0.0478	0.0003
Yuen	0.042	0.0425	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0114	0.0114	0
Welch-Aspin's t	0.0081	0.0081	0
Yuen	0.0075	0.0075	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 853

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2347	0.2955	0.0608
Welch-Aspin's t	0.0544	0.0655	0.0111
Yuen Test	0.0638	0.0837	0.0199
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1376	0.167	0.0294
Welch-Aspin's t	0.0141	0.0167	0.0026
Yuen	0.0285	0.0372	0.0087
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0625	0.0733	0.0108
Welch-Aspin's t	0.0028	0.0034	0.0006
Yuen	0.0109	0.0141	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 854

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3069	0.3946	0.0877
Welch-Aspin's t	0.0539	0.0646	0.0107
Yuen Test	0.06	0.0789	0.0189
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2092	0.2593	0.0501
Welch-Aspin's t	0.0126	0.0151	0.0025
Yuen	0.0259	0.034	0.0081
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1205	0.144	0.0236
Welch-Aspin's t	0.0025	0.0029	0.0005
Yuen	0.0101	0.0136	0.0034
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 855

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2106	0.223	0.0124
Welch-Aspin's t	0.1043	0.1083	0.0041
Yuen Test	0.0971	0.1027	0.0056
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0992	0.1027	0.0035
Welch-Aspin's t	0.029	0.0297	0.0006
Yuen	0.0285	0.0296	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0328	0.0335	0.0006
Welch-Aspin's t	0.0043	0.0044	0
Yuen	0.0049	0.005	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 856

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.106	0.1158	0.0098
Welch-Aspin's t	0.0789	0.086	0.0071
Yuen Test	0.0747	0.0857	0.011
Tukey's Quick Test	0.0178	0.0188	0.001
Haga Test	0.0015	0.0269	0.0255
$\alpha=0.01$			
Student's t	0.0355	0.038	0.0025
Welch-Aspin's t	0.0212	0.0227	0.0015
Yuen	0.0215	0.0241	0.0026
Tukey's Quick	0.0062	0.0065	0.0002
Haga	0.0003	0.0093	0.0089
$\alpha=0.001$			
Student's t	0.0073	0.0077	0.0004
Welch-Aspin's t	0.0038	0.004	0.0002
Yuen	0.0026	0.0028	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0004	0.0097	0.0093

Table 857

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1975	0.1991	0.0016
Welch-Aspin's t	0.1805	0.1819	0.0014
Yuen Test	0.159	0.1612	0.0022
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0742	0.0745	0.0003
Welch-Aspin's t	0.0588	0.0591	0.0002
Yuen	0.0522	0.0526	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0169	0.0169	0
Welch-Aspin's t	0.0102	0.0102	0
Yuen	0.0104	0.0104	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 858

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2979	0.2984	0.0005
Welch-Aspin's t	0.2848	0.2853	0.0005
Yuen Test	0.2439	0.2446	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1261	0.1261	0.0001
Welch-Aspin's t	0.1112	0.1113	0
Yuen	0.0911	0.0912	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0328	0.0328	0
Welch-Aspin's t	0.024	0.024	0
Yuen	0.0195	0.0195	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 859

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3036	0.3433	0.0398
Welch-Aspin's t	0.0768	0.0837	0.007
Yuen Test	0.0814	0.0953	0.0139
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1863	0.2045	0.0183
Welch-Aspin's t	0.0203	0.022	0.0017
Yuen	0.0364	0.0425	0.0061
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0906	0.0969	0.0064
Welch-Aspin's t	0.004	0.0044	0.0003
Yuen	0.0145	0.0167	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 860

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3852	0.4432	0.058
Welch-Aspin's t	0.0746	0.0812	0.0066
Yuen Test	0.0764	0.0895	0.0131
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2737	0.3055	0.0318
Welch-Aspin's t	0.0185	0.02	0.0015
Yuen	0.0334	0.0391	0.0058
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1671	0.1816	0.0145
Welch-Aspin's t	0.0035	0.0038	0.0003
Yuen	0.0132	0.0156	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 861

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3303	0.3347	0.0045
Welch-Aspin's t	0.1836	0.1849	0.0013
Yuen Test	0.1618	0.164	0.0021
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.175	0.1762	0.0012
Welch-Aspin's t	0.0595	0.0597	0.0002
Yuen	0.0525	0.053	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.067	0.0672	0.0002
Welch-Aspin's t	0.0101	0.0101	0
Yuen	0.0101	0.0101	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 862

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1858	0.1891	0.0033
Welch-Aspin's t	0.141	0.1434	0.0024
Yuen Test	0.1201	0.125	0.0049
Tukey's Quick Test	0.0363	0.0366	0.0003
Haga Test	0.0004	0.0503	0.0498
$\alpha=0.01$			
Student's t	0.0701	0.071	0.0009
Welch-Aspin's t	0.0417	0.0423	0.0005
Yuen	0.0368	0.0379	0.0011
Tukey's Quick	0.0151	0.0152	0.0001
Haga	0.0001	0.0206	0.0205
$\alpha=0.001$			
Student's t	0.0157	0.0158	0.0001
Welch-Aspin's t	0.0078	0.0078	0.0001
Yuen	0.0053	0.0054	0.0001
Tukey's Quick	0	0	0
Haga	0.0001	0.0207	0.0207

Table 863

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4424	0.4425	0.0001
Welch-Aspin's t	0.416	0.4161	0.0001
Yuen Test	0.3471	0.3474	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2196	0.2196	0
Welch-Aspin's t	0.1833	0.1833	0
Yuen	0.1424	0.1425	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.069	0.069	0
Welch-Aspin's t	0.0441	0.0441	0
Yuen	0.0339	0.0339	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 864

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6597	0.6597	0
Welch-Aspin's t	0.6446	0.6447	0
Yuen Test	0.5502	0.5503	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4086	0.4086	0
Welch-Aspin's t	0.3771	0.3771	0
Yuen	0.2896	0.2896	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1677	0.1677	0
Welch-Aspin's t	0.1328	0.1328	0
Yuen	0.0906	0.0906	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 865

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4584	0.4735	0.0151
Welch-Aspin's t	0.1367	0.1392	0.0025
Yuen Test	0.1237	0.1302	0.0065
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0	0
$\alpha=0.01$			
Student's t	0.3101	0.3165	0.0064
Welch-Aspin's t	0.0386	0.0392	0.0006
Yuen	0.0559	0.0587	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1679	0.17	0.0021
Welch-Aspin's t	0.008	0.0081	0.0001
Yuen	0.0239	0.0248	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 866

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.554	0.5769	0.0228
Welch-Aspin's t	0.1353	0.1377	0.0024
Yuen Test	0.117	0.1231	0.0062
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4253	0.4366	0.0113
Welch-Aspin's t	0.0351	0.0356	0.0005
Yuen	0.0499	0.0527	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2862	0.2908	0.0046
Welch-Aspin's t	0.007	0.0071	0.0001
Yuen	0.0201	0.0212	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 867

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.617	0.6174	0.0004
Welch-Aspin's t	0.4224	0.4226	0.0001
Yuen Test	0.3514	0.3517	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4125	0.4126	0.0001
Welch-Aspin's t	0.1857	0.1858	0
Yuen	0.1431	0.1432	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2068	0.2068	0
Welch-Aspin's t	0.0438	0.0438	0
Yuen	0.034	0.034	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 868

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0435	0.0829	0.0394
Welch-Aspin's t	0.0263	0.05	0.0236
Yuen Test	0.0328	0.0619	0.0291
Tukey's Quick Test	0.0051	0.0105	0.0054
Haga Test	0.0087	0.0167	0.0079
$\alpha=0.01$			
Student's t	0.0144	0.0277	0.0133
Welch-Aspin's t	0.0052	0.01	0.0048
Yuen	0.0085	0.0166	0.0081
Tukey's Quick	0.0036	0.0063	0.0027
Haga	0.0043	0.01	0.0057
$\alpha=0.001$			
Student's t	0.0035	0.0067	0.0032
Welch-Aspin's t	0.0006	0.0012	0.0006
Yuen	0.0017	0.0032	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	0.0043	0.0101	0.0058

Table 869

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0328	0.0602	0.0274
Welch-Aspin's t	0.0275	0.0505	0.0229
Yuen Test	0.0297	0.0552	0.0255
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0088	0.0159	0.0071
Welch-Aspin's t	0.0057	0.0104	0.0047
Yuen	0.0066	0.012	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0027	0.0012
Welch-Aspin's t	0.0006	0.0011	0.0005
Yuen	0.0008	0.0016	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 870

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0317	0.0564	0.0248
Welch-Aspin's t	0.0286	0.0508	0.0222
Yuen Test	0.0293	0.0535	0.0242
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0077	0.0135	0.0058
Welch-Aspin's t	0.0059	0.0103	0.0044
Yuen	0.0066	0.0116	0.005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0012	0.002	0.0008
Welch-Aspin's t	0.0007	0.0011	0.0005
Yuen	0.0007	0.0014	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 871

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1611	0.3117	0.1506
Welch-Aspin's t	0.026	0.0501	0.0241
Yuen Test	0.0325	0.0603	0.0277
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.098	0.1889	0.0909
Welch-Aspin's t	0.0051	0.0099	0.0048
Yuen	0.0087	0.0166	0.008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0505	0.0967	0.0462
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0064	0.0117	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 872

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2254	0.4352	0.2098
Welch-Aspin's t	0.0262	0.05	0.0238
Yuen Test	0.0327	0.0606	0.0279
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1592	0.308	0.1488
Welch-Aspin's t	0.0052	0.0099	0.0048
Yuen	0.0089	0.0172	0.0084
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1018	0.1965	0.0947
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0063	0.0118	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 873

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0762	0.1413	0.0651
Welch-Aspin's t	0.0276	0.0505	0.0229
Yuen Test	0.0297	0.0548	0.0251
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0308	0.0563	0.0255
Welch-Aspin's t	0.0058	0.0103	0.0046
Yuen	0.0065	0.0119	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0091	0.0164	0.0073
Welch-Aspin's t	0.0007	0.0011	0.0005
Yuen	0.0008	0.0015	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 874

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0462	0.0833	0.0371
Welch-Aspin's t	0.0281	0.0504	0.0222
Yuen Test	0.0339	0.0615	0.0276
Tukey's Quick Test	0.0059	0.011	0.005
Haga Test	0.0079	0.0171	0.0092
$\alpha=0.01$			
Student's t	0.0155	0.0277	0.0122
Welch-Aspin's t	0.0057	0.01	0.0043
Yuen	0.0091	0.0167	0.0076
Tukey's Quick	0.0036	0.0062	0.0026
Haga	0.0041	0.0098	0.0057
$\alpha=0.001$			
Student's t	0.0038	0.0069	0.003
Welch-Aspin's t	0.0007	0.0013	0.0006
Yuen	0.0018	0.0033	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	0.0041	0.0098	0.0057

Table 875

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0382	0.0618	0.0236
Welch-Aspin's t	0.0322	0.052	0.0197
Yuen Test	0.0341	0.0563	0.0222
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0102	0.0159	0.0057
Welch-Aspin's t	0.0068	0.0106	0.0038
Yuen	0.0076	0.0122	0.0046
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.0027	0.0009
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0011	0.0017	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 876

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0383	0.0584	0.02
Welch-Aspin's t	0.0345	0.0525	0.0179
Yuen Test	0.0352	0.055	0.0197
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0096	0.0141	0.0045
Welch-Aspin's t	0.0074	0.0109	0.0035
Yuen	0.0079	0.0121	0.0042
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0021	0.0006
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.001	0.0014	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 877

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1712	0.3124	0.1412
Welch-Aspin's t	0.0285	0.0506	0.0221
Yuen Test	0.0328	0.0592	0.0264
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1047	0.1901	0.0853
Welch-Aspin's t	0.0055	0.0098	0.0043
Yuen	0.0089	0.0165	0.0075
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0543	0.0973	0.043
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0064	0.0117	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 878

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2371	0.4365	0.1994
Welch-Aspin's t	0.0285	0.0507	0.0222
Yuen Test	0.0329	0.0594	0.0265
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1688	0.3079	0.1391
Welch-Aspin's t	0.0056	0.0098	0.0042
Yuen	0.0092	0.0166	0.0074
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.109	0.1971	0.0881
Welch-Aspin's t	0.0006	0.001	0.0005
Yuen	0.0065	0.0117	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 879

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0869	0.144	0.0571
Welch-Aspin's t	0.0323	0.0519	0.0196
Yuen Test	0.0342	0.0562	0.0219
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0355	0.0574	0.0219
Welch-Aspin's t	0.0068	0.0105	0.0037
Yuen	0.0077	0.0123	0.0046
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0106	0.0167	0.0061
Welch-Aspin's t	0.0008	0.0012	0.0004
Yuen	0.001	0.0016	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 880

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0502	0.0842	0.0339
Welch-Aspin's t	0.0308	0.0512	0.0205
Yuen Test	0.0353	0.0626	0.0272
Tukey's Quick Test	0.0074	0.011	0.0036
Haga Test	0.0057	0.0175	0.0117
$\alpha=0.01$			
Student's t	0.017	0.0282	0.0111
Welch-Aspin's t	0.0061	0.01	0.004
Yuen	0.0096	0.0167	0.0071
Tukey's Quick	0.0038	0.0063	0.0025
Haga	0.0039	0.0099	0.006
$\alpha=0.001$			
Student's t	0.0042	0.0068	0.0027
Welch-Aspin's t	0.0008	0.0013	0.0005
Yuen	0.0019	0.0033	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	0.0037	0.0097	0.006

Table 881

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0439	0.0639	0.02
Welch-Aspin's t	0.0373	0.054	0.0167
Yuen Test	0.0383	0.0575	0.0192
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0119	0.0168	0.0049
Welch-Aspin's t	0.0079	0.0111	0.0032
Yuen	0.0088	0.0128	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0022	0.003	0.0007
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0012	0.0017	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 882

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0465	0.0627	0.0162
Welch-Aspin's t	0.0421	0.0566	0.0145
Yuen Test	0.0417	0.0581	0.0164
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0122	0.0157	0.0035
Welch-Aspin's t	0.0097	0.0123	0.0026
Yuen	0.0098	0.013	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0019	0.0023	0.0004
Welch-Aspin's t	0.0011	0.0014	0.0002
Yuen	0.0012	0.0016	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 883

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1812	0.3145	0.1332
Welch-Aspin's t	0.0304	0.051	0.0206
Yuen Test	0.0335	0.0595	0.026
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1113	0.1903	0.079
Welch-Aspin's t	0.006	0.01	0.004
Yuen	0.0094	0.0167	0.0073
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.058	0.0977	0.0398
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0064	0.0118	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 884

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2494	0.4372	0.1878
Welch-Aspin's t	0.0307	0.0509	0.0202
Yuen Test	0.0337	0.0597	0.026
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1788	0.3105	0.1318
Welch-Aspin's t	0.006	0.0101	0.0041
Yuen	0.0093	0.0167	0.0074
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1155	0.1981	0.0825
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0063	0.0118	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 885

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0981	0.1472	0.0492
Welch-Aspin's t	0.037	0.0535	0.0164
Yuen Test	0.0389	0.0579	0.019
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.041	0.0595	0.0186
Welch-Aspin's t	0.0082	0.0114	0.0032
Yuen	0.0089	0.0129	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0125	0.0175	0.0049
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0011	0.0016	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 886

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0545	0.0854	0.0309
Welch-Aspin's t	0.0335	0.0519	0.0185
Yuen Test	0.0374	0.0628	0.0254
Tukey's Quick Test	0.0086	0.0115	0.0029
Haga Test	0.0047	0.0182	0.0135
$\alpha=0.01$			
Student's t	0.0189	0.029	0.0101
Welch-Aspin's t	0.0066	0.0102	0.0036
Yuen	0.0103	0.0171	0.0067
Tukey's Quick	0.0046	0.0071	0.0025
Haga	0.0038	0.0111	0.0072
$\alpha=0.001$			
Student's t	0.0047	0.0071	0.0025
Welch-Aspin's t	0.0009	0.0014	0.0005
Yuen	0.0018	0.0032	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	0.0038	0.011	0.0072

Table 887

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0531	0.0689	0.0159
Welch-Aspin's t	0.0452	0.0584	0.0131
Yuen Test	0.0458	0.0614	0.0156
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0152	0.0189	0.0037
Welch-Aspin's t	0.0103	0.0127	0.0024
Yuen	0.0109	0.014	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0029	0.0035	0.0006
Welch-Aspin's t	0.0012	0.0014	0.0002
Yuen	0.0014	0.0018	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 888

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0595	0.0715	0.0119
Welch-Aspin's t	0.0542	0.0649	0.0106
Yuen Test	0.0525	0.0646	0.012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0164	0.0188	0.0024
Welch-Aspin's t	0.0129	0.0147	0.0018
Yuen	0.0128	0.0152	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0027	0.003	0.0003
Welch-Aspin's t	0.0016	0.0018	0.0002
Yuen	0.0017	0.0019	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 889

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1944	0.3173	0.1229
Welch-Aspin's t	0.0337	0.0523	0.0186
Yuen Test	0.036	0.0619	0.0258
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1216	0.194	0.0724
Welch-Aspin's t	0.0068	0.0103	0.0035
Yuen	0.0103	0.0172	0.007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.064	0.1	0.036
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0065	0.0117	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 890

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.266	0.4413	0.1753
Welch-Aspin's t	0.0338	0.0524	0.0187
Yuen Test	0.0365	0.0623	0.0258
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1924	0.3133	0.121
Welch-Aspin's t	0.0066	0.0102	0.0035
Yuen	0.011	0.018	0.0069
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1254	0.2004	0.075
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0067	0.0121	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 891

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1147	0.1552	0.0405
Welch-Aspin's t	0.045	0.0581	0.0131
Yuen Test	0.0456	0.0612	0.0157
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0497	0.0645	0.0148
Welch-Aspin's t	0.0103	0.0128	0.0024
Yuen	0.0108	0.0139	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0157	0.0196	0.0039
Welch-Aspin's t	0.0012	0.0014	0.0002
Yuen	0.0014	0.0018	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 892

Smooth Symmetric Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0658	0.0908	0.025
Welch-Aspin's t	0.0407	0.0555	0.0148
Yuen Test	0.0436	0.065	0.0214
Tukey's Quick Test	0.009	0.0115	0.0025
Haga Test	0.004	0.0183	0.0144
$\alpha=0.01$			
Student's t	0.0229	0.031	0.0081
Welch-Aspin's t	0.0082	0.0111	0.0029
Yuen	0.0121	0.0179	0.0058
Tukey's Quick	0.0063	0.0085	0.0022
Haga	0.0035	0.0135	0.01
$\alpha=0.001$			
Student's t		0.0076	0.0019
Welch-Aspin's t	0.0011	0.0015	0.0004
Yuen	0.0023	0.0033	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0036	0.0136	0.0101

Table 893

Smooth Symmetric Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0753	0.0855	0.0102
Welch-Aspin's t	0.0645	0.0728	0.0083
Yuen Test	0.0627	0.0728	0.0102
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.023	0.0252	0.0022
Welch-Aspin's t	0.0158	0.0172	0.0014
Yuen	0.0159	0.018	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0045	0.0048	0.0003
Welch-Aspin's t	0.0019	0.002	0.0001
Yuen	0.0022	0.0024	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 894

Smooth Symmetric Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.093	0.0992	0.0061
Welch-Aspin's t	0.0852	0.0907	0.0054
Yuen Test	0.0791	0.086	0.0069
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0281	0.0293	0.0012
Welch-Aspin's t	0.0226	0.0235	0.0009
Yuen	0.0214	0.0226	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0053	0.0054	0.0001
Welch-Aspin's t	0.0032	0.0033	0.0001
Yuen	0.0032	0.0034	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 895

Smooth Symmetric Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2249	0.3282	0.1032
Welch-Aspin's t	0.0406	0.0556	0.015
Yuen Test	0.0431	0.0651	0.0221
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.142	0.2018	0.0597
Welch-Aspin's t	0.0082	0.011	0.0028
Yuen	0.0126	0.0194	0.0068
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0767	0.1057	0.0291
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0076	0.0127	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 896

Smooth Symmetric Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3023	0.4508	0.1485
Welch-Aspin's t	0.0409	0.0557	0.0148
Yuen Test	0.0431	0.0651	0.022
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2227	0.3241	0.1014
Welch-Aspin's t	0.0082	0.0111	0.0029
Yuen	0.0129	0.0196	0.0066
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1474	0.2091	0.0616
Welch-Aspin's t	0.0008	0.0011	0.0003
Yuen	0.009	0.0144	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 897

Smooth Symmetric Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1552	0.1822	0.027
Welch-Aspin's t	0.0648	0.0732	0.0084
Yuen Test	0.0626	0.0731	0.0105
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0701	0.0794	0.0093
Welch-Aspin's t	0.0156	0.0171	0.0015
Yuen	0.0159	0.0179	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.024	0.0263	0.0023
Welch-Aspin's t	0.0019	0.0021	0.0001
Yuen	0.0022	0.0024	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 898

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.0 σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0204	0.0409	0.0206
Welch-Aspin's t	0.0133	0.0266	0.0133
Yuen Test	0.0167	0.0334	0.0167
Tukey's Quick Test	0.0003	0.0007	0.0004
Haga Test	0.0005	0.0009	0.0005
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$\alpha=0.01$			
Student's t	0.0033	0.0068	0.0034
Welch-Aspin's t	0.0017	0.0034	0.0018
Yuen	0.004	0.0079	0.0039
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0002	0.0001
<hr/>			
$\alpha=0.001$			
Student's t	0.0004	0.0008	0.0004
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	0.0006	0.0012	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0002	0.0001

Table 899

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0243	0.0487	0.0244
Welch-Aspin's t	0.0228	0.0458	0.023
Yuen Test	0.0185	0.037	0.0185
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0043	0.0087	0.0044
Welch-Aspin's t	0.0035	0.007	0.0035
Yuen	0.0027	0.0055	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.0006	0.0003
Welch-Aspin's t	0.0002	0.0003	0.0002
Yuen	0.0002	0.0004	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 900

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0245	0.0494	0.0249
Welch-Aspin's t	0.024	0.0484	0.0244
Yuen Test	0.0204	0.0413	0.0209
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0047	0.0094	0.0048
Welch-Aspin's t	0.0043	0.0087	0.0044
Yuen	0.0031	0.0063	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0004	0.0008	0.0004
Welch-Aspin's t	0.0003	0.0006	0.0003
Yuen	0.0002	0.0004	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 901

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0086	0.0439	0.0353
Welch-Aspin's t	0.072	0.0794	0.0073
Yuen Test	0.0433	0.0631	0.0198
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0003	0.0105	0.0102
Welch-Aspin's t	0.0219	0.0232	0.0013
Yuen	0.0083	0.0156	0.0073
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0	0.002	0.002
Welch-Aspin's t	0.0022	0.0024	0.0002
Yuen	0.0007	0.003	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 902

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0059	0.0429	0.037
Welch-Aspin's t	0.0989	0.1053	0.0064
Yuen Test	0.0717	0.0927	0.021
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0001	0.0115	0.0114
Welch-Aspin's t	0.0478	0.049	0.0012
Yuen	0.0235	0.0319	0.0085
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0	0.0024	0.0024
Welch-Aspin's t	0.014	0.0142	0.0002
Yuen	0.0032	0.0064	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 903

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0208	0.0491	0.0283
Welch-Aspin's t	0.0361	0.0519	0.0158
Yuen Test	0.0286	0.0432	0.0147
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0029	0.0092	0.0063
Welch-Aspin's t	0.0091	0.0109	0.0018
Yuen	0.0054	0.0075	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0009	0.0008
Welch-Aspin's t	0.001	0.0011	0.0001
Yuen	0.0004	0.0006	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 904

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0459	0.0549	0.009
Welch-Aspin's t	0.0319	0.0375	0.0057
Yuen Test	0.0312	0.0406	0.0094
Tukey's Quick Test	0.0033	0.0036	0.0003
Haga Test	0.0004	0.0045	0.0041
$\alpha=0.01$			
Student's t	0.0083	0.0099	0.0015
Welch-Aspin's t	0.0042	0.005	0.0008
Yuen	0.0075	0.0096	0.0021
Tukey's Quick	0.0004	0.0004	0
Haga	0.0001	0.0006	0.0005
$\alpha=0.001$			
Student's t	0.0009	0.0011	0.0002
Welch-Aspin's t	0.0004	0.0005	0.0001
Yuen	0.0012	0.0016	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0005	0.0005

Table 905

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0792	0.0849	0.0057
Welch-Aspin's t	0.0769	0.0821	0.0052
Yuen Test	0.0684	0.0725	0.0041
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0199	0.0207	0.0008
Welch-Aspin's t	0.0173	0.0179	0.0006
Yuen	0.0134	0.014	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0022	0.0023	0
Welch-Aspin's t	0.0014	0.0014	0
Yuen	0.0013	0.0013	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 906

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1052	0.1088	0.0036
Welch-Aspin's t	0.1044	0.1079	0.0035
Yuen Test	0.0995	0.1022	0.0027
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0298	0.0302	0.0004
Welch-Aspin's t	0.0286	0.029	0.0004
Yuen	0.0241	0.0244	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0042	0
Welch-Aspin's t	0.0035	0.0035	0
Yuen	0.0025	0.0025	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 907

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0385	0.0552	0.0168
Welch-Aspin's t	0.1398	0.143	0.0031
Yuen Test	0.1097	0.1205	0.0109
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.003	0.0074	0.0045
Welch-Aspin's t	0.0609	0.0615	0.0006
Yuen	0.0311	0.0352	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0009	0.0008
Welch-Aspin's t	0.0114	0.0115	0.0001
Yuen	0.0037	0.0049	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 908

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0371	0.0547	0.0177
Welch-Aspin's t	0.1681	0.171	0.0029
Yuen Test	0.1518	0.1634	0.0116
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0017	0.007	0.0053
Welch-Aspin's t	0.0964	0.097	0.0006
Yuen	0.0711	0.0758	0.0047
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0	0.0011	0.0011
Welch-Aspin's t	0.0416	0.0418	0.0001
Yuen	0.0186	0.0204	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 909

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0863	0.0928	0.0065
Welch-Aspin's t	0.1137	0.1166	0.0029
Yuen Test	0.1079	0.1109	0.0031
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0201	0.0213	0.0012
Welch-Aspin's t	0.0399	0.0401	0.0002
Yuen	0.0315	0.0319	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0017	0.0018	0.0001
Welch-Aspin's t	0.0077	0.0077	0
Yuen	0.0042	0.0042	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 910

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1241	0.1266	0.0025
Welch-Aspin's t	0.0971	0.0987	0.0016
Yuen Test	0.0766	0.0804	0.0037
Tukey's Quick Test	0.0078	0.0079	0.0002
Haga Test	0.0002	0.0096	0.0095
$\alpha=0.01$			
Student's t	0.031	0.0314	0.0005
Welch-Aspin's t	0.0172	0.0175	0.0003
Yuen	0.017	0.0179	0.0009
Tukey's Quick	0.0009	0.0009	0
Haga	0	0.0011	0.0011
$\alpha=0.001$			
Student's t	0.0039	0.004	0.0001
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.0024	0.0025	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0011	0.0011

Table 911

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2748	0.2752	0.0004
Welch-Aspin's t	0.2725	0.2728	0.0003
Yuen Test	0.2647	0.2651	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1083	0.1084	0
Welch-Aspin's t	0.1031	0.1032	0
Yuen	0.0899	0.0899	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0227	0.0227	0
Welch-Aspin's t	0.0177	0.0177	0
Yuen	0.0146	0.0146	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 912

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4181	0.4182	0.0001
Welch-Aspin's t	0.4175	0.4176	0.0001
Yuen Test	0.4129	0.413	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2014	0.2014	0
Welch-Aspin's t	0.1997	0.1997	0
Yuen	0.1919	0.1919	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.057	0.057	0
Welch-Aspin's t	0.0539	0.0539	0
Yuen	0.0462	0.0462	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 913

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1615	0.1664	0.0049
Welch-Aspin's t	0.2606	0.2616	0.0009
Yuen Test	0.248	0.2525	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0326	0.0338	0.0012
Welch-Aspin's t	0.1503	0.1505	0.0002
Yuen	0.112	0.1137	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0019	0.0022	0.0002
Welch-Aspin's t	0.0566	0.0567	0
Yuen	0.0253	0.0258	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 914

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.177	0.182	0.005
Welch-Aspin's t	0.2828	0.2837	0.0008
Yuen Test	0.2823	0.2872	0.0049
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0348	0.0361	0.0013
Welch-Aspin's t	0.1828	0.183	0.0002
Yuen	0.1739	0.1759	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0013	0.0016	0.0002
Welch-Aspin's t	0.1025	0.1026	0
Yuen	0.0786	0.0793	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 915

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=0.5 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3353	0.3358	0.0005
Welch-Aspin's t	0.3481	0.3482	0.0001
Yuen Test	0.3485	0.3488	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1411	0.1412	0.0001
Welch-Aspin's t	0.1757	0.1758	0
Yuen	0.1727	0.1727	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0301	0.0301	0
Welch-Aspin's t	0.0601	0.0601	0
Yuen	0.0491	0.0491	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 916

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2464	0.2471	0.0007
Welch-Aspin's t	0.2125	0.213	0.0005
Yuen Test	0.1514	0.153	0.0016
Tukey's Quick Test	0.0282	0.0282	0
Haga Test	0	0.0326	0.0326
$\alpha=0.01$			
Student's t	0.0827	0.0829	0.0001
Welch-Aspin's t	0.0527	0.0528	0.0001
Yuen	0.0375	0.0379	0.0004
Tukey's Quick	0.0052	0.0052	0
Haga	0	0.0061	0.0061
$\alpha=0.001$			
Student's t	0.014	0.014	0
Welch-Aspin's t	0.007	0.0071	0
Yuen	0.0054	0.0055	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0059	0.0059

Table 917

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5713	0.5713	0
Welch-Aspin's t	0.5693	0.5694	0
Yuen Test	0.5458	0.5458	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.322	0.322	0
Welch-Aspin's t	0.3174	0.3174	0
Yuen	0.2873	0.2873	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1126	0.1126	0
Welch-Aspin's t	0.1021	0.1021	0
Yuen	0.081	0.081	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 918

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7921	0.7921	0
Welch-Aspin's t	0.7914	0.7914	0
Yuen Test	0.7625	0.7625	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.569	0.569	0
Welch-Aspin's t	0.5676	0.5676	0
Yuen	0.5364	0.5364	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.283	0.283	0
Welch-Aspin's t	0.2797	0.2797	0
Yuen	0.251	0.251	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 919

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3545	0.3559	0.0014
Welch-Aspin's t	0.3865	0.3868	0.0003
Yuen Test	0.3802	0.3823	0.002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1348	0.1351	0.0003
Welch-Aspin's t	0.2509	0.251	0.0001
Yuen	0.225	0.2257	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0189	0.019	0.0001
Welch-Aspin's t	0.1312	0.1312	0
Yuen	0.0764	0.0767	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 920

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3927	0.394	0.0013
Welch-Aspin's t	0.401	0.4013	0.0003
Yuen Test	0.3964	0.3985	0.0021
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1632	0.1635	0.0003
Welch-Aspin's t	0.2714	0.2715	0.0001
Yuen	0.271	0.2719	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0214	0.0215	0.0001
Welch-Aspin's t	0.1667	0.1668	0
Yuen	0.1578	0.1582	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 921

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=0.8 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6747	0.6747	0
Welch-Aspin's t	0.6501	0.6501	0
Yuen Test	0.6186	0.6186	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4268	0.4268	0
Welch-Aspin's t	0.4255	0.4255	0
Yuen	0.4102	0.4102	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1722	0.1722	0
Welch-Aspin's t	0.2087	0.2087	0
Yuen	0.1949	0.1949	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 922

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4357	0.4358	0.0002
Welch-Aspin's t	0.404	0.4041	0.0001
Yuen Test	0.2748	0.2754	0.0005
Tukey's Quick Test	0.0605	0.0605	0
Haga Test	0	0.0679	0.0679
$\alpha=0.01$			
Student's t	0.2013	0.2013	0
Welch-Aspin's t	0.1454	0.1454	0
Yuen	0.0861	0.0863	0.0001
Tukey's Quick	0.0188	0.0188	0
Haga	0	0.021	0.021
$\alpha=0.001$			
Student's t	0.0493	0.0493	0
Welch-Aspin's t	0.0272	0.0272	0
Yuen	0.0126	0.0127	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0213	0.0213

Table 923

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8827	0.8827	0
Welch-Aspin's t	0.8805	0.8805	0
Yuen Test	0.828	0.828	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6984	0.6984	0
Welch-Aspin's t	0.6938	0.6938	0
Yuen	0.6169	0.6169	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3969	0.3969	0
Welch-Aspin's t	0.3873	0.3873	0
Yuen	0.3002	0.3002	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 924

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9842	0.9842	0
Welch-Aspin's t	0.9839	0.9839	0
Yuen Test	0.9637	0.9637	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9307	0.9307	0
Welch-Aspin's t	0.9293	0.9293	0
Yuen	0.8788	0.8788	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7595	0.7595	0
Welch-Aspin's t	0.7562	0.7562	0
Yuen	0.6693	0.6693	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 925

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6214	0.6216	0.0002
Welch-Aspin's t	0.544	0.544	0.0001
Yuen Test	0.5176	0.5182	0.0006
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3688	0.3689	0
Welch-Aspin's t	0.3813	0.3813	0
Yuen	0.3565	0.3568	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1135	0.1135	0
Welch-Aspin's t	0.2347	0.2347	0
Yuen	0.1835	0.1836	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 926

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6781	0.6783	0.0002
Welch-Aspin's t	0.5517	0.5517	0.0001
Yuen Test	0.5182	0.5189	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4381	0.4381	0
Welch-Aspin's t	0.3888	0.3888	0
Yuen	0.3715	0.3718	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1592	0.1592	0
Welch-Aspin's t	0.2505	0.2505	0
Yuen	0.2488	0.2489	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 927

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.941	0.941	0
Welch-Aspin's t	0.917	0.917	0
Yuen Test	0.8585	0.8585	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8219	0.8219	0
Welch-Aspin's t	0.7741	0.7741	0
Yuen	0.6998	0.6998	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5635	0.5635	0
Welch-Aspin's t	0.5266	0.5266	0
Yuen	0.4673	0.4673	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 928

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7765	0.7765	0
Welch-Aspin's t	0.7508	0.7508	0
Yuen Test	0.5329	0.5329	0
Tukey's Quick Test	0.1594	0.1594	0
Haga Test	0	0.1669	0.1669
$\alpha=0.01$			
Student's t	0.5145	0.5145	0
Welch-Aspin's t	0.4384	0.4384	0
Yuen	0.219	0.219	0
Tukey's Quick	0.0906	0.0906	0
Haga	0	0.0953	0.0953
$\alpha=0.001$			
Student's t	0.2078	0.2078	0
Welch-Aspin's t	0.1303	0.1303	0
Yuen	0.0416	0.0416	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0952	0.0952

Table 929

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9993	0.9993	0
Welch-Aspin's t	0.9992	0.9992	0
Yuen Test	0.9908	0.9908	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9925	0.9925	0
Welch-Aspin's t	0.9914	0.9914	0
Yuen	0.9484	0.9484	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9393	0.9393	0
Welch-Aspin's t	0.9323	0.9323	0
Yuen	0.7914	0.7914	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 930

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9987	0.9987	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9994	0.9994	0
Welch-Aspin's t	0.9992	0.9992	0
Yuen	0.9852	0.9852	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 931

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9428	0.9428	0
Welch-Aspin's t	0.8121	0.8121	0
Yuen Test	0.6998	0.6998	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8165	0.8165	0
Welch-Aspin's t	0.61	0.61	0
Yuen	0.5299	0.5299	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5365	0.5365	0
Welch-Aspin's t	0.4149	0.4149	0
Yuen	0.3623	0.3623	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 932

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9648	0.9648	0
Welch-Aspin's t	0.8171	0.8171	0
Yuen Test	0.6867	0.6867	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8847	0.8847	0
Welch-Aspin's t	0.6028	0.6028	0
Yuen	0.5147	0.5147	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6706	0.6706	0
Welch-Aspin's t	0.4036	0.4036	0
Yuen	0.3639	0.3639	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 933

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9996	0.9996	0
Yuen Test	0.9929	0.9929	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9989	0.9989	0
Welch-Aspin's t	0.9957	0.9957	0
Yuen	0.9585	0.9585	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9872	0.9872	0
Welch-Aspin's t	0.9596	0.9596	0
Yuen	0.8459	0.8459	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 934

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.053	0.0613	0.0083
Welch-Aspin's t	0.0382	0.0433	0.0052
Yuen Test	0.037	0.0457	0.0087
Tukey's Quick Test	0.0029	0.0033	0.0004
Haga Test	0.0005	0.0042	0.0037
$\alpha=0.01$			
Student's t	0.0104	0.0117	0.0013
Welch-Aspin's t	0.0054	0.0061	0.0007
Yuen	0.008	0.01	0.002
Tukey's Quick	0.0003	0.0004	0
Haga	0.0001	0.0005	0.0004
$\alpha=0.001$			
Student's t	0.0012	0.0014	0.0002
Welch-Aspin's t	0.0006	0.0006	0.0001
Yuen	0.0012	0.0016	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0005	0.0005

Table 935

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0824	0.0877	0.0053
Welch-Aspin's t	0.0807	0.0854	0.0047
Yuen Test	0.0825	0.0858	0.0033
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0224	0.023	0.0006
Welch-Aspin's t	0.0202	0.0206	0.0005
Yuen	0.0183	0.0187	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0029	0.0029	0
Welch-Aspin's t	0.0019	0.0019	0
Yuen	0.002	0.002	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 936

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.105	0.1086	0.0036
Welch-Aspin's t	0.1045	0.1079	0.0035
Yuen Test	0.1182	0.1204	0.0022
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0311	0.0316	0.0004
Welch-Aspin's t	0.0303	0.0307	0.0004
Yuen	0.032	0.0322	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0049	0.0049	0
Welch-Aspin's t	0.0043	0.0043	0
Yuen	0.0039	0.004	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 937

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0533	0.0724	0.0191
Welch-Aspin's t	0.1446	0.1478	0.0032
Yuen Test	0.1262	0.137	0.0108
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0055	0.0108	0.0053
Welch-Aspin's t	0.0684	0.069	0.0006
Yuen	0.0419	0.046	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0002	0.0011	0.001
Welch-Aspin's t	0.0164	0.0165	0.0001
Yuen	0.0059	0.0073	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 938

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0551	0.0769	0.0219
Welch-Aspin's t	0.1681	0.1711	0.0029
Yuen Test	0.1625	0.1738	0.0113
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0044	0.0111	0.0067
Welch-Aspin's t	0.0988	0.0994	0.0006
Yuen	0.0833	0.088	0.0047
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0015	0.0015
Welch-Aspin's t	0.0467	0.0468	0.0001
Yuen	0.0271	0.0289	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 939

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0945	0.1016	0.0071
Welch-Aspin's t	0.1137	0.1165	0.0028
Yuen Test	0.1246	0.1273	0.0027
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0247	0.0259	0.0012
Welch-Aspin's t	0.0424	0.0426	0.0002
Yuen	0.041	0.0413	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0028	0.0029	0.0001
Welch-Aspin's t	0.0096	0.0096	0
Yuen	0.0068	0.0068	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 940

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1309	0.1335	0.0026
Welch-Aspin's t	0.1062	0.1079	0.0016
Yuen Test	0.0825	0.0863	0.0039
Tukey's Quick Test	0.0109	0.0111	0.0002
Haga Test	0.0002	0.0135	0.0133
$\alpha=0.01$			
Student's t	0.0348	0.0352	0.0004
Welch-Aspin's t	0.0204	0.0206	0.0002
Yuen	0.0191	0.02	0.0009
Tukey's Quick	0.0012	0.0012	0
Haga	0	0.0015	0.0015
$\alpha=0.001$			
Student's t	0.0048	0.0049	0.0001
Welch-Aspin's t	0.0024	0.0024	0
Yuen	0.0024	0.0025	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0015	0.0015

Table 941

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2611	0.2616	0.0004
Welch-Aspin's t	0.2595	0.2599	0.0003
Yuen Test	0.2756	0.276	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1066	0.1066	0
Welch-Aspin's t	0.1029	0.1029	0
Yuen	0.1017	0.1017	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0244	0.0244	0
Welch-Aspin's t	0.0201	0.0201	0
Yuen	0.0184	0.0184	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 942

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3892	0.3893	0.0001
Welch-Aspin's t	0.3886	0.3887	0.0001
Yuen Test	0.4171	0.4172	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1867	0.1867	0
Welch-Aspin's t	0.1857	0.1857	0
Yuen	0.2037	0.2037	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0548	0.0548	0
Welch-Aspin's t	0.0528	0.0528	0
Yuen	0.0552	0.0552	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 943

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1796	0.186	0.0063
Welch-Aspin's t	0.252	0.2531	0.0011
Yuen Test	0.2512	0.2561	0.0049
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0446	0.0462	0.0016
Welch-Aspin's t	0.1488	0.1491	0.0002
Yuen	0.122	0.1238	0.0019
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0035	0.0038	0.0003
Welch-Aspin's t	0.0617	0.0618	0
Yuen	0.0314	0.032	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 944

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2	0.2073	0.0073
Welch-Aspin's t	0.2701	0.2712	0.001
Yuen Test	0.2787	0.2839	0.0052
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0506	0.0526	0.0021
Welch-Aspin's t	0.1736	0.1738	0.0002
Yuen	0.1738	0.176	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0029	0.0032	0.0004
Welch-Aspin's t	0.0979	0.0979	0
Yuen	0.0848	0.0857	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 945

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3242	0.3249	0.0006
Welch-Aspin's t	0.3225	0.3227	0.0002
Yuen Test	0.3473	0.3476	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1439	0.144	0.0001
Welch-Aspin's t	0.1642	0.1642	0
Yuen	0.1804	0.1804	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0349	0.035	0
Welch-Aspin's t	0.0593	0.0593	0
Yuen	0.0571	0.0571	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 946

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2443	0.2451	0.0008
Welch-Aspin's t	0.2148	0.2154	0.0006
Yuen Test	0.1537	0.1555	0.0018
Tukey's Quick Test	0.0265	0.0266	0
Haga Test	0	0.0319	0.0318
$\alpha=0.01$			
Student's t	0.0872	0.0874	0.0001
Welch-Aspin's t	0.0577	0.0577	0.0001
Yuen	0.0408	0.0412	0.0004
Tukey's Quick	0.005	0.005	0
Haga	0	0.0061	0.0061
$\alpha=0.001$			
Student's t	0.0158	0.0158	0
Welch-Aspin's t	0.0082	0.0083	0
Yuen	0.0058	0.0059	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.006	0.006

Table 947

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5326	0.5326	0
Welch-Aspin's t	0.5303	0.5303	0
Yuen Test	0.5324	0.5324	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.298	0.298	0
Welch-Aspin's t	0.2945	0.2945	0
Yuen	0.2893	0.2893	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1062	0.1062	0
Welch-Aspin's t	0.0988	0.0988	0
Yuen	0.0866	0.0866	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 948

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7473	0.7473	0
Welch-Aspin's t	0.7461	0.7461	0
Yuen Test	0.74	0.74	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5184	0.5184	0
Welch-Aspin's t	0.5168	0.5168	0
Yuen	0.519	0.519	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2497	0.2497	0
Welch-Aspin's t	0.2476	0.2476	0
Yuen	0.2498	0.2498	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 949

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3565	0.3585	0.002
Welch-Aspin's t	0.3634	0.3638	0.0004
Yuen Test	0.3671	0.3694	0.0023
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1505	0.151	0.0005
Welch-Aspin's t	0.2359	0.236	0.0001
Yuen	0.2215	0.2223	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.025	0.0251	0.0001
Welch-Aspin's t	0.126	0.126	0
Yuen	0.0816	0.0819	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 950

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3965	0.3986	0.0021
Welch-Aspin's t	0.375	0.3754	0.0004
Yuen Test	0.3781	0.3805	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1834	0.1839	0.0006
Welch-Aspin's t	0.252	0.2521	0.0001
Yuen	0.2572	0.2582	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0319	0.032	0.0001
Welch-Aspin's t	0.1546	0.1546	0
Yuen	0.1536	0.1541	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 951

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=0.8 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6379	0.6379	0
Welch-Aspin's t	0.5999	0.5999	0
Yuen Test	0.594	0.5941	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4007	0.4007	0
Welch-Aspin's t	0.3815	0.3815	0
Yuen	0.3932	0.3932	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1679	0.1679	0
Welch-Aspin's t	0.1861	0.1861	0
Yuen	0.1919	0.1919	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 952

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4163	0.4164	0.0002
Welch-Aspin's t	0.3894	0.3896	0.0001
Yuen Test	0.2735	0.2741	0.0006
Tukey's Quick Test	0.0588	0.0588	0
Haga Test	0	0.0665	0.0665
$\alpha=0.01$			
Student's t	0.1969	0.197	0
Welch-Aspin's t	0.1461	0.1461	0
Yuen	0.088	0.0882	0.0001
Tukey's Quick	0.0189	0.0189	0
Haga	0	0.0212	0.0212
$\alpha=0.001$			
Student's t	0.0502	0.0502	0
Welch-Aspin's t	0.0285	0.0285	0
Yuen	0.0125	0.0125	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0211	0.0211

Table 953

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8436	0.8436	0
Welch-Aspin's t	0.8405	0.8405	0
Yuen Test	0.8002	0.8002	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6421	0.6421	0
Welch-Aspin's t	0.6365	0.6365	0
Yuen	0.5888	0.5888	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3539	0.3539	0
Welch-Aspin's t	0.3458	0.3458	0
Yuen	0.2917	0.2917	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 954

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9709	0.9709	0
Welch-Aspin's t	0.9703	0.9703	0
Yuen Test	0.9487	0.9487	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8944	0.8944	0
Welch-Aspin's t	0.892	0.892	0
Yuen	0.8491	0.8491	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6917	0.6917	0
Welch-Aspin's t	0.6869	0.6869	0
Yuen	0.6323	0.6323	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 955

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5998	0.6002	0.0003
Welch-Aspin's t	0.5072	0.5073	0.0001
Yuen Test	0.4927	0.4936	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3666	0.3667	0.0001
Welch-Aspin's t	0.3509	0.3509	0
Yuen	0.3377	0.3379	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1242	0.1242	0
Welch-Aspin's t	0.2148	0.2148	0
Yuen	0.1771	0.1772	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 956

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6578	0.6582	0.0003
Welch-Aspin's t	0.5128	0.5129	0.0001
Yuen Test	0.4914	0.4922	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4354	0.4355	0.0001
Welch-Aspin's t	0.3559	0.3559	0
Yuen	0.3468	0.3472	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1764	0.1764	0
Welch-Aspin's t	0.2256	0.2256	0
Yuen	0.2302	0.2303	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 957

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=1.2 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9157	0.9157	0
Welch-Aspin's t	0.8796	0.8796	0
Yuen Test	0.8289	0.8289	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7775	0.7775	0
Welch-Aspin's t	0.7119	0.7119	0
Yuen	0.661	0.661	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5175	0.5175	0
Welch-Aspin's t	0.4601	0.4601	0
Yuen	0.4322	0.4322	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 958

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.733	0.733	0
Welch-Aspin's t	0.7066	0.7066	0
Yuen Test	0.5166	0.5166	0.0001
Tukey's Quick Test	0.1414	0.1414	0
Haga Test	0	0.1505	0.1505
$\alpha=0.01$			
Student's t	0.4814	0.4814	0
Welch-Aspin's t	0.4146	0.4146	0
Yuen	0.2079	0.208	0
Tukey's Quick	0.0836	0.0836	0
Haga	0	0.0882	0.0882
$\alpha=0.001$			
Student's t	0.1956	0.1956	0
Welch-Aspin's t	0.1245	0.1245	0
Yuen	0.0419	0.0419	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0879	0.0879

Table 959

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9977	0.9977	0
Welch-Aspin's t	0.9975	0.9975	0
Yuen Test	0.9836	0.9836	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9828	0.9828	0
Welch-Aspin's t	0.9803	0.9803	0
Yuen	0.9249	0.9249	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.898	0.898	0
Welch-Aspin's t	0.8867	0.8867	0
Yuen	0.751	0.751	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 960

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9997	0.9997	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen	0.9967	0.9967	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9974	0.9974	0
Welch-Aspin's t	0.9969	0.9969	0
Yuen	0.9728	0.9728	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 961

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9199	0.9199	0
Welch-Aspin's t	0.7605	0.7605	0
Yuen Test	0.6646	0.6647	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7819	0.7819	0
Welch-Aspin's t	0.5588	0.5588	0
Yuen	0.4963	0.4964	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5145	0.5145	0
Welch-Aspin's t	0.3747	0.3747	0
Yuen	0.3335	0.3335	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 962

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9487	0.9487	0
Welch-Aspin's t	0.7645	0.7645	0
Yuen Test	0.6528	0.6529	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8572	0.8572	0
Welch-Aspin's t	0.5518	0.5518	0
Yuen	0.4793	0.4794	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6442	0.6442	0
Welch-Aspin's t	0.3618	0.3618	0
Yuen	0.3322	0.3322	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 963

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9987	0.9987	0
Yuen Test	0.9864	0.9864	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9967	0.9967	0
Welch-Aspin's t	0.9881	0.9881	0
Yuen	0.9366	0.9366	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9725	0.9725	0
Welch-Aspin's t	0.9219	0.9219	0
Yuen	0.8018	0.8018	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 964

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1416	0.1493	0.0077
Welch-Aspin's t	0.1303	0.1344	0.0041
Yuen Test	0.151	0.1586	0.0076
Tukey's Quick Test	0.0045	0.0055	0.001
Haga Test	0.0015	0.0083	0.0068
$\alpha=0.01$			
Student's t	0.0781	0.0797	0.0016
Welch-Aspin's t	0.0675	0.0682	0.0007
Yuen	0.0501	0.0522	0.002
Tukey's Quick	0.0012	0.0015	0.0003
Haga	0.0005	0.0023	0.0018
$\alpha=0.001$			
Student's t	0.0283	0.0286	0.0003
Welch-Aspin's t	0.0199	0.02	0.0001
Yuen	0.0041	0.0045	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0023	0.0018

Table 965

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.093	0.0995	0.0065
Welch-Aspin's t	0.0883	0.0933	0.005
Yuen Test	0.2227	0.2239	0.0012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0463	0.0469	0.0006
Welch-Aspin's t	0.0423	0.0427	0.0003
Yuen	0.1184	0.1185	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0194	0.0194	0
Welch-Aspin's t	0.0168	0.0168	0
Yuen	0.05	0.05	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 966

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0836	0.0902	0.0066
Welch-Aspin's t	0.0803	0.086	0.0057
Yuen Test	0.2725	0.273	0.0006
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0364	0.037	0.0006
Welch-Aspin's t	0.0337	0.0341	0.0004
Yuen	0.1496	0.1496	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0136	0.0136	0
Welch-Aspin's t	0.0119	0.0119	0
Yuen	0.0636	0.0637	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 967

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2449	0.3084	0.0635
Welch-Aspin's t	0.1381	0.1419	0.0038
Yuen Test	0.1752	0.1837	0.0085
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1747	0.1993	0.0247
Welch-Aspin's t	0.0786	0.0792	0.0006
Yuen	0.1002	0.1034	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1046	0.1118	0.0072
Welch-Aspin's t	0.0383	0.0384	0.0001
Yuen	0.0527	0.054	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 968

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2855	0.3927	0.1072
Welch-Aspin's t	0.1367	0.1405	0.0037
Yuen Test	0.1622	0.1704	0.0082
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2153	0.2705	0.0552
Welch-Aspin's t	0.0761	0.0766	0.0006
Yuen	0.0959	0.099	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.145	0.168	0.023
Welch-Aspin's t	0.0354	0.0355	0.0001
Yuen	0.0455	0.0468	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 969

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1413	0.1647	0.0234
Welch-Aspin's t	0.0906	0.0955	0.0049
Yuen Test	0.2254	0.2267	0.0013
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0809	0.086	0.005
Welch-Aspin's t	0.0442	0.0446	0.0004
Yuen	0.1215	0.1216	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.04	0.0406	0.0006
Welch-Aspin's t	0.0183	0.0183	0
Yuen	0.053	0.053	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 970

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1697	0.1754	0.0057
Welch-Aspin's t	0.1551	0.1582	0.003
Yuen Test	0.1767	0.1829	0.0062
Tukey's Quick Test	0.0066	0.0073	0.0007
Haga Test	0.0011	0.0109	0.0098
$\alpha=0.01$			
Student's t	0.0973	0.0985	0.0012
Welch-Aspin's t	0.084	0.0845	0.0005
Yuen	0.063	0.0646	0.0017
Tukey's Quick	0.0022	0.0025	0.0002
Haga	0.0004	0.0037	0.0034
$\alpha=0.001$			
Student's t	0.0385	0.0388	0.0002
Welch-Aspin's t	0.0272	0.0273	0.0001
Yuen	0.0069	0.0071	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0003	0.0037	0.0033

Table 971

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.134	0.1371	0.0031
Welch-Aspin's t	0.1271	0.1295	0.0024
Yuen Test	0.2841	0.2848	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0702	0.0704	0.0003
Welch-Aspin's t	0.064	0.0641	0.0001
Yuen	0.1595	0.1596	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0312	0.0312	0
Welch-Aspin's t	0.0268	0.0268	0
Yuen	0.0705	0.0705	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 972

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1401	0.1423	0.0023
Welch-Aspin's t	0.1348	0.1367	0.0019
Yuen Test	0.3651	0.3653	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0665	0.0667	0.0002
Welch-Aspin's t	0.0616	0.0617	0.0001
Yuen	0.2154	0.2154	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0257	0.0257	0
Welch-Aspin's t	0.0224	0.0224	0
Yuen	0.1004	0.1004	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 973

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2878	0.3355	0.0477
Welch-Aspin's t	0.1607	0.1636	0.0029
Yuen Test	0.1975	0.2043	0.0068
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.211	0.2293	0.0184
Welch-Aspin's t	0.0921	0.0926	0.0005
Yuen	0.1121	0.1148	0.0026
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1337	0.1391	0.0054
Welch-Aspin's t	0.0456	0.0457	0.0001
Yuen	0.0617	0.0627	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 974

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3334	0.416	0.0826
Welch-Aspin's t	0.1584	0.1612	0.0028
Yuen Test	0.1878	0.1945	0.0067
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2596	0.3008	0.0412
Welch-Aspin's t	0.0902	0.0907	0.0004
Yuen	0.1071	0.1095	0.0025
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1817	0.1985	0.0168
Welch-Aspin's t	0.0413	0.0413	0.0001
Yuen	0.0517	0.0527	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 975

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2017	0.2137	0.012
Welch-Aspin's t	0.1307	0.133	0.0022
Yuen Test	0.2877	0.2884	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1198	0.1223	0.0025
Welch-Aspin's t	0.0662	0.0663	0.0002
Yuen	0.1621	0.1623	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0623	0.0626	0.0003
Welch-Aspin's t	0.0281	0.0281	0
Yuen	0.0729	0.0729	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 976

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1981	0.2022	0.0041
Welch-Aspin's t	0.1802	0.1824	0.0022
Yuen Test	0.2061	0.211	0.0049
Tukey's Quick Test	0.0099	0.0104	0.0005
Haga Test	0.0007	0.0153	0.0145
$\alpha=0.01$			
Student's t	0.1183	0.1193	0.001
Welch-Aspin's t	0.1009	0.1013	0.0004
Yuen	0.0768	0.0783	0.0014
Tukey's Quick	0.0042	0.0044	0.0002
Haga	0.0002	0.0063	0.0061
$\alpha=0.001$			
Student's t	0.0496	0.0498	0.0002
Welch-Aspin's t	0.0361	0.0362	0.0001
Yuen	0.0112	0.0115	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0063	0.0061

Table 977

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1857	0.1871	0.0014
Welch-Aspin's t	0.176	0.1771	0.0011
Yuen Test	0.3493	0.3497	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1011	0.1012	0.0001
Welch-Aspin's t	0.0916	0.0916	0.0001
Yuen	0.2074	0.2074	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0465	0.0465	0
Welch-Aspin's t	0.0396	0.0396	0
Yuen	0.0955	0.0955	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 978

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2163	0.2171	0.0008
Welch-Aspin's t	0.2087	0.2094	0.0007
Yuen Test	0.4619	0.462	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1105	0.1106	0.0001
Welch-Aspin's t	0.1025	0.1025	0
Yuen	0.2898	0.2898	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0462	0.0462	0
Welch-Aspin's t	0.0401	0.0401	0
Yuen	0.1471	0.1471	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 979

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3326	0.3675	0.0349
Welch-Aspin's t	0.1851	0.1872	0.0021
Yuen Test	0.2195	0.2249	0.0055
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2493	0.2624	0.0131
Welch-Aspin's t	0.1076	0.1079	0.0003
Yuen	0.1263	0.1284	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1651	0.1689	0.0038
Welch-Aspin's t	0.0534	0.0534	0
Yuen	0.0713	0.0721	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 980

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3833	0.4461	0.0628
Welch-Aspin's t	0.1819	0.184	0.002
Yuen Test	0.2051	0.2105	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3042	0.3351	0.0309
Welch-Aspin's t	0.1056	0.106	0.0003
Yuen	0.1181	0.1201	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2209	0.2331	0.0122
Welch-Aspin's t	0.0481	0.0481	0.0001
Yuen	0.061	0.0618	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 981

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2713	0.2772	0.0059
Welch-Aspin's t	0.1796	0.1806	0.001
Yuen Test	0.3506	0.351	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1684	0.1694	0.0011
Welch-Aspin's t	0.0938	0.0938	0.0001
Yuen	0.2087	0.2088	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0918	0.0919	0.0001
Welch-Aspin's t	0.0413	0.0413	0
Yuen	0.0973	0.0973	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 982

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2389	0.2417	0.0028
Welch-Aspin's t	0.2159	0.2175	0.0016
Yuen Test	0.2395	0.2434	0.0038
Tukey's Quick Test	0.013	0.0134	0.0004
Haga Test	0.0006	0.0194	0.0188
$\alpha=0.01$			
Student's t	0.1482	0.1488	0.0006
Welch-Aspin's t	0.126	0.1263	0.0003
Yuen	0.1007	0.1017	0.001
Tukey's Quick	0.0061	0.0062	0.0001
Haga	0.0002	0.009	0.0088
$\alpha=0.001$			
Student's t	0.0673	0.0674	0.0001
Welch-Aspin's t	0.0496	0.0497	0
Yuen	0.0183	0.0184	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0092	0.009

Table 983

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.271	0.2715	0.0005
Welch-Aspin's t	0.2575	0.2579	0.0004
Yuen Test	0.4382	0.4384	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1542	0.1542	0
Welch-Aspin's t	0.1391	0.1392	0
Yuen	0.2756	0.2757	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0751	0.0751	0
Welch-Aspin's t	0.0631	0.0631	0
Yuen	0.134	0.1341	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 984

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3465	0.3467	0.0002
Welch-Aspin's t	0.3357	0.3359	0.0002
Yuen Test	0.5878	0.5878	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1956	0.1956	0
Welch-Aspin's t	0.1819	0.1819	0
Yuen	0.3988	0.3988	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0902	0.0902	0
Welch-Aspin's t	0.0782	0.0782	0
Yuen	0.2208	0.2208	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 985

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3913	0.4149	0.0237
Welch-Aspin's t	0.2176	0.2191	0.0015
Yuen Test	0.2476	0.2519	0.0043
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3006	0.3092	0.0086
Welch-Aspin's t	0.1288	0.129	0.0003
Yuen	0.1427	0.1443	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2082	0.2107	0.0025
Welch-Aspin's t	0.0638	0.0639	0
Yuen	0.0811	0.0818	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 986

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4495	0.4923	0.0428
Welch-Aspin's t	0.2138	0.2153	0.0015
Yuen Test	0.2354	0.2395	0.0041
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3651	0.3855	0.0204
Welch-Aspin's t	0.1267	0.127	0.0002
Yuen	0.1324	0.1339	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2758	0.2836	0.0079
Welch-Aspin's t	0.0583	0.0583	0
Yuen	0.0691	0.0697	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 987

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3802	0.3824	0.0022
Welch-Aspin's t	0.2602	0.2606	0.0003
Yuen Test	0.438	0.4382	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2505	0.2509	0.0004
Welch-Aspin's t	0.1423	0.1423	0
Yuen	0.2766	0.2766	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1435	0.1436	0
Welch-Aspin's t	0.0648	0.0648	0
Yuen	0.1347	0.1347	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 988

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3214	0.3226	0.0012
Welch-Aspin's t	0.288	0.2887	0.0007
Yuen Test	0.3105	0.3126	0.0022
Tukey's Quick Test	0.0245	0.0247	0.0002
Haga Test	0.0002	0.0341	0.0339
$\alpha=0.01$			
Student's t	0.2086	0.2089	0.0003
Welch-Aspin's t	0.1743	0.1745	0.0001
Yuen	0.145	0.1456	0.0006
Tukey's Quick	0.0162	0.0162	0.0001
Haga	0.0001	0.0225	0.0225
$\alpha=0.001$			
Student's t	0.1073	0.1073	0.0001
Welch-Aspin's t	0.0801	0.0801	0
Yuen	0.0363	0.0364	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0227	0.0227

Table 989

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4736	0.4736	0
Welch-Aspin's t	0.4536	0.4536	0
Yuen Test	0.6059	0.6059	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3031	0.3031	0
Welch-Aspin's t	0.2752	0.2752	0
Yuen	0.4175	0.4175	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1639	0.1639	0
Welch-Aspin's t	0.1361	0.1361	0
Yuen	0.2333	0.2333	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 990

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6419	0.6419	0
Welch-Aspin's t	0.6293	0.6293	0
Yuen Test	0.7905	0.7905	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4421	0.4421	0
Welch-Aspin's t	0.4184	0.4184	0
Yuen	0.6174	0.6174	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2486	0.2486	0
Welch-Aspin's t	0.2186	0.2186	0
Yuen	0.3964	0.3964	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 991

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5075	0.5177	0.0102
Welch-Aspin's t	0.286	0.2866	0.0007
Yuen Test	0.3054	0.3079	0.0025
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4071	0.4108	0.0037
Welch-Aspin's t	0.1746	0.1747	0.0001
Yuen	0.1786	0.1795	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2996	0.3006	0.0011
Welch-Aspin's t	0.0858	0.0859	0
Yuen	0.1002	0.1006	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 992

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5794	0.5986	0.0193
Welch-Aspin's t	0.2842	0.2849	0.0007
Yuen Test	0.2968	0.2992	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4865	0.4954	0.0089
Welch-Aspin's t	0.167	0.1672	0.0001
Yuen	0.1602	0.1611	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3867	0.3901	0.0034
Welch-Aspin's t	0.0811	0.0811	0
Yuen	0.0923	0.0927	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 993

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6115	0.6117	0.0003
Welch-Aspin's t	0.4591	0.4591	0
Yuen Test	0.6056	0.6057	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4514	0.4514	0
Welch-Aspin's t	0.277	0.277	0
Yuen	0.4159	0.4159	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2908	0.2908	0
Welch-Aspin's t	0.1375	0.1375	0
Yuen	0.2307	0.2307	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 994

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1504	0.1595	0.0091
Welch-Aspin's t	0.1226	0.1269	0.0043
Yuen Test	0.1506	0.1581	0.0075
Tukey's Quick Test	0.0036	0.0049	0.0013
Haga Test	0.0021	0.0078	0.0058
$\alpha=0.01$			
Student's t	0.0945	0.0965	0.0021
Welch-Aspin's t	0.0617	0.0623	0.0006
Yuen	0.0621	0.064	0.0019
Tukey's Quick	0.0034	0.0042	0.0009
Haga	0.0014	0.0068	0.0054
$\alpha=0.001$			
Student's t	0.0503	0.0507	0.0004
Welch-Aspin's t	0.0227	0.0228	0.0001
Yuen	0.0132	0.0136	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0014	0.0068	0.0054

Table 995

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.083	0.0919	0.0089
Welch-Aspin's t	0.0761	0.0828	0.0067
Yuen Test	0.2349	0.236	0.0011
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.044	0.045	0.001
Welch-Aspin's t	0.0368	0.0373	0.0005
Yuen	0.1248	0.1249	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0203	0.0203	0
Welch-Aspin's t	0.0144	0.0144	0
Yuen	0.0502	0.0502	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 996

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0672	0.077	0.0098
Welch-Aspin's t	0.0632	0.0715	0.0083
Yuen Test	0.2917	0.2922	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0308	0.0317	0.001
Welch-Aspin's t	0.0271	0.0277	0.0007
Yuen	0.1646	0.1646	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0123	0.0123	0
Welch-Aspin's t	0.0096	0.0096	0
Yuen	0.0691	0.0691	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 997

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.266	0.3498	0.0838
Welch-Aspin's t	0.123	0.1274	0.0044
Yuen Test	0.1468	0.1543	0.0075
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2119	0.2478	0.0359
Welch-Aspin's t	0.0593	0.0599	0.0006
Yuen	0.0482	0.0502	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1587	0.1708	0.0122
Welch-Aspin's t	0.0172	0.0172	0.0001
Yuen	0.0239	0.0249	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 998

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.316	0.4607	0.1447
Welch-Aspin's t	0.1242	0.1287	0.0044
Yuen Test	0.1461	0.1538	0.0077
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2646	0.3473	0.0827
Welch-Aspin's t	0.0598	0.0604	0.0006
Yuen	0.0449	0.0471	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2147	0.2531	0.0384
Welch-Aspin's t	0.0165	0.0166	0.0001
Yuen	0.024	0.0251	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 999

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1316	0.1656	0.034
Welch-Aspin's t	0.0763	0.0828	0.0066
Yuen Test	0.2343	0.2355	0.0012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0801	0.0879	0.0078
Welch-Aspin's t	0.0368	0.0372	0.0004
Yuen	0.1238	0.1239	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0442	0.0452	0.001
Welch-Aspin's t	0.0145	0.0145	0
Yuen	0.0498	0.0499	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1000

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.157	0.1654	0.0084
Welch-Aspin's t	0.1286	0.1326	0.004
Yuen Test	0.1624	0.1695	0.007
Tukey's Quick Test	0.0037	0.0049	0.0012
Haga Test	0.0021	0.008	0.0059
$\alpha=0.01$			
Student's t	0.0997	0.1017	0.002
Welch-Aspin's t	0.0646	0.0652	0.0006
Yuen	0.0636	0.0654	0.0018
Tukey's Quick	0.0035	0.0043	0.0008
Haga	0.0013	0.0068	0.0055
$\alpha=0.001$			
Student's t	0.0525	0.0529	0.0004
Welch-Aspin's t	0.0238	0.0238	0.0001
Yuen	0.0136	0.014	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0012	0.0067	0.0055

Table 1001

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.092	0.0992	0.0073
Welch-Aspin's t	0.0843	0.0897	0.0054
Yuen Test	0.2511	0.2521	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0491	0.0499	0.0008
Welch-Aspin's t	0.0413	0.0417	0.0004
Yuen	0.1339	0.134	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0232	0.0232	0
Welch-Aspin's t	0.0166	0.0166	0
Yuen	0.0547	0.0547	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1002

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0779	0.0855	0.0077
Welch-Aspin's t	0.0732	0.0797	0.0065
Yuen Test	0.3144	0.3148	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0357	0.0365	0.0008
Welch-Aspin's t	0.0315	0.032	0.0005
Yuen	0.1798	0.1799	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0142	0.0142	0
Welch-Aspin's t	0.0111	0.0111	0
Yuen	0.0773	0.0773	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1003

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2766	0.3548	0.0783
Welch-Aspin's t	0.1292	0.1334	0.0041
Yuen Test	0.1672	0.1745	0.0073
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2199	0.253	0.0331
Welch-Aspin's t	0.063	0.0635	0.0005
Yuen	0.0481	0.0502	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1655	0.1766	0.0111
Welch-Aspin's t	0.0174	0.0175	0
Yuen	0.0239	0.0249	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1004

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.326	0.4619	0.1359
Welch-Aspin's t	0.1296	0.1337	0.0041
Yuen Test	0.1707	0.178	0.0072
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.275	0.352	0.077
Welch-Aspin's t	0.0638	0.0643	0.0006
Yuen	0.0453	0.0473	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2228	0.2582	0.0354
Welch-Aspin's t	0.0168	0.0169	0.0001
Yuen	0.0241	0.0252	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1005

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size=0.5 σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1452	0.1742	0.0289
Welch-Aspin's t	0.085	0.0905	0.0055
Yuen Test	0.2505	0.2515	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0888	0.0956	0.0068
Welch-Aspin's t	0.041	0.0413	0.0003
Yuen	0.1332	0.1333	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0495	0.0502	0.0008
Welch-Aspin's t	0.0163	0.0163	0
Yuen	0.0541	0.0542	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1006

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1631	0.1709	0.0078
Welch-Aspin's t	0.134	0.1377	0.0038
Yuen Test	0.178	0.1846	0.0066
Tukey's Quick Test	0.0041	0.0053	0.0012
Haga Test	0.002	0.0085	0.0066
$\alpha=0.01$			
Student's t	0.1052	0.107	0.0018
Welch-Aspin's t	0.0688	0.0694	0.0005
Yuen	0.0653	0.067	0.0017
Tukey's Quick	0.0034	0.0042	0.0007
Haga	0.0011	0.0066	0.0054
$\alpha=0.001$			
Student's t	0.0557	0.0561	0.0004
Welch-Aspin's t	0.0246	0.0246	0
Yuen	0.0143	0.0146	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0011	0.0065	0.0054

Table 1007

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1009	0.1069	0.0061
Welch-Aspin's t	0.0926	0.0971	0.0045
Yuen Test	0.2659	0.2668	0.0009
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0545	0.0551	0.0006
Welch-Aspin's t	0.0459	0.0462	0.0003
Yuen	0.1442	0.1443	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0261	0.0261	0
Welch-Aspin's t	0.0187	0.0187	0
Yuen	0.0591	0.0591	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1008

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0901	0.0961	0.006
Welch-Aspin's t	0.0849	0.09	0.0051
Yuen Test	0.3389	0.3392	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0425	0.0431	0.0006
Welch-Aspin's t	0.0375	0.0379	0.0004
Yuen	0.1976	0.1976	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0172	0.0172	0
Welch-Aspin's t	0.0136	0.0136	0
Yuen	0.0868	0.0868	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1009

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2875	0.3597	0.0722
Welch-Aspin's t	0.1344	0.1381	0.0037
Yuen Test	0.1794	0.186	0.0066
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.229	0.2596	0.0306
Welch-Aspin's t	0.0663	0.0668	0.0005
Yuen	0.0486	0.0504	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1722	0.1825	0.0102
Welch-Aspin's t	0.0186	0.0187	0.0001
Yuen	0.024	0.0249	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1010

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3375	0.4651	0.1276
Welch-Aspin's t	0.1345	0.1383	0.0037
Yuen Test	0.1802	0.1872	0.007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.285	0.3567	0.0717
Welch-Aspin's t	0.0664	0.067	0.0005
Yuen	0.0452	0.0473	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2317	0.2648	0.0332
Welch-Aspin's t	0.0185	0.0186	0.0001
Yuen	0.024	0.0249	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1011

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1585	0.1833	0.0249
Welch-Aspin's t	0.093	0.0976	0.0046
Yuen Test	0.2648	0.2657	0.0009
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0968	0.1022	0.0054
Welch-Aspin's t	0.0451	0.0454	0.0003
Yuen	0.1429	0.143	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0552	0.056	0.0007
Welch-Aspin's t	0.0184	0.0184	0
Yuen	0.058	0.058	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1012

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1717	0.1787	0.007
Welch-Aspin's t	0.1409	0.1443	0.0034
Yuen Test	0.1838	0.1899	0.006
Tukey's Quick Test	0.0048	0.0059	0.0011
Haga Test	0.0018	0.0094	0.0076
$\alpha=0.01$			
Student's t	0.111	0.1126	0.0016
Welch-Aspin's t	0.0725	0.0731	0.0005
Yuen	0.0686	0.0701	0.0015
Tukey's Quick	0.0034	0.0041	0.0007
Haga	0.001	0.0065	0.0055
$\alpha=0.001$			
Student's t	0.059	0.0593	0.0003
Welch-Aspin's t	0.0267	0.0267	0.0001
Yuen	0.015	0.0153	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.001	0.0065	0.0055

Table 1013

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1152	0.12	0.0048
Welch-Aspin's t	0.1059	0.1095	0.0035
Yuen Test	0.287	0.2877	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.062	0.0625	0.0005
Welch-Aspin's t	0.0523	0.0525	0.0002
Yuen	0.1573	0.1574	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0299	0.0299	0
Welch-Aspin's t	0.0214	0.0214	0
Yuen	0.0646	0.0646	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1014

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.107	0.1112	0.0042
Welch-Aspin's t	0.1011	0.1047	0.0035
Yuen Test	0.3698	0.3699	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0512	0.0515	0.0004
Welch-Aspin's t	0.0452	0.0455	0.0003
Yuen	0.2191	0.2191	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0208	0.0208	0
Welch-Aspin's t	0.0163	0.0163	0
Yuen	0.1	0.1	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1015

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3011	0.3668	0.0658
Welch-Aspin's t	0.1418	0.1451	0.0033
Yuen Test	0.1806	0.1869	0.0062
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2406	0.2683	0.0276
Welch-Aspin's t	0.0721	0.0727	0.0005
Yuen	0.0552	0.0567	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1817	0.191	0.0093
Welch-Aspin's t	0.022	0.022	0
Yuen	0.0241	0.0249	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1016

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3534	0.4697	0.1162
Welch-Aspin's t	0.1424	0.1457	0.0034
Yuen Test	0.1799	0.186	0.0061
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1103	0.1146	0.0043
Welch-Aspin's t	0.052	0.0523	0.0002
Yuen	0.157	0.1571	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2434	0.2734	0.03
Welch-Aspin's t	0.0221	0.0222	0
Yuen	0.0239	0.0246	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1017

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1781	0.1983	0.0202
Welch-Aspin's t	0.1059	0.1095	0.0036
Yuen Test	0.287	0.2877	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2987	0.3641	0.0654
Welch-Aspin's t	0.0716	0.0721	0.0005
Yuen	0.0567	0.0583	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0631	0.0636	0.0005
Welch-Aspin's t	0.0215	0.0215	0
Yuen	0.064	0.064	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1018

Extreme Asymmetry Distribution, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1898	0.1955	0.0057
Welch-Aspin's t	0.1565	0.1592	0.0027
Yuen Test	0.1868	0.1923	0.0054
Tukey's Quick Test	0.0082	0.0088	0.0006
Haga Test	0.001	0.014	0.013
$\alpha=0.01$			
Student's t	0.1238	0.1252	0.0014
Welch-Aspin's t	0.0819	0.0823	0.0004
Yuen	0.0828	0.0841	0.0013
Tukey's Quick	0.0041	0.0046	0.0005
Haga	0.0008	0.0074	0.0066
$\alpha=0.001$			
Student's t	0.067	0.0673	0.0003
Welch-Aspin's t	0.0308	0.0308	0
Yuen	0.017	0.0174	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0076	0.0068

Table 1019

Extreme Asymmetry Distribution, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1455	0.1484	0.0029
Welch-Aspin's t	0.1342	0.1363	0.0021
Yuen Test	0.33	0.3304	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0799	0.0802	0.0003
Welch-Aspin's t	0.0675	0.0677	0.0001
Yuen	0.1868	0.1869	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0394	0.0394	0
Welch-Aspin's t	0.0283	0.0283	0
Yuen	0.0781	0.0781	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1020

Extreme Asymmetry Distribution, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1494	0.1515	0.0021
Welch-Aspin's t	0.1415	0.1433	0.0017
Yuen Test	0.4334	0.4335	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0742	0.0743	0.0002
Welch-Aspin's t	0.0659	0.066	0.0001
Yuen	0.2676	0.2676	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0318	0.0318	0
Welch-Aspin's t	0.0252	0.0252	0
Yuen	0.1318	0.1318	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1021

Extreme Asymmetry Distribution, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3286	0.3832	0.0546
Welch-Aspin's t	0.1573	0.1602	0.0029
Yuen Test	0.1821	0.1875	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2656	0.2882	0.0226
Welch-Aspin's t	0.0809	0.0814	0.0004
Yuen	0.0706	0.0719	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2011	0.2087	0.0076
Welch-Aspin's t	0.0262	0.0262	0
Yuen	0.0241	0.0248	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1022

Extreme Asymmetry Distribution, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.384	0.4819	0.0979
Welch-Aspin's t	0.1578	0.1607	0.0029
Yuen Test	0.1821	0.1875	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3251	0.3788	0.0537
Welch-Aspin's t	0.0803	0.0808	0.0004
Yuen	0.0693	0.0706	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2682	0.2928	0.0245
Welch-Aspin's t	0.026	0.026	0
Yuen	0.0239	0.0245	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1023

Extreme Asymmetry Distribution, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2203	0.233	0.0126
Welch-Aspin's t	0.1337	0.1358	0.0021
Yuen Test	0.3286	0.3291	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1401	0.1427	0.0026
Welch-Aspin's t	0.0678	0.0679	0.0001
Yuen	0.1871	0.1871	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0808	0.081	0.0003
Welch-Aspin's t	0.028	0.028	0
Yuen	0.0764	0.0765	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1024

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0279	0.0557	0.0278
Welch-Aspin's t	0.0216	0.0433	0.0216
Yuen Test	0.03	0.0599	0.0299
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.008	0.016	0.008
Welch-Aspin's t	0.0044	0.0088	0.0044
Yuen	0.0119	0.0238	0.0119
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.0035	0.0017
Welch-Aspin's t	0.0012	0.0023	0.0011
Yuen	0.0051	0.0102	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1025

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0253	0.0509	0.0255
Welch-Aspin's t	0.0251	0.0505	0.0253
Yuen Test	0.0272	0.0548	0.0276
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0057	0.0113	0.0057
Welch-Aspin's t	0.0055	0.0111	0.0055
Yuen	0.0068	0.0139	0.0071
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0008	0.0015	0.0008
Welch-Aspin's t	0.0007	0.0014	0.0007
Yuen	0.0011	0.0022	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1026

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0252	0.0505	0.0253
Welch-Aspin's t	0.0252	0.0505	0.0253
Yuen Test	0.0265	0.0532	0.0267
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0054	0.0109	0.0054
Welch-Aspin's t	0.0054	0.0108	0.0054
Yuen	0.0067	0.0134	0.0067
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0006	0.0013	0.0007
Welch-Aspin's t	0.0006	0.0013	0.0007
Yuen	0.0011	0.0022	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1027

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0248	0.051	0.0262
Welch-Aspin's t	0.0428	0.0748	0.0319
Yuen Test	0.0657	0.1262	0.0605
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0046	0.0102	0.0056
Welch-Aspin's t	0.0228	0.0387	0.0159
Yuen	0.0197	0.0412	0.0215
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.0012	0.0007
Welch-Aspin's t	0.0076	0.0146	0.0071
Yuen	0.002	0.0082	0.0062
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1028

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0236	0.0492	0.0256
Welch-Aspin's t	0.0471	0.0794	0.0323
Yuen Test	0.0941	0.1789	0.0848
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0037	0.0085	0.0049
Welch-Aspin's t	0.0314	0.0506	0.0191
Yuen	0.0359	0.0839	0.0481
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0002	0.0006	0.0004
Welch-Aspin's t	0.0163	0.0292	0.0128
Yuen	0.0089	0.0248	0.0158
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1029

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0254	0.051	0.0256
Welch-Aspin's t	0.0266	0.0516	0.025
Yuen Test	0.0341	0.0599	0.0258
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0054	0.0109	0.0055
Welch-Aspin's t	0.0063	0.0117	0.0055
Yuen	0.0113	0.018	0.0067
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0007	0.0014	0.0007
Welch-Aspin's t	0.001	0.0018	0.0008
Yuen	0.0027	0.004	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1030

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0474	0.0633	0.0159
Welch-Aspin's t	0.0376	0.0503	0.0127
Yuen Test	0.0412	0.07	0.0288
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0131	0.0174	0.0043
Welch-Aspin's t	0.0063	0.009	0.0027
Yuen	0.0186	0.0265	0.0079
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0027	0.004	0.0013
Welch-Aspin's t	0.0015	0.0025	0.001
Yuen	0.0108	0.0159	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1031

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0738	0.0813	0.0075
Welch-Aspin's t	0.0735	0.0809	0.0074
Yuen Test	0.0519	0.0657	0.0138
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0198	0.0212	0.0014
Welch-Aspin's t	0.0196	0.0209	0.0013
Yuen	0.0143	0.0174	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.003	0.0031	0.0002
Welch-Aspin's t	0.0028	0.0029	0.0001
Yuen	0.0022	0.0028	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1032

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0997	0.1039	0.0043
Welch-Aspin's t	0.0996	0.1039	0.0043
Yuen Test	0.0617	0.0718	0.0101
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0286	0.0293	0.0007
Welch-Aspin's t	0.0285	0.0292	0.0007
Yuen	0.0172	0.0195	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0046	0.0047	0.0001
Welch-Aspin's t	0.0046	0.0046	0.0001
Yuen	0.0031	0.0034	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1033

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0542	0.0654	0.0112
Welch-Aspin's t	0.0635	0.0831	0.0196
Yuen Test	0.0979	0.1382	0.0404
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0123	0.0143	0.0021
Welch-Aspin's t	0.0357	0.0458	0.01
Yuen	0.0352	0.0475	0.0122
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0012	0.0015	0.0003
Welch-Aspin's t	0.0158	0.0192	0.0034
Yuen	0.0036	0.0074	0.0038
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1034

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0567	0.0663	0.0096
Welch-Aspin's t	0.0637	0.0853	0.0216
Yuen Test	0.1359	0.1982	0.0623
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0124	0.0138	0.0013
Welch-Aspin's t	0.0422	0.0565	0.0143
Yuen	0.0631	0.0923	0.0292
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.001	0.0011	0.0001
Welch-Aspin's t	0.0269	0.0354	0.0084
Yuen	0.0156	0.0235	0.0078
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1035

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0843	0.0903	0.006
Welch-Aspin's t	0.0847	0.0907	0.0061
Yuen Test	0.0637	0.0756	0.0118
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0227	0.0238	0.0011
Welch-Aspin's t	0.0241	0.0252	0.0012
Yuen	0.0227	0.0257	0.003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0035	0.0036	0.0001
Welch-Aspin's t	0.0042	0.0044	0.0001
Yuen	0.006	0.0066	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1036

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0928	0.0995	0.0066
Welch-Aspin's t	0.0833	0.088	0.0047
Yuen Test	0.0526	0.0743	0.0217
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0261	0.028	0.002
Welch-Aspin's t	0.0155	0.0169	0.0013
Yuen	0.0246	0.0297	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0052	0.0061	0.0009
Welch-Aspin's t	0.0017	0.0023	0.0005
Yuen	0.0109	0.016	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1037

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2489	0.2496	0.0007
Welch-Aspin's t	0.2486	0.2493	0.0007
Yuen Test	0.1192	0.1234	0.0041
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.091	0.0912	0.0001
Welch-Aspin's t	0.0906	0.0907	0.0001
Yuen	0.0363	0.0374	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0186	0.0186	0
Welch-Aspin's t	0.018	0.018	0
Yuen	0.0064	0.0067	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1038

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4001	0.4002	0.0002
Welch-Aspin's t	0.4	0.4002	0.0002
Yuen Test	0.1753	0.1772	0.0019
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1825	0.1825	0
Welch-Aspin's t	0.1823	0.1823	0
Yuen	0.0597	0.0601	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0486	0.0486	0
Welch-Aspin's t	0.0483	0.0483	0
Yuen	0.0126	0.0127	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1039

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.139	0.1414	0.0024
Welch-Aspin's t	0.1178	0.1261	0.0083
Yuen Test	0.1558	0.1752	0.0194
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0413	0.0416	0.0004
Welch-Aspin's t	0.0558	0.0592	0.0034
Yuen	0.0726	0.0791	0.0065
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0056	0.0056	0.0001
Welch-Aspin's t	0.0319	0.0327	0.0008
Yuen	0.0111	0.0138	0.0027
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1040

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1607	0.1622	0.0014
Welch-Aspin's t	0.1144	0.1257	0.0113
Yuen Test	0.1926	0.2218	0.0292
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0495	0.0496	0.0001
Welch-Aspin's t	0.0576	0.0641	0.0065
Yuen	0.119	0.1293	0.0103
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0067	0.0067	0
Welch-Aspin's t	0.0398	0.0423	0.0024
Yuen	0.0348	0.0383	0.0035
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1041

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3095	0.3099	0.0004
Welch-Aspin's t	0.3033	0.3037	0.0004
Yuen Test	0.144	0.1472	0.0032
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1251	0.1251	0.0001
Welch-Aspin's t	0.1214	0.1215	0.0001
Yuen	0.0557	0.0565	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0282	0.0283	0
Welch-Aspin's t	0.0288	0.0288	0
Yuen	0.0167	0.0169	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1042

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.171	0.1735	0.0025
Welch-Aspin's t	0.1606	0.1626	0.002
Yuen Test	0.0702	0.0854	0.0152
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0525	0.0536	0.0011
Welch-Aspin's t	0.0348	0.0358	0.001
Yuen	0.0314	0.0353	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0094	0.01	0.0006
Welch-Aspin's t	0.0035	0.0039	0.0004
Yuen	0.0121	0.0161	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1043

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.548	0.548	0
Welch-Aspin's t	0.5476	0.5476	0
Yuen Test	0.2351	0.2362	0.0012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2818	0.2818	0
Welch-Aspin's t	0.2813	0.2813	0
Yuen	0.084	0.0844	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0825	0.0825	0
Welch-Aspin's t	0.0815	0.0815	0
Yuen	0.0171	0.0172	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1044

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7923	0.7923	0
Welch-Aspin's t	0.7922	0.7922	0
Yuen Test	0.3798	0.38	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.552	0.552	0
Welch-Aspin's t	0.5518	0.5518	0
Yuen	0.1656	0.1656	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2501	0.2501	0
Welch-Aspin's t	0.2497	0.2497	0
Yuen	0.0425	0.0425	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1045

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2917	0.2921	0.0004
Welch-Aspin's t	0.2192	0.2215	0.0023
Yuen Test	0.2125	0.2211	0.0086
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.108	0.1081	0.0001
Welch-Aspin's t	0.0814	0.0822	0.0007
Yuen	0.1212	0.1242	0.003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0207	0.0207	0
Welch-Aspin's t	0.0464	0.0465	0.0001
Yuen	0.0283	0.0302	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1046

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3394	0.3395	0.0001
Welch-Aspin's t	0.2232	0.2265	0.0033
Yuen Test	0.229	0.2385	0.0096
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1405	0.1405	0
Welch-Aspin's t	0.0806	0.0818	0.0012
Yuen	0.1797	0.1833	0.0037
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0305	0.0305	0
Welch-Aspin's t	0.05	0.0503	0.0003
Yuen	0.0692	0.0703	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1047

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6601	0.6601	0
Welch-Aspin's t	0.6495	0.6495	0
Yuen Test	0.2849	0.2856	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3934	0.3934	0
Welch-Aspin's t	0.3756	0.3756	0
Yuen	0.118	0.1182	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1402	0.1402	0
Welch-Aspin's t	0.1293	0.1293	0
Yuen	0.0393	0.0394	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1048

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3303	0.3311	0.0009
Welch-Aspin's t	0.3243	0.3252	0.0009
Yuen Test	0.1152	0.119	0.0038
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.114	0.1146	0.0005
Welch-Aspin's t	0.0885	0.089	0.0005
Yuen	0.0391	0.043	0.0038
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0235	0.0237	0.0002
Welch-Aspin's t	0.0094	0.0095	0.0001
Yuen	0.0121	0.0159	0.0037
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1049

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8953	0.8953	0
Welch-Aspin's t	0.895	0.895	0
Yuen Test	0.4682	0.4684	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6906	0.6906	0
Welch-Aspin's t	0.69	0.69	0
Yuen	0.2084	0.2085	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3434	0.3434	0
Welch-Aspin's t	0.3418	0.3418	0
Yuen	0.0512	0.0512	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1050

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9897	0.9897	0
Welch-Aspin's t	0.9897	0.9897	0
Yuen Test	0.7152	0.7152	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9447	0.9447	0
Welch-Aspin's t	0.9446	0.9446	0
Yuen	0.4384	0.4384	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7656	0.7656	0
Welch-Aspin's t	0.7653	0.7653	0
Yuen	0.1629	0.1629	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1051

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5733	0.5733	0
Welch-Aspin's t	0.4362	0.4364	0.0002
Yuen Test	0.2673	0.2699	0.0027
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2897	0.2897	0
Welch-Aspin's t	0.1644	0.1644	0
Yuen	0.1905	0.1921	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0776	0.0776	0
Welch-Aspin's t	0.0654	0.0654	0
Yuen	0.0715	0.0726	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1052

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6458	0.6458	0
Welch-Aspin's t	0.43	0.4302	0.0001
Yuen Test	0.2694	0.2711	0.0017
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3737	0.3737	0
Welch-Aspin's t	0.1514	0.1515	0
Yuen	0.2181	0.2187	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1257	0.1257	0
Welch-Aspin's t	0.0626	0.0626	0
Yuen	0.1468	0.1471	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1053

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9548	0.9548	0
Welch-Aspin's t	0.9526	0.9526	0
Yuen Test	0.5625	0.5626	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8313	0.8313	0
Welch-Aspin's t	0.8162	0.8162	0
Yuen	0.2788	0.2788	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5328	0.5328	0
Welch-Aspin's t	0.4926	0.4926	0
Yuen	0.0956	0.0956	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1054

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7835	0.7835	0
Welch-Aspin's t	0.7739	0.7739	0
Yuen Test	0.226	0.2272	0.0012
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0	0.0004	0.0004
$\alpha=0.01$			
Student's t	0.3902	0.3902	0
Welch-Aspin's t	0.3717	0.3717	0
Yuen	0.0785	0.0797	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0888	0.0888	0
Welch-Aspin's t	0.0473	0.0473	0
Yuen	0.0243	0.0255	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1055

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9211	0.9211	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9989	0.9989	0
Welch-Aspin's t	0.9988	0.9988	0
Yuen	0.6825	0.6825	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9726	0.9726	0
Welch-Aspin's t	0.9717	0.9717	0
Yuen	0.2864	0.2864	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1056

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9958	0.9958	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9588	0.9588	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.7506	0.7506	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1057

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9708	0.9708	0
Welch-Aspin's t	0.9451	0.9451	0
Yuen Test	0.4208	0.4208	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8324	0.8324	0
Welch-Aspin's t	0.5639	0.5639	0
Yuen	0.2756	0.2756	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4599	0.4599	0
Welch-Aspin's t	0.1501	0.1501	0
Yuen	0.1957	0.1957	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1058

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9851	0.9851	0
Welch-Aspin's t	0.964	0.964	0
Yuen Test	0.4447	0.4447	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9079	0.9079	0
Welch-Aspin's t	0.5312	0.5312	0
Yuen	0.2847	0.2847	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6426	0.6426	0
Welch-Aspin's t	0.1268	0.1268	0
Yuen	0.2298	0.2298	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1059

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9706	0.9706	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.8232	0.8232	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9977	0.9977	0
Welch-Aspin's t	0.9969	0.9969	0
Yuen	0.4229	0.4229	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1060

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0463	0.0626	0.0163
Welch-Aspin's t	0.0383	0.0515	0.0132
Yuen Test	0.0408	0.0694	0.0286
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0133	0.0182	0.0048
Welch-Aspin's t	0.0072	0.0098	0.0026
Yuen	0.0186	0.0264	0.0078
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0027	0.0041	0.0014
Welch-Aspin's t	0.0014	0.0023	0.0009
Yuen	0.0107	0.0158	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1061

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0707	0.0785	0.0077
Welch-Aspin's t	0.0705	0.0781	0.0076
Yuen Test	0.0517	0.0653	0.0136
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0192	0.0206	0.0015
Welch-Aspin's t	0.0189	0.0203	0.0014
Yuen	0.015	0.0181	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.003	0.0032	0.0002
Welch-Aspin's t	0.0028	0.003	0.0002
Yuen	0.0024	0.0031	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1062

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.095	0.0999	0.0049
Welch-Aspin's t	0.0949	0.0998	0.0049
Yuen Test	0.0597	0.0703	0.0106
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0268	0.0276	0.0008
Welch-Aspin's t	0.0267	0.0275	0.0008
Yuen	0.017	0.0192	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0044	0.0044	0.0001
Welch-Aspin's t	0.0043	0.0044	0.0001
Yuen	0.0034	0.0037	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1063

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0631	0.0782	0.0151
Welch-Aspin's t	0.0618	0.0831	0.0213
Yuen Test	0.106	0.1546	0.0486
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0163	0.0196	0.0032
Welch-Aspin's t	0.0371	0.0489	0.0118
Yuen	0.04	0.0548	0.0148
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0019	0.0023	0.0004
Welch-Aspin's t	0.0185	0.0234	0.0049
Yuen	0.0044	0.01	0.0056
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1064

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0692	0.0838	0.0146
Welch-Aspin's t	0.0625	0.0852	0.0227
Yuen Test	0.1421	0.2118	0.0696
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0186	0.0211	0.0025
Welch-Aspin's t	0.0425	0.0576	0.0152
Yuen	0.0642	0.1012	0.037
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.002	0.0002
Welch-Aspin's t	0.0279	0.0379	0.01
Yuen	0.0203	0.0321	0.0118
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1065

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0861	0.0934	0.0073
Welch-Aspin's t	0.0791	0.0857	0.0067
Yuen Test	0.0634	0.0761	0.0127
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0247	0.0261	0.0014
Welch-Aspin's t	0.0226	0.0239	0.0013
Yuen	0.0245	0.028	0.0035
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0043	0.0002
Welch-Aspin's t	0.0042	0.0044	0.0002
Yuen	0.0071	0.0079	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1066

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0916	0.0991	0.0074
Welch-Aspin's t	0.0813	0.0866	0.0054
Yuen Test	0.0522	0.0756	0.0234
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0265	0.0287	0.0022
Welch-Aspin's t	0.0161	0.0175	0.0014
Yuen	0.0215	0.0267	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0047	0.0056	0.0009
Welch-Aspin's t	0.0019	0.0025	0.0006
Yuen	0.011	0.0162	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1067

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2287	0.2296	0.0009
Welch-Aspin's t	0.2282	0.2292	0.0009
Yuen Test	0.1129	0.1174	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0822	0.0824	0.0002
Welch-Aspin's t	0.0816	0.0818	0.0001
Yuen	0.0358	0.0369	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0167	0.0167	0
Welch-Aspin's t	0.0162	0.0163	0
Yuen	0.007	0.0073	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1068

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.368	0.3683	0.0002
Welch-Aspin's t	0.3678	0.368	0.0002
Yuen Test	0.1624	0.1645	0.0022
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1629	0.1629	0
Welch-Aspin's t	0.1625	0.1626	0
Yuen	0.0549	0.0552	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0416	0.0416	0
Welch-Aspin's t	0.0414	0.0414	0
Yuen	0.0122	0.0122	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1069

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1473	0.1512	0.0039
Welch-Aspin's t	0.1053	0.1159	0.0106
Yuen Test	0.1617	0.186	0.0243
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0484	0.0491	0.0007
Welch-Aspin's t	0.0539	0.0589	0.005
Yuen	0.0769	0.0847	0.0078
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0079	0.008	0.0001
Welch-Aspin's t	0.0332	0.0345	0.0013
Yuen	0.011	0.0138	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1070

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.173	0.1757	0.0028
Welch-Aspin's t	0.0996	0.113	0.0134
Yuen Test	0.1933	0.2319	0.0385
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0602	0.0605	0.0003
Welch-Aspin's t	0.0546	0.0631	0.0086
Yuen	0.1201	0.1357	0.0156
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0108	0.0108	0
Welch-Aspin's t	0.0388	0.0427	0.0039
Yuen	0.0349	0.0394	0.0044
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1071

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2952	0.2958	0.0006
Welch-Aspin's t	0.2709	0.2715	0.0006
Yuen Test	0.1334	0.1372	0.0038
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1209	0.121	0.0001
Welch-Aspin's t	0.105	0.1051	0.0001
Yuen	0.0542	0.0552	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0284	0.0285	0
Welch-Aspin's t	0.0243	0.0243	0
Yuen	0.0178	0.018	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1072

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1582	0.161	0.0028
Welch-Aspin's t	0.1479	0.1501	0.0022
Yuen Test	0.0706	0.0854	0.0148
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0507	0.0519	0.0012
Welch-Aspin's t	0.0346	0.0355	0.0009
Yuen	0.0279	0.0318	0.0039
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0091	0.0097	0.0006
Welch-Aspin's t	0.0042	0.0047	0.0005
Yuen	0.012	0.016	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1073

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5064	0.5065	0.0001
Welch-Aspin's t	0.5057	0.5058	0.0001
Yuen Test	0.2173	0.2186	0.0013
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2496	0.2496	0
Welch-Aspin's t	0.2483	0.2483	0
Yuen	0.0777	0.0781	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0707	0.0707	0
Welch-Aspin's t	0.0695	0.0695	0
Yuen	0.0174	0.0175	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1074

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7493	0.7493	0
Welch-Aspin's t	0.7491	0.7491	0
Yuen Test	0.3468	0.347	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4985	0.4985	0
Welch-Aspin's t	0.4977	0.4977	0
Yuen	0.1466	0.1466	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2117	0.2117	0
Welch-Aspin's t	0.2108	0.2108	0
Yuen	0.0375	0.0375	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1075

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.289	0.2898	0.0008
Welch-Aspin's t	0.1909	0.1947	0.0038
Yuen Test	0.2119	0.2228	0.0109
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1138	0.1139	0.0001
Welch-Aspin's t	0.074	0.0753	0.0013
Yuen	0.1249	0.1291	0.0042
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0253	0.0253	0
Welch-Aspin's t	0.0451	0.0453	0.0003
Yuen	0.0275	0.0298	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1076

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3402	0.3405	0.0003
Welch-Aspin's t	0.189	0.1945	0.0055
Yuen Test	0.2214	0.236	0.0146
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1509	0.1509	0
Welch-Aspin's t	0.0733	0.0759	0.0025
Yuen	0.1753	0.1805	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0387	0.0387	0
Welch-Aspin's t	0.0484	0.0491	0.0007
Yuen	0.061	0.063	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1077

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6224	0.6224	0
Welch-Aspin's t	0.5892	0.5893	0
Yuen Test	0.2535	0.2545	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3619	0.3619	0
Welch-Aspin's t	0.3178	0.3178	0
Yuen	0.1047	0.1049	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1291	0.1291	0
Welch-Aspin's t	0.1019	0.1019	0
Yuen	0.0385	0.0386	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1078

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3047	0.3057	0.001
Welch-Aspin's t	0.2967	0.2976	0.0009
Yuen Test	0.1179	0.122	0.0041
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1061	0.1067	0.0006
Welch-Aspin's t	0.0824	0.0829	0.0005
Yuen	0.0375	0.0415	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0223	0.0225	0.0002
Welch-Aspin's t	0.0092	0.0093	0.0001
Yuen	0.012	0.016	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1079

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.86	0.86	0
Welch-Aspin's t	0.8594	0.8594	0
Yuen Test	0.4292	0.4295	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6297	0.6297	0
Welch-Aspin's t	0.6283	0.6283	0
Yuen	0.1849	0.185	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2908	0.2908	0
Welch-Aspin's t	0.2885	0.2885	0
Yuen	0.0467	0.0467	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1080

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9815	0.9815	0
Welch-Aspin's t	0.9814	0.9814	0
Yuen Test	0.6698	0.6698	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9156	0.9156	0
Welch-Aspin's t	0.9152	0.9152	0
Yuen	0.3882	0.3882	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6956	0.6956	0
Welch-Aspin's t	0.6942	0.6942	0
Yuen	0.135	0.135	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1081

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5487	0.5487	0
Welch-Aspin's t	0.3661	0.3665	0.0004
Yuen Test	0.2558	0.2592	0.0034
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2841	0.2841	0
Welch-Aspin's t	0.1283	0.1284	0.0001
Yuen	0.1904	0.1925	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0826	0.0826	0
Welch-Aspin's t	0.0586	0.0586	0
Yuen	0.0704	0.0715	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1082

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6234	0.6234	0
Welch-Aspin's t	0.359	0.3594	0.0004
Yuen Test	0.2564	0.2593	0.0029
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3679	0.3679	0
Welch-Aspin's t	0.1125	0.1126	0.0001
Yuen	0.2143	0.2154	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1347	0.1347	0
Welch-Aspin's t	0.0565	0.0565	0
Yuen	0.1284	0.1289	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1083

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9337	0.9337	0
Welch-Aspin's t	0.9221	0.9221	0
Yuen Test	0.5014	0.5016	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7874	0.7874	0
Welch-Aspin's t	0.7434	0.7434	0
Yuen	0.234	0.234	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4804	0.4804	0
Welch-Aspin's t	0.3979	0.3979	0
Yuen	0.0841	0.0841	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1084

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7353	0.7354	0
Welch-Aspin's t	0.7237	0.7237	0
Yuen Test	0.2356	0.2367	0.0011
Tukey's Quick Test	0.0004	0.0004	0
Haga Test	0	0.0004	0.0004
$\alpha=0.01$			
Student's t	0.3525	0.3525	0
Welch-Aspin's t	0.3295	0.3295	0
Yuen	0.075	0.0762	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0816	0.0816	0
Welch-Aspin's t	0.0416	0.0416	0
Yuen	0.0245	0.0257	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1085

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen Test	0.8859	0.8859	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9965	0.9965	0
Welch-Aspin's t	0.9964	0.9964	0
Yuen	0.616	0.616	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.945	0.945	0
Welch-Aspin's t	0.9432	0.9432	0
Yuen	0.2386	0.2386	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1086

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9908	0.9908	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9301	0.9301	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen	0.6758	0.6758	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1087

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9537	0.9537	0
Welch-Aspin's t	0.8816	0.8816	0
Yuen Test	0.3793	0.3794	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7944	0.7944	0
Welch-Aspin's t	0.4338	0.4338	0
Yuen	0.254	0.254	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4285	0.4285	0
Welch-Aspin's t	0.1082	0.1082	0
Yuen	0.1897	0.1897	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1088

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9736	0.9736	0
Welch-Aspin's t	0.9011	0.9011	0
Yuen Test	0.395	0.3951	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8809	0.8809	0
Welch-Aspin's t	0.406	0.406	0
Yuen	0.2586	0.2586	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.61	0.61	0
Welch-Aspin's t	0.1032	0.1032	0
Yuen	0.2186	0.2186	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1089

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9449	0.9449	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen	0.74	0.74	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9932	0.9932	0
Welch-Aspin's t	0.9869	0.9869	0
Yuen	0.325	0.325	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1090

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0569	0.0893	0.0324
Welch-Aspin's t	0.0514	0.078	0.0266
Yuen Test	0.0977	0.1649	0.0672
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0393	0.0588	0.0195
Welch-Aspin's t	0.0348	0.0522	0.0175
Yuen	0.0182	0.0416	0.0234
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0211	0.0341	0.013
Welch-Aspin's t	0.018	0.0286	0.0106
Yuen	0.0085	0.016	0.0075
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1091

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0448	0.0642	0.0194
Welch-Aspin's t	0.04	0.0569	0.017
Yuen Test	0.0553	0.0759	0.0206
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.014	0.0192	0.0051
Welch-Aspin's t	0.0112	0.015	0.0039
Yuen	0.0329	0.0427	0.0098
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0034	0.0045	0.0011
Welch-Aspin's t	0.0024	0.0031	0.0007
Yuen	0.0183	0.0236	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1092

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0472	0.0625	0.0154
Welch-Aspin's t	0.044	0.0582	0.0141
Yuen Test	0.0437	0.0627	0.019
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0133	0.0168	0.0035
Welch-Aspin's t	0.0113	0.0142	0.0029
Yuen	0.0168	0.0206	0.0038
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0032	0.0006
Welch-Aspin's t	0.0019	0.0023	0.0004
Yuen	0.0079	0.0092	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1093

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1508	0.2556	0.1048
Welch-Aspin's t	0.0506	0.077	0.0264
Yuen Test	0.1184	0.1934	0.075
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0791	0.138	0.0589
Welch-Aspin's t	0.0337	0.0507	0.017
Yuen	0.066	0.1262	0.0601
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0515	0.0787	0.0272
Welch-Aspin's t	0.0195	0.0318	0.0122
Yuen	0.0622	0.1204	0.0582
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1094

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2095	0.3547	0.1452
Welch-Aspin's t	0.0505	0.0771	0.0266
Yuen Test	0.0737	0.1349	0.0612
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1316	0.224	0.0925
Welch-Aspin's t	0.0327	0.0495	0.0168
Yuen	0.0667	0.1266	0.0599
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0718	0.1234	0.0516
Welch-Aspin's t	0.0121	0.0244	0.0123
Yuen	0.0662	0.1259	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1095

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0904	0.1333	0.043
Welch-Aspin's t	0.0403	0.0572	0.0169
Yuen Test	0.0556	0.076	0.0204
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0377	0.0533	0.0156
Welch-Aspin's t	0.0114	0.0153	0.0039
Yuen	0.0344	0.0442	0.0098
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0124	0.0169	0.0044
Welch-Aspin's t	0.0024	0.0031	0.0007
Yuen	0.019	0.0243	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1096

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0636	0.0907	0.0271
Welch-Aspin's t	0.056	0.0803	0.0243
Yuen Test	0.1224	0.1826	0.0601
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0433	0.0613	0.018
Welch-Aspin's t	0.0387	0.0551	0.0164
Yuen	0.0188	0.0399	0.0211
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0265	0.0379	0.0114
Welch-Aspin's t	0.0231	0.0313	0.0082
Yuen	0.0086	0.016	0.0074
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1097

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0726	0.0833	0.0108
Welch-Aspin's t	0.0651	0.0745	0.0094
Yuen Test	0.0668	0.0829	0.0161
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0239	0.0267	0.0028
Welch-Aspin's t	0.0189	0.0211	0.0022
Yuen	0.0388	0.0466	0.0078
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0059	0.0065	0.0006
Welch-Aspin's t	0.0039	0.0043	0.0004
Yuen	0.0199	0.0249	0.005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1098

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0905	0.097	0.0065
Welch-Aspin's t	0.085	0.091	0.0059
Yuen Test	0.0603	0.0714	0.0111
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0283	0.0296	0.0013
Welch-Aspin's t	0.0243	0.0253	0.001
Yuen	0.0236	0.0259	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.006	0.0062	0.0002
Welch-Aspin's t	0.0044	0.0045	0.0001
Yuen	0.0097	0.0106	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1099

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1907	0.2719	0.0812
Welch-Aspin's t	0.0529	0.0778	0.0249
Yuen Test	0.1365	0.2012	0.0647
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0979	0.143	0.0451
Welch-Aspin's t	0.0368	0.0536	0.0168
Yuen	0.0662	0.1254	0.0593
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0582	0.0821	0.0239
Welch-Aspin's t	0.0256	0.0377	0.0122
Yuen	0.0654	0.123	0.0576
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1100

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.248	0.366	0.118
Welch-Aspin's t	0.0523	0.0765	0.0242
Yuen Test	0.0855	0.1455	0.06
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.171	0.2414	0.0704
Welch-Aspin's t	0.0338	0.0506	0.0167
Yuen	0.066	0.1259	0.0599
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0872	0.1251	0.0379
Welch-Aspin's t	0.0195	0.0309	0.0114
Yuen	0.066	0.1254	0.0594
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1101

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1392	0.1634	0.0242
Welch-Aspin's t	0.0652	0.0743	0.0092
Yuen Test	0.0667	0.0825	0.0158
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0622	0.0707	0.0085
Welch-Aspin's t	0.0188	0.0209	0.0021
Yuen	0.0404	0.0484	0.0079
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0211	0.0235	0.0023
Welch-Aspin's t	0.0039	0.0043	0.0004
Yuen	0.0201	0.0252	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1102

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0726	0.0964	0.0239
Welch-Aspin's t	0.0622	0.0842	0.0221
Yuen Test	0.1391	0.1844	0.0453
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0479	0.0642	0.0162
Welch-Aspin's t	0.0428	0.0582	0.0154
Yuen	0.0217	0.0426	0.0209
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.031	0.04	0.0091
Welch-Aspin's t	0.0274	0.0331	0.0058
Yuen	0.0085	0.0161	0.0076
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1103

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1121	0.1179	0.0058
Welch-Aspin's t	0.1012	0.1062	0.0051
Yuen Test	0.0808	0.0938	0.013
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.039	0.0405	0.0015
Welch-Aspin's t	0.0309	0.0321	0.0012
Yuen	0.0442	0.0507	0.0065
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0101	0.0104	0.0003
Welch-Aspin's t	0.0065	0.0067	0.0002
Yuen	0.0227	0.0272	0.0045
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1104

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1571	0.1595	0.0025
Welch-Aspin's t	0.1485	0.1507	0.0022
Yuen Test	0.0807	0.087	0.0062
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0558	0.0563	0.0005
Welch-Aspin's t	0.0482	0.0486	0.0004
Yuen	0.0332	0.0349	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.013	0.0131	0.0001
Welch-Aspin's t	0.0095	0.0095	0.0001
Yuen	0.0113	0.0119	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1105

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2292	0.2922	0.0629
Welch-Aspin's t	0.0585	0.0807	0.0222
Yuen Test	0.1547	0.2145	0.0598
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1263	0.1592	0.0329
Welch-Aspin's t	0.0433	0.0596	0.0162
Yuen	0.0663	0.1247	0.0584
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0672	0.0882	0.021
Welch-Aspin's t	0.0296	0.0411	0.0116
Yuen	0.0661	0.1233	0.0572
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1106

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2874	0.3796	0.0922
Welch-Aspin's t	0.0574	0.0785	0.0211
Yuen Test	0.1037	0.1636	0.0599
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2108	0.2654	0.0546
Welch-Aspin's t	0.0371	0.0533	0.0162
Yuen	0.0663	0.1258	0.0595
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1126	0.1401	0.0276
Welch-Aspin's t	0.0261	0.0362	0.0101
Yuen	0.0663	0.125	0.0588
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1107

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2057	0.2189	0.0132
Welch-Aspin's t	0.1021	0.1071	0.0049
Yuen Test	0.082	0.0951	0.013
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0977	0.1022	0.0045
Welch-Aspin's t	0.0311	0.0323	0.0012
Yuen	0.0448	0.0512	0.0064
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0356	0.0367	0.0012
Welch-Aspin's t	0.0066	0.0068	0.0002
Yuen	0.0225	0.0273	0.0047
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1108

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0875	0.1079	0.0204
Welch-Aspin's t	0.0733	0.0921	0.0188
Yuen Test	0.1563	0.1967	0.0404
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0521	0.0664	0.0143
Welch-Aspin's t	0.0471	0.061	0.0138
Yuen	0.0272	0.0452	0.0179
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0336	0.0411	0.0075
Welch-Aspin's t	0.0305	0.0342	0.0037
Yuen	0.0087	0.0161	0.0074
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1109

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.188	0.1903	0.0023
Welch-Aspin's t	0.1712	0.1732	0.002
Yuen Test	0.105	0.1145	0.0095
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0713	0.0719	0.0006
Welch-Aspin's t	0.0573	0.0577	0.0005
Yuen	0.0508	0.0562	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0192	0.0193	0.0001
Welch-Aspin's t	0.0123	0.0124	0.0001
Yuen	0.0288	0.0322	0.0034
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1110

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2906	0.2911	0.0006
Welch-Aspin's t	0.2774	0.2779	0.0005
Yuen Test	0.1205	0.1234	0.0029
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1227	0.1228	0.0001
Welch-Aspin's t	0.1081	0.1082	0.0001
Yuen	0.0491	0.0501	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0338	0.0338	0
Welch-Aspin's t	0.0251	0.0251	0
Yuen	0.0161	0.0164	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1111

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2778	0.3217	0.044
Welch-Aspin's t	0.0702	0.0891	0.0189
Yuen Test	0.1682	0.2268	0.0586
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1778	0.2026	0.0248
Welch-Aspin's t	0.049	0.0639	0.0149
Yuen	0.0664	0.1238	0.0574
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0814	0.0985	0.0171
Welch-Aspin's t	0.032	0.0405	0.0085
Yuen	0.0664	0.1235	0.0572
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1112

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3519	0.414	0.0621
Welch-Aspin's t	0.0707	0.0884	0.0177
Yuen Test	0.1343	0.1937	0.0594
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2604	0.2964	0.0361
Welch-Aspin's t	0.0445	0.0589	0.0144
Yuen	0.0673	0.126	0.0587
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1633	0.1854	0.0221
Welch-Aspin's t	0.0323	0.039	0.0067
Yuen	0.0669	0.1242	0.0573
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1113

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3196	0.3249	0.0053
Welch-Aspin's t	0.173	0.1751	0.002
Yuen Test	0.1064	0.1161	0.0097
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1673	0.1691	0.0018
Welch-Aspin's t	0.0571	0.0576	0.0005
Yuen	0.0503	0.0557	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0657	0.0661	0.0005
Welch-Aspin's t	0.0124	0.0125	0.0001
Yuen	0.0287	0.0328	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1114

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1461	0.1606	0.0145
Welch-Aspin's t	0.0986	0.1126	0.014
Yuen Test	0.1859	0.2147	0.0287
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0658	0.0744	0.0086
Welch-Aspin's t	0.0521	0.0597	0.0076
Yuen	0.0386	0.0552	0.0166
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0409	0.0455	0.0046
Welch-Aspin's t	0.0325	0.0333	0.0007
Yuen	0.0087	0.0162	0.0075
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1115

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4209	0.4212	0.0003
Welch-Aspin's t	0.3932	0.3935	0.0003
Yuen Test	0.1663	0.1715	0.0052
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1998	0.1999	0.0001
Welch-Aspin's t	0.1649	0.165	0.0001
Yuen	0.0778	0.081	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0625	0.0625	0
Welch-Aspin's t	0.0404	0.0404	0
Yuen	0.0423	0.0434	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1116

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6526	0.6526	0
Welch-Aspin's t	0.6369	0.637	0
Yuen Test	0.2566	0.2575	0.0009
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3933	0.3933	0
Welch-Aspin's t	0.3612	0.3612	0
Yuen	0.0962	0.0966	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1557	0.1557	0
Welch-Aspin's t	0.1221	0.1221	0
Yuen	0.0367	0.0369	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1117

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4098	0.4312	0.0214
Welch-Aspin's t	0.0907	0.1056	0.0148
Yuen Test	0.1951	0.2521	0.0571
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2744	0.2901	0.0157
Welch-Aspin's t	0.0513	0.0624	0.0112
Yuen	0.0685	0.1255	0.057
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1404	0.1509	0.0105
Welch-Aspin's t	0.0328	0.0384	0.0056
Yuen	0.0667	0.1198	0.053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1118

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5363	0.5618	0.0256
Welch-Aspin's t	0.0918	0.1068	0.015
Yuen Test	0.1878	0.2447	0.0569
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3798	0.3987	0.0189
Welch-Aspin's t	0.0508	0.0621	0.0113
Yuen	0.0676	0.1247	0.0571
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.263	0.2764	0.0134
Welch-Aspin's t	0.033	0.0384	0.0054
Yuen	0.067	0.124	0.057
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1119

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6028	0.6035	0.0007
Welch-Aspin's t	0.3985	0.3987	0.0003
Yuen Test	0.1681	0.1735	0.0054
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3917	0.3919	0.0002
Welch-Aspin's t	0.1655	0.1655	0.0001
Yuen	0.0778	0.0815	0.0037
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1897	0.1898	0.0001
Welch-Aspin's t	0.0398	0.0398	0
Yuen	0.0432	0.0446	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1120

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0543	0.0873	0.033
Welch-Aspin's t	0.0496	0.0772	0.0276
Yuen Test	0.0667	0.1269	0.0602
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0428	0.0663	0.0235
Welch-Aspin's t	0.0322	0.0491	0.017
Yuen	0.0609	0.1205	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.032	0.049	0.0169
Welch-Aspin's t	0.0083	0.0183	0.0101
Yuen	0.0271	0.058	0.0309
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1121

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0363	0.0626	0.0263
Welch-Aspin's t	0.0311	0.0533	0.0222
Yuen Test	0.0504	0.0729	0.0225
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0117	0.0192	0.0075
Welch-Aspin's t	0.0085	0.0138	0.0052
Yuen	0.0309	0.0419	0.011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0031	0.0048	0.0017
Welch-Aspin's t	0.0018	0.0027	0.0009
Yuen	0.0184	0.0236	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1122

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0344	0.058	0.0236
Welch-Aspin's t	0.0311	0.0523	0.0212
Yuen Test	0.0383	0.0626	0.0243
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0095	0.0153	0.0058
Welch-Aspin's t	0.0076	0.0121	0.0045
Yuen	0.014	0.0185	0.0046
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.002	0.0029	0.001
Welch-Aspin's t	0.0012	0.0018	0.0006
Yuen	0.0079	0.0094	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1123

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1585	0.2961	0.1376
Welch-Aspin's t	0.0497	0.077	0.0273
Yuen Test	0.0662	0.126	0.0597
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0861	0.1606	0.0744
Welch-Aspin's t	0.0317	0.0488	0.0171
Yuen	0.0662	0.1259	0.0597
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0589	0.106	0.0471
Welch-Aspin's t	0.0083	0.0182	0.0098
Yuen	0.0663	0.126	0.0597
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1124

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2282	0.4172	0.189
Welch-Aspin's t	0.0501	0.0776	0.0275
Yuen Test	0.0666	0.1263	0.0598
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1547	0.2921	0.1374
Welch-Aspin's t	0.0316	0.0488	0.0172
Yuen	0.0656	0.1254	0.0598
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0913	0.1669	0.0756
Welch-Aspin's t	0.0084	0.0193	0.0109
Yuen	0.0662	0.1258	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1125

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0785	0.1395	0.061
Welch-Aspin's t	0.0314	0.0536	0.0222
Yuen Test	0.0502	0.0726	0.0225
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0342	0.0591	0.0249
Welch-Aspin's t	0.0085	0.0139	0.0053
Yuen	0.0312	0.0424	0.0111
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0123	0.0203	0.008
Welch-Aspin's t	0.0018	0.0027	0.0009
Yuen	0.0183	0.0238	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1126

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.056	0.0852	0.0291
Welch-Aspin's t	0.0501	0.0772	0.0271
Yuen Test	0.0664	0.1258	0.0594
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0452	0.0675	0.0223
Welch-Aspin's t	0.032	0.0488	0.0168
Yuen	0.065	0.124	0.059
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0322	0.0488	0.0166
Welch-Aspin's t	0.0084	0.0175	0.0092
Yuen	0.0274	0.0579	0.0305
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1127

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0413	0.064	0.0227
Welch-Aspin's t	0.0355	0.0546	0.0191
Yuen Test	0.0517	0.0727	0.0209
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0135	0.0199	0.0064
Welch-Aspin's t	0.0099	0.0143	0.0045
Yuen	0.0329	0.0434	0.0105
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0036	0.0051	0.0015
Welch-Aspin's t	0.002	0.0028	0.0008
Yuen	0.0187	0.0239	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1128

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0415	0.0607	0.0193
Welch-Aspin's t	0.0377	0.0551	0.0174
Yuen Test	0.042	0.0635	0.0215
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0118	0.0164	0.0046
Welch-Aspin's t	0.0095	0.0131	0.0036
Yuen	0.0152	0.0192	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0025	0.0032	0.0008
Welch-Aspin's t	0.0016	0.002	0.0004
Yuen	0.0083	0.0097	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1129

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1753	0.3085	0.1332
Welch-Aspin's t	0.0499	0.0773	0.0273
Yuen Test	0.0668	0.1262	0.0594
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0913	0.164	0.0727
Welch-Aspin's t	0.0319	0.0486	0.0167
Yuen	0.0664	0.1256	0.0592
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0623	0.1059	0.0436
Welch-Aspin's t	0.0082	0.0154	0.0072
Yuen	0.0661	0.1261	0.06
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1130

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2351	0.4207	0.1856
Welch-Aspin's t	0.0496	0.077	0.0274
Yuen Test	0.0666	0.1261	0.0595
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1756	0.3097	0.134
Welch-Aspin's t	0.032	0.0489	0.0169
Yuen	0.0664	0.126	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0942	0.1683	0.0741
Welch-Aspin's t	0.0084	0.0155	0.0072
Yuen	0.0665	0.1258	0.0593
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1131

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0886	0.142	0.0534
Welch-Aspin's t	0.0357	0.0549	0.0192
Yuen Test	0.0522	0.0731	0.0208
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0392	0.0605	0.0213
Welch-Aspin's t	0.0098	0.0143	0.0045
Yuen	0.0333	0.0438	0.0105
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0138	0.0206	0.0068
Welch-Aspin's t	0.002	0.0028	0.0008
Yuen	0.0188	0.0241	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1132

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0574	0.0856	0.0281
Welch-Aspin's t	0.0501	0.0771	0.027
Yuen Test	0.0666	0.1266	0.06
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0475	0.069	0.0216
Welch-Aspin's t	0.0322	0.0489	0.0167
Yuen	0.0648	0.1239	0.0592
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.032	0.0484	0.0164
Welch-Aspin's t	0.0084	0.0169	0.0085
Yuen	0.0275	0.0583	0.0308
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1133

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0467	0.0666	0.0199
Welch-Aspin's t	0.0404	0.0572	0.0168
Yuen Test	0.0543	0.074	0.0198
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0155	0.0212	0.0057
Welch-Aspin's t	0.0114	0.0153	0.0039
Yuen	0.0354	0.0454	0.01
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0054	0.0013
Welch-Aspin's t	0.0023	0.0029	0.0007
Yuen	0.0188	0.0242	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1134

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.049	0.0646	0.0156
Welch-Aspin's t	0.0446	0.0586	0.014
Yuen Test	0.0451	0.0638	0.0187
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0145	0.0182	0.0037
Welch-Aspin's t	0.0117	0.0145	0.0028
Yuen	0.0166	0.0202	0.0035
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.003	0.0036	0.0006
Welch-Aspin's t	0.0019	0.0023	0.0004
Yuen	0.0089	0.0102	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1135

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1822	0.3043	0.1221
Welch-Aspin's t	0.05	0.0773	0.0273
Yuen Test	0.0666	0.126	0.0594
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0947	0.166	0.0713
Welch-Aspin's t	0.032	0.0487	0.0166
Yuen	0.0666	0.1262	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0638	0.0995	0.0357
Welch-Aspin's t	0.0084	0.0142	0.0058
Yuen	0.0662	0.1258	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1136

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2403	0.4186	0.1783
Welch-Aspin's t	0.05	0.0773	0.0272
Yuen Test	0.067	0.1268	0.0597
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1813	0.3014	0.1201
Welch-Aspin's t	0.0322	0.049	0.0168
Yuen	0.0669	0.1266	0.0597
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0962	0.1694	0.0733
Welch-Aspin's t	0.0085	0.0143	0.0058
Yuen	0.066	0.1257	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1137

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0994	0.1467	0.0473
Welch-Aspin's t	0.0405	0.0571	0.0166
Yuen Test	0.0543	0.0741	0.0197
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0438	0.0623	0.0185
Welch-Aspin's t	0.0111	0.015	0.0039
Yuen	0.0352	0.0451	0.01
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0158	0.0216	0.0058
Welch-Aspin's t	0.0024	0.003	0.0006
Yuen	0.0189	0.0242	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1138

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0608	0.0883	0.0275
Welch-Aspin's t	0.0507	0.077	0.0263
Yuen Test	0.0696	0.1296	0.0601
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0497	0.0711	0.0214
Welch-Aspin's t	0.0326	0.0495	0.0169
Yuen	0.0664	0.1252	0.0588
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0319	0.0482	0.0163
Welch-Aspin's t	0.0083	0.0166	0.0083
Yuen	0.0276	0.0569	0.0293
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1139

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0551	0.0713	0.0162
Welch-Aspin's t	0.0474	0.0611	0.0137
Yuen Test	0.0571	0.0751	0.0179
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0182	0.0228	0.0046
Welch-Aspin's t	0.0133	0.0164	0.0032
Yuen	0.0376	0.0469	0.0093
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0048	0.0059	0.0011
Welch-Aspin's t	0.0026	0.0032	0.0006
Yuen	0.0191	0.0243	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1140

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0616	0.0733	0.0118
Welch-Aspin's t	0.0561	0.0666	0.0104
Yuen Test	0.0501	0.0657	0.0156
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0188	0.0215	0.0027
Welch-Aspin's t	0.0153	0.0174	0.0021
Yuen	0.019	0.022	0.003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.004	0.0044	0.0004
Welch-Aspin's t	0.0025	0.0028	0.0003
Yuen	0.0093	0.0104	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1141

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1908	0.3009	0.1101
Welch-Aspin's t	0.0499	0.0764	0.0264
Yuen Test	0.0668	0.1263	0.0595
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0972	0.1649	0.0677
Welch-Aspin's t	0.0322	0.049	0.0167
Yuen	0.0663	0.1261	0.0598
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0657	0.0943	0.0286
Welch-Aspin's t	0.0084	0.0139	0.0055
Yuen	0.0665	0.1256	0.0592
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1142

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2543	0.4161	0.1619
Welch-Aspin's t	0.0505	0.0768	0.0263
Yuen Test	0.0672	0.1267	0.0595
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1884	0.2976	0.1092
Welch-Aspin's t	0.0328	0.0495	0.0167
Yuen	0.0667	0.1264	0.0597
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0997	0.1686	0.0688
Welch-Aspin's t	0.0082	0.0139	0.0057
Yuen	0.0667	0.1263	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1143

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1151	0.1543	0.0391
Welch-Aspin's t	0.0477	0.0611	0.0134
Yuen Test	0.0575	0.0753	0.0179
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0521	0.0673	0.0152
Welch-Aspin's t	0.0133	0.0165	0.0032
Yuen	0.0379	0.0471	0.0092
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0186	0.0233	0.0046
Welch-Aspin's t	0.0027	0.0032	0.0006
Yuen	0.019	0.0243	0.0053
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1144

Extreme Bimodality Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0669	0.0941	0.0273
Welch-Aspin's t	0.0527	0.0774	0.0247
Yuen Test	0.0813	0.1411	0.0599
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0501	0.0692	0.0191
Welch-Aspin's t	0.0335	0.0499	0.0164
Yuen	0.0663	0.1247	0.0584
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0325	0.0485	0.0159
Welch-Aspin's t	0.0093	0.0175	0.0082
Yuen	0.0275	0.0552	0.0276
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1145

Extreme Bimodality Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.075	0.0859	0.0109
Welch-Aspin's t	0.0651	0.0743	0.0092
Yuen Test	0.0656	0.081	0.0154
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.026	0.029	0.0031
Welch-Aspin's t	0.0189	0.021	0.0021
Yuen	0.0416	0.0492	0.0076
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0072	0.0079	0.0007
Welch-Aspin's t	0.0038	0.0042	0.0004
Yuen	0.0199	0.025	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1146

Extreme Bimodality Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0941	0.1006	0.0065
Welch-Aspin's t	0.0863	0.092	0.0058
Yuen Test	0.0614	0.0722	0.0108
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0304	0.0318	0.0014
Welch-Aspin's t	0.0248	0.0258	0.001
Yuen	0.0242	0.0264	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0069	0.0071	0.0002
Welch-Aspin's t	0.0043	0.0045	0.0001
Yuen	0.0101	0.0111	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1147

Extreme Bimodality Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2201	0.3232	0.103
Welch-Aspin's t	0.0525	0.0777	0.0252
Yuen Test	0.0824	0.1417	0.0594
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1269	0.1914	0.0644
Welch-Aspin's t	0.0334	0.0497	0.0163
Yuen	0.0672	0.1268	0.0596
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0755	0.103	0.0275
Welch-Aspin's t	0.0083	0.014	0.0058
Yuen	0.0664	0.1262	0.0598
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1148

Extreme Bimodality Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2766	0.4153	0.1387
Welch-Aspin's t	0.0519	0.0773	0.0254
Yuen Test	0.0817	0.1414	0.0598
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2175	0.3218	0.1044
Welch-Aspin's t	0.0333	0.0501	0.0168
Yuen	0.0669	0.1266	0.0597
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.135	0.2013	0.0663
Welch-Aspin's t	0.0083	0.014	0.0056
Yuen	0.0677	0.1272	0.0595
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1149

Extreme Bimodality Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1523	0.1792	0.0269
Welch-Aspin's t	0.0662	0.0753	0.0091
Yuen Test	0.0665	0.0818	0.0154
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0716	0.0817	0.0101
Welch-Aspin's t	0.0188	0.0209	0.0021
Yuen	0.0416	0.0493	0.0076
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0268	0.0298	0.003
Welch-Aspin's t	0.0037	0.0041	0.0004
Yuen	0.0196	0.0247	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1150

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0271	0.0542	0.0271
Welch-Aspin's t	0.0228	0.0457	0.0229
Yuen Test	0.0263	0.0529	0.0265
Tukey's Quick Test	0.0057	0.0115	0.0058
Haga Test	0.0071	0.0142	0.0071
<hr/>			
$\alpha=0.01$			
Student's t	0.0066	0.0135	0.0068
Welch-Aspin's t	0.0045	0.0093	0.0047
Yuen	0.0084	0.0168	0.0084
Tukey's Quick	0.0014	0.0028	0.0014
Haga	0.0018	0.0036	0.0018
<hr/>			
$\alpha=0.001$			
Student's t	0.0012	0.0024	0.0012
Welch-Aspin's t	0.0008	0.0016	0.0008
Yuen	0.0014	0.0029	0.0014
Tukey's Quick	0	0	0
Haga	0.0017	0.0035	0.0018

Table 1151

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0254	0.0504	0.0251
Welch-Aspin's t	0.0251	0.05	0.0248
Yuen Test	0.0257	0.0513	0.0256
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0055	0.0111	0.0055
Welch-Aspin's t	0.0054	0.0107	0.0054
Yuen	0.0057	0.0114	0.0057
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0007	0.0014	0.0007
Welch-Aspin's t	0.0006	0.0012	0.0006
Yuen	0.0009	0.0018	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1152

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0252	0.0504	0.0251
Welch-Aspin's t	0.0252	0.0502	0.0251
Yuen Test	0.026	0.0521	0.026
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0052	0.0106	0.0054
Welch-Aspin's t	0.0052	0.0105	0.0054
Yuen	0.0056	0.0114	0.0058
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0006	0.0012	0.0006
Welch-Aspin's t	0.0006	0.0012	0.0006
Yuen	0.0007	0.0015	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1153

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0272	0.0507	0.0235
Welch-Aspin's t	0.0256	0.0704	0.0448
Yuen Test	0.0449	0.0986	0.0538
Tukey's Quick Test	0.0001	0.0001	0.0001
Haga Test	0	0.0001	0
$\alpha=0.01$			
Student's t	0.0062	0.0101	0.0039
Welch-Aspin's t	0.0092	0.0269	0.0177
Yuen	0.0192	0.0327	0.0136
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0009	0.0012	0.0003
Welch-Aspin's t	0.0032	0.007	0.0039
Yuen	0.0055	0.0072	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1154

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0269	0.0493	0.0224
Welch-Aspin's t	0.0256	0.077	0.0514
Yuen Test	0.0538	0.1325	0.0787
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0057	0.009	0.0033
Welch-Aspin's t	0.0104	0.0354	0.0251
Yuen	0.0292	0.0585	0.0292
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$	n/a	n/a	n/a
Student's t	0.0007	0.0008	0.0002
Welch-Aspin's t	0.0048	0.0129	0.0081
Yuen	0.0122	0.0177	0.0055
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1155

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0257	0.0502	0.0245
Welch-Aspin's t	0.0238	0.051	0.0272
Yuen Test	0.0229	0.0567	0.0339
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0057	0.0107	0.0051
Welch-Aspin's t	0.005	0.0114	0.0065
Yuen	0.0054	0.0147	0.0093
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0007	0.0012	0.0005
Welch-Aspin's t	0.0006	0.0015	0.0009
Yuen	0.001	0.0023	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1156

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0462	0.0609	0.0148
Welch-Aspin's t	0.0398	0.052	0.0121
Yuen Test	0.0362	0.0558	0.0196
Tukey's Quick Test	0.0159	0.0193	0.0034
Haga Test	0.0039	0.0223	0.0183
$\alpha=0.01$			
Student's t	0.0118	0.0155	0.0037
Welch-Aspin's t	0.0081	0.0106	0.0025
Yuen	0.0112	0.0173	0.0061
Tukey's Quick	0.0031	0.0038	0.0007
Haga	0.0008	0.0043	0.0035
$\alpha=0.001$			
Student's t	0.002	0.0027	0.0007
Welch-Aspin's t	0.0013	0.0018	0.0005
Yuen	0.0019	0.0029	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0045	0.0037

Table 1157

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0746	0.0818	0.0071
Welch-Aspin's t	0.0742	0.0812	0.007
Yuen Test	0.0587	0.0691	0.0104
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0002	0.0002
$\alpha=0.01$			
Student's t	0.0196	0.0208	0.0013
Welch-Aspin's t	0.0191	0.0203	0.0012
Yuen	0.0141	0.0162	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.003	0.0031	0.0001
Welch-Aspin's t	0.0028	0.0029	0.0001
Yuen	0.0021	0.0025	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1158

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1002	0.1045	0.0044
Welch-Aspin's t	0.1	0.1043	0.0043
Yuen Test	0.074	0.0815	0.0075
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.029	0.0296	0.0006
Welch-Aspin's t	0.0288	0.0294	0.0006
Yuen	0.0204	0.0217	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0046	0.0046	0.0001
Welch-Aspin's t	0.0045	0.0046	0.0001
Yuen	0.003	0.0031	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1159

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0562	0.0649	0.0087
Welch-Aspin's t	0.0455	0.0688	0.0233
Yuen Test	0.0618	0.0881	0.0262
Tukey's Quick Test	0.0018	0.002	0.0003
Haga Test	0.0001	0.0005	0.0004
$\alpha=0.01$			
Student's t	0.0147	0.0159	0.0012
Welch-Aspin's t	0.0154	0.0232	0.0078
Yuen	0.029	0.0347	0.0057
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.0023	0.0024	0.0001
Welch-Aspin's t	0.0056	0.0068	0.0012
Yuen	0.0086	0.0093	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1160

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0603	0.0673	0.007
Welch-Aspin's t	0.0452	0.0739	0.0287
Yuen Test	0.0699	0.1088	0.0389
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0151	0.0158	0.0007
Welch-Aspin's t	0.0161	0.0275	0.0114
Yuen	0.0408	0.0521	0.0113
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0021	0.0021	0
Welch-Aspin's t	0.0074	0.0102	0.0028
Yuen	0.0192	0.0208	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1161

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.085	0.0904	0.0054
Welch-Aspin's t	0.0799	0.0863	0.0065
Yuen Test	0.0559	0.0677	0.0119
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0233	0.0241	0.0008
Welch-Aspin's t	0.0203	0.0216	0.0013
Yuen	0.0134	0.016	0.0026
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0037	0.0037	0.0001
Welch-Aspin's t	0.0029	0.003	0.0001
Yuen	0.0024	0.0028	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1162

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0962	0.1021	0.0058
Welch-Aspin's t	0.0862	0.091	0.0048
Yuen Test	0.0593	0.0714	0.0121
Tukey's Quick Test	0.0351	0.0366	0.0015
Haga Test	0.0016	0.0407	0.0391
$\alpha=0.01$			
Student's t	0.027	0.0286	0.0016
Welch-Aspin's t	0.0191	0.0203	0.0012
Yuen	0.0178	0.0214	0.0035
Tukey's Quick	0.0075	0.0079	0.0003
Haga	0.0004	0.0087	0.0083
$\alpha=0.001$			
Student's t	0.0043	0.0047	0.0004
Welch-Aspin's t	0.0026	0.0028	0.0003
Yuen	0.0032	0.0037	0.0005
Tukey's Quick	0	0	0
Haga	0.0004	0.0087	0.0083

Table 1163

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2521	0.2527	0.0006
Welch-Aspin's t	0.2513	0.2519	0.0006
Yuen Test	0.1588	0.161	0.0022
Tukey's Quick Test	0.0006	0.0006	0
Haga Test	0	0.0007	0.0007
$\alpha=0.01$			
Student's t	0.0927	0.0928	0.0001
Welch-Aspin's t	0.0917	0.0918	0.0001
Yuen	0.049	0.0495	0.0005
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.0194	0.0194	0
Welch-Aspin's t	0.0186	0.0186	0
Yuen	0.0078	0.0079	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1164

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4025	0.4026	0.0001
Welch-Aspin's t	0.4022	0.4023	0.0001
Yuen Test	0.2437	0.2444	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1856	0.1856	0
Welch-Aspin's t	0.1851	0.1851	0
Yuen	0.0915	0.0916	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0493	0.0493	0
Welch-Aspin's t	0.0489	0.0489	0
Yuen	0.019	0.019	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1165

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1415	0.1429	0.0014
Welch-Aspin's t	0.1038	0.11	0.0062
Yuen Test	0.0958	0.103	0.0072
Tukey's Quick Test	0.0061	0.0062	0.0001
Haga Test	0	0.0013	0.0013
$\alpha=0.01$			
Student's t	0.0442	0.0443	0.0001
Welch-Aspin's t	0.0315	0.0329	0.0014
Yuen	0.0482	0.0497	0.0015
Tukey's Quick	0.0006	0.0006	0
Haga	0	0.0003	0.0003
$\alpha=0.001$			
Student's t	0.0079	0.0079	0
Welch-Aspin's t	0.0106	0.0108	0.0002
Yuen	0.0164	0.0167	0.0002
Tukey's Quick	0	0	0
Haga	0	0.0002	0.0002

Table 1166

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1613	0.162	0.0008
Welch-Aspin's t	0.1027	0.1101	0.0074
Yuen Test	0.1012	0.1103	0.0092
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0532	0.0533	0
Welch-Aspin's t	0.0314	0.0334	0.002
Yuen	0.0595	0.0615	0.0019
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0097	0.0097	0
Welch-Aspin's t	0.0121	0.0124	0.0003
Yuen	0.0318	0.032	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1167

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3109	0.3112	0.0003
Welch-Aspin's t	0.3007	0.3012	0.0004
Yuen Test	0.1729	0.1746	0.0016
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1271	0.1271	0
Welch-Aspin's t	0.1152	0.1152	0.0001
Yuen	0.0506	0.0509	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0301	0.0301	0
Welch-Aspin's t	0.024	0.024	0
Yuen	0.0089	0.009	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1168

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1787	0.1808	0.0021
Welch-Aspin's t	0.1656	0.1674	0.0018
Yuen Test	0.0941	0.101	0.0069
Tukey's Quick Test	0.0798	0.0803	0.0005
Haga Test	0.0005	0.0855	0.0851
$\alpha=0.01$			
Student's t	0.0545	0.0551	0.0006
Welch-Aspin's t	0.0406	0.0411	0.0005
Yuen	0.0275	0.0293	0.0018
Tukey's Quick	0.0193	0.0194	0.0001
Haga	0.0001	0.0208	0.0206
$\alpha=0.001$			
Student's t	0.0091	0.0093	0.0002
Welch-Aspin's t	0.0049	0.005	0.0001
Yuen	0.0048	0.005	0.0002
Tukey's Quick	0	0	0
Haga	0.0001	0.0208	0.0207

Table 1169

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5506	0.5507	0
Welch-Aspin's t	0.5497	0.5497	0
Yuen Test	0.3321	0.3325	0.0004
Tukey's Quick Test	0.002	0.002	0
Haga Test	0	0.002	0.002
$\alpha=0.01$			
Student's t	0.2873	0.2873	0
Welch-Aspin's t	0.2855	0.2855	0
Yuen	0.1322	0.1322	0.0001
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0009	0.0009
$\alpha=0.001$			
Student's t	0.0858	0.0858	0
Welch-Aspin's t	0.0837	0.0837	0
Yuen	0.0264	0.0265	0
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002

Table 1170

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7902	0.7902	0
Welch-Aspin's t	0.79	0.79	0
Yuen Test	0.5285	0.5285	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5522	0.5522	0
Welch-Aspin's t	0.5515	0.5515	0
Yuen	0.2725	0.2725	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.254	0.254	0
Welch-Aspin's t	0.253	0.253	0
Yuen	0.0827	0.0827	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1171

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2928	0.293	0.0002
Welch-Aspin's t	0.2151	0.2161	0.001
Yuen Test	0.1452	0.1469	0.0016
Tukey's Quick Test	0.0179	0.0179	0
Haga Test	0	0.0048	0.0048
$\alpha=0.01$			
Student's t	0.1128	0.1128	0
Welch-Aspin's t	0.0663	0.0665	0.0002
Yuen	0.0737	0.0741	0.0004
Tukey's Quick	0.0023	0.0023	0
Haga	0	0.0013	0.0013
$\alpha=0.001$			
Student's t	0.0241	0.0241	0
Welch-Aspin's t	0.0187	0.0187	0
Yuen	0.0289	0.029	0.0001
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0007	0.0007

Table 1172

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3375	0.3375	0
Welch-Aspin's t	0.2161	0.2171	0.001
Yuen Test	0.1519	0.1533	0.0014
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1429	0.1429	0
Welch-Aspin's t	0.0637	0.0639	0.0002
Yuen	0.083	0.0832	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0341	0.0341	0
Welch-Aspin's t	0.0191	0.0192	0
Yuen	0.0459	0.0459	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1173

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6593	0.6593	0
Welch-Aspin's t	0.6537	0.6537	0
Yuen Test	0.3973	0.3974	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3929	0.3929	0
Welch-Aspin's t	0.3743	0.3743	0
Yuen	0.1545	0.1545	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1439	0.1439	0
Welch-Aspin's t	0.1222	0.1222	0
Yuen	0.031	0.031	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1174

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3477	0.3482	0.0004
Welch-Aspin's t	0.3323	0.3327	0.0004
Yuen Test	0.1578	0.1602	0.0024
Tukey's Quick Test	0.1732	0.1733	0.0001
Haga Test	0.0001	0.1785	0.1785
$\alpha=0.01$			
Student's t	0.1248	0.1249	0.0001
Welch-Aspin's t	0.101	0.1011	0.0001
Yuen	0.0474	0.0479	0.0005
Tukey's Quick	0.0477	0.0478	0
Haga	0	0.0493	0.0493
$\alpha=0.001$			
Student's t	0.0235	0.0235	0
Welch-Aspin's t	0.0129	0.0129	0
Yuen	0.0089	0.0089	0
Tukey's Quick	0	0	0
Haga	0	0.0489	0.0489

Table 1175

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8909	0.8909	0
Welch-Aspin's t	0.8903	0.8903	0
Yuen Test	0.6343	0.6343	0
Tukey's Quick Test	0.0027	0.0027	0
Haga Test	0	0.0026	0.0026
$\alpha=0.01$			
Student's t	0.6896	0.6896	0
Welch-Aspin's t	0.6876	0.6876	0
Yuen	0.3431	0.3431	0
Tukey's Quick	0.0023	0.0023	0
Haga	0	0.0023	0.0023
$\alpha=0.001$			
Student's t	0.3501	0.3501	0
Welch-Aspin's t	0.3462	0.3462	0
Yuen	0.1014	0.1014	0
Tukey's Quick	0.0012	0.0012	0
Haga	0	0.0012	0.0012

Table 1176

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9886	0.9886	0
Welch-Aspin's t	0.9885	0.9885	0
Yuen Test	0.8737	0.8737	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9407	0.9407	0
Welch-Aspin's t	0.9404	0.9404	0
Yuen	0.6573	0.6573	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.762	0.762	0
Welch-Aspin's t	0.7608	0.7608	0
Yuen	0.3236	0.3236	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1177

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5754	0.5754	0
Welch-Aspin's t	0.47	0.4701	0
Yuen Test	0.2561	0.2563	0.0002
Tukey's Quick Test	0.0345	0.0345	0
Haga Test	0	0.0143	0.0143
$\alpha=0.01$			
Student's t	0.296	0.296	0
Welch-Aspin's t	0.1693	0.1693	0
Yuen	0.122	0.122	0
Tukey's Quick	0.0082	0.0082	0
Haga	0	0.0048	0.0048
$\alpha=0.001$			
Student's t	0.0838	0.0838	0
Welch-Aspin's t	0.0403	0.0403	0
Yuen	0.0528	0.0528	0
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0027	0.0027

Table 1178

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6446	0.6446	0
Welch-Aspin's t	0.4844	0.4844	0
Yuen Test	0.2805	0.2806	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3735	0.3735	0
Welch-Aspin's t	0.1654	0.1654	0
Yuen	0.1402	0.1402	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1302	0.1302	0
Welch-Aspin's t	0.0396	0.0396	0
Yuen	0.0715	0.0715	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1179

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9519	0.9519	0
Welch-Aspin's t	0.9534	0.9534	0
Yuen Test	0.7616	0.7616	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.828	0.828	0
Welch-Aspin's t	0.8221	0.8221	0
Yuen	0.4539	0.4539	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5345	0.5345	0
Welch-Aspin's t	0.499	0.499	0
Yuen	0.1356	0.1356	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1180

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7871	0.7871	0
Welch-Aspin's t	0.7707	0.7707	0
Yuen Test	0.3391	0.3392	0
Tukey's Quick Test	0.475	0.475	0
Haga Test	0	0.4775	0.4775
$\alpha=0.01$			
Student's t	0.4238	0.4238	0
Welch-Aspin's t	0.3849	0.3849	0
Yuen	0.1089	0.109	0
Tukey's Quick	0.1922	0.1922	0
Haga	0	0.1942	0.1942
$\alpha=0.001$			
Student's t	0.1047	0.1047	0
Welch-Aspin's t	0.0671	0.0671	0
Yuen	0.0223	0.0223	0
Tukey's Quick	0	0	0
Haga	0	0.1936	0.1936

Table 1181

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen Test	0.9826	0.9826	0
Tukey's Quick Test	0.0028	0.0028	0
Haga Test	0	0.0028	0.0028
$\alpha=0.01$			
Student's t	0.9978	0.9978	0
Welch-Aspin's t	0.9977	0.9977	0
Yuen	0.8765	0.8765	0
Tukey's Quick	0.0028	0.0028	0
Haga	0	0.0028	0.0028
$\alpha=0.001$			
Student's t	0.964	0.964	0
Welch-Aspin's t	0.9626	0.9626	0
Yuen	0.5229	0.5229	0
Tukey's Quick	0.0027	0.0027	0
Haga	0	0.0027	0.0027

Table 1182

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9998	0.9998	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9961	0.9961	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.9452	0.9452	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1183

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9659	0.9659	0
Welch-Aspin's t	0.9401	0.9401	0
Yuen Test	0.5988	0.5988	0
Tukey's Quick Test	0.0516	0.0516	0
Haga Test	0	0.0406	0.0406
$\alpha=0.01$			
Student's t	0.8296	0.8296	0
Welch-Aspin's t	0.6204	0.6204	0
Yuen	0.3125	0.3125	0
Tukey's Quick	0.0339	0.0339	0
Haga	0	0.0265	0.0265
$\alpha=0.001$			
Student's t	0.4683	0.4683	0
Welch-Aspin's t	0.1995	0.1995	0
Yuen	0.1335	0.1335	0
Tukey's Quick	0.0081	0.0081	0
Haga	0	0.0192	0.0192

Table 1184

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9834	0.9834	0
Welch-Aspin's t	0.9544	0.9544	0
Yuen Test	0.6106	0.6106	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.9048	0.9048	0
Welch-Aspin's t	0.6073	0.6073	0
Yuen	0.3495	0.3495	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6417	0.6417	0
Welch-Aspin's t	0.1852	0.1852	0
Yuen	0.1912	0.1912	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1185

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.998	0.998	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.9696	0.9696	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.996	0.996	0
Welch-Aspin's t	0.9956	0.9956	0
Yuen	0.7481	0.7481	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1186

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0438	0.0599	0.0161
Welch-Aspin's t	0.0375	0.0509	0.0134
Yuen Test	0.0347	0.0546	0.0199
Tukey's Quick Test	0.0144	0.0184	0.0041
Haga Test	0.0047	0.0212	0.0165
$\alpha=0.01$			
Student's t	0.0114	0.0153	0.004
Welch-Aspin's t	0.0077	0.0106	0.0028
Yuen	0.0112	0.0173	0.0061
Tukey's Quick	0.0028	0.0036	0.0008
Haga	0.0009	0.004	0.0031
$\alpha=0.001$			
Student's t	0.002	0.0028	0.0008
Welch-Aspin's t	0.0013	0.0018	0.0006
Yuen	0.0019	0.0029	0.001
Tukey's Quick	0	0	0
Haga	0.001	0.0042	0.0031

Table 1187

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0699	0.0775	0.0076
Welch-Aspin's t	0.0693	0.0768	0.0075
Yuen Test	0.0519	0.0636	0.0117
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0002	0.0002
$\alpha=0.01$			
Student's t	0.0182	0.0196	0.0014
Welch-Aspin's t	0.0177	0.019	0.0013
Yuen	0.0122	0.0146	0.0025
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0028	0.0002
Welch-Aspin's t	0.0024	0.0025	0.0001
Yuen	0.0018	0.0023	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1188

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0942	0.099	0.0048
Welch-Aspin's t	0.094	0.0987	0.0048
Yuen Test	0.0665	0.0752	0.0087
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0263	0.0271	0.0008
Welch-Aspin's t	0.0261	0.0269	0.0008
Yuen	0.0169	0.0186	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0039	0.004	0.0001
Welch-Aspin's t	0.0038	0.0038	0.0001
Yuen	0.0023	0.0025	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1189

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0634	0.0758	0.0124
Welch-Aspin's t	0.0434	0.0701	0.0267
Yuen Test	0.0624	0.0943	0.0318
Tukey's Quick Test	0.0019	0.0023	0.0004
Haga Test	0.0001	0.0006	0.0005
$\alpha=0.01$			
Student's t	0.0178	0.0198	0.0019
Welch-Aspin's t	0.0151	0.0246	0.0094
Yuen	0.0308	0.0381	0.0073
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002
$\alpha=0.001$			
Student's t	0.0029	0.0031	0.0001
Welch-Aspin's t	0.0059	0.0076	0.0017
Yuen	0.0095	0.0104	0.001
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001

Table 1190

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0715	0.0833	0.0118
Welch-Aspin's t	0.0428	0.0751	0.0323
Yuen Test	0.0684	0.1156	0.0472
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0206	0.0221	0.0015
Welch-Aspin's t	0.0156	0.0291	0.0135
Yuen	0.0408	0.056	0.0152
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0034	0.0034	0.0001
Welch-Aspin's t	0.0072	0.0108	0.0036
Yuen	0.0203	0.0229	0.0025
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1191

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0856	0.0926	0.007
Welch-Aspin's t	0.0735	0.0809	0.0074
Yuen Test	0.0498	0.0645	0.0147
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0246	0.0258	0.0012
Welch-Aspin's t	0.0186	0.0202	0.0015
Yuen	0.0123	0.0159	0.0035
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.004	0.0041	0.0001
Welch-Aspin's t	0.0026	0.0028	0.0002
Yuen	0.0024	0.0028	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1192

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0889	0.0953	0.0064
Welch-Aspin's t	0.0787	0.0841	0.0054
Yuen Test	0.0543	0.0667	0.0125
Tukey's Quick Test	0.0355	0.0369	0.0014
Haga Test	0.0016	0.041	0.0395
$\alpha=0.01$			
Student's t	0.0238	0.0254	0.0016
Welch-Aspin's t	0.0164	0.0177	0.0012
Yuen	0.0164	0.0201	0.0036
Tukey's Quick	0.007	0.0074	0.0003
Haga	0.0004	0.0083	0.0079
$\alpha=0.001$			
Student's t	0.0038	0.0042	0.0004
Welch-Aspin's t	0.0022	0.0025	0.0003
Yuen	0.003	0.0035	0.0005
Tukey's Quick	0	0	0
Haga	0.0004	0.0085	0.0081

Table 1193

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2305	0.2314	0.0009
Welch-Aspin's t	0.2294	0.2302	0.0009
Yuen Test	0.1396	0.1423	0.0027
Tukey's Quick Test	0.0007	0.0007	0
Haga Test	0	0.0008	0.0008
$\alpha=0.01$			
Student's t	0.0817	0.0818	0.0001
Welch-Aspin's t	0.0804	0.0805	0.0001
Yuen	0.0397	0.0403	0.0006
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.016	0.016	0
Welch-Aspin's t	0.0151	0.0151	0
Yuen	0.0059	0.006	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1194

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3697	0.37	0.0002
Welch-Aspin's t	0.3693	0.3695	0.0002
Yuen Test	0.2171	0.2181	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.163	0.163	0
Welch-Aspin's t	0.1622	0.1622	0
Yuen	0.0759	0.0761	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0409	0.0409	0
Welch-Aspin's t	0.0402	0.0402	0
Yuen	0.0142	0.0143	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1195

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1478	0.1503	0.0025
Welch-Aspin's t	0.0924	0.1007	0.0083
Yuen Test	0.0913	0.1009	0.0096
Tukey's Quick Test	0.0069	0.007	0.0001
Haga Test	0	0.0017	0.0017
$\alpha=0.01$			
Student's t	0.0488	0.0491	0.0003
Welch-Aspin's t	0.0282	0.0303	0.0021
Yuen	0.0479	0.0498	0.0019
Tukey's Quick	0.0007	0.0007	0
Haga	0	0.0005	0.0005
$\alpha=0.001$			
Student's t	0.0095	0.0095	0
Welch-Aspin's t	0.0102	0.0104	0.0003
Yuen	0.0174	0.0176	0.0003
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0003	0.0003

Table 1196

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1718	0.1735	0.0017
Welch-Aspin's t	0.09	0.1001	0.01
Yuen Test	0.0944	0.1071	0.0128
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.062	0.0622	0.0001
Welch-Aspin's t	0.0277	0.0307	0.003
Yuen	0.0565	0.0594	0.0029
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0129	0.0129	0
Welch-Aspin's t	0.0109	0.0114	0.0005
Yuen	0.0311	0.0315	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1197

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2944	0.295	0.0005
Welch-Aspin's t	0.2667	0.2673	0.0006
Yuen Test	0.1482	0.1506	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1209	0.121	0.0001
Welch-Aspin's t	0.0969	0.097	0.0001
Yuen	0.0414	0.0418	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0287	0.0287	0
Welch-Aspin's t	0.0189	0.0189	0
Yuen	0.0076	0.0076	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1198

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1628	0.1652	0.0024
Welch-Aspin's t	0.1492	0.1512	0.002
Yuen Test	0.0839	0.0911	0.0072
Tukey's Quick Test	0.0729	0.0734	0.0005
Haga Test	0.0006	0.0788	0.0783
$\alpha=0.01$			
Student's t	0.0483	0.049	0.0007
Welch-Aspin's t	0.0352	0.0357	0.0006
Yuen	0.025	0.0269	0.0019
Tukey's Quick	0.0167	0.0168	0.0001
Haga	0.0001	0.0181	0.018
$\alpha=0.001$			
Student's t	0.008	0.0081	0.0001
Welch-Aspin's t	0.0043	0.0044	0.0001
Yuen	0.0045	0.0047	0.0002
Tukey's Quick	0	0	0
Haga	0.0001	0.0184	0.0182

Table 1199

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5086	0.5086	0.0001
Welch-Aspin's t	0.5073	0.5073	0.0001
Yuen Test	0.2981	0.2986	0.0005
Tukey's Quick Test	0.0017	0.0017	0
Haga Test	0	0.0018	0.0018
$\alpha=0.01$			
Student's t	0.2526	0.2526	0
Welch-Aspin's t	0.2502	0.2502	0
Yuen	0.1089	0.109	0.0001
Tukey's Quick	0.0007	0.0007	0
Haga	0	0.0007	0.0007
$\alpha=0.001$			
Student's t	0.0703	0.0703	0
Welch-Aspin's t	0.0678	0.0678	0
Yuen	0.0193	0.0193	0
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0002	0.0002

Table 1200

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7493	0.7493	0
Welch-Aspin's t	0.7489	0.7489	0
Yuen Test	0.4828	0.4829	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4991	0.4991	0
Welch-Aspin's t	0.4981	0.4981	0
Yuen	0.2334	0.2334	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2125	0.2125	0
Welch-Aspin's t	0.2106	0.2106	0
Yuen	0.0628	0.0628	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1201

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2887	0.289	0.0004
Welch-Aspin's t	0.1821	0.1837	0.0016
Yuen Test	0.131	0.1334	0.0024
Tukey's Quick Test	0.0166	0.0166	0
Haga Test	0	0.0045	0.0045
$\alpha=0.01$			
Student's t	0.1156	0.1156	0
Welch-Aspin's t	0.0549	0.0552	0.0003
Yuen	0.0688	0.0693	0.0005
Tukey's Quick	0.0022	0.0022	0
Haga	0	0.0012	0.0012
$\alpha=0.001$			
Student's t	0.0264	0.0264	0
Welch-Aspin's t	0.0166	0.0166	0
Yuen	0.0287	0.0288	0.0001
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0007	0.0007

Table 1202

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3376	0.3378	0.0002
Welch-Aspin's t	0.1808	0.1826	0.0018
Yuen Test	0.1353	0.1376	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1509	0.1509	0
Welch-Aspin's t	0.0517	0.052	0.0003
Yuen	0.0757	0.0761	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0403	0.0403	0
Welch-Aspin's t	0.0167	0.0168	0
Yuen	0.0427	0.0427	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1203

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6224	0.6224	0
Welch-Aspin's t	0.5941	0.5941	0
Yuen Test	0.344	0.3442	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3625	0.3625	0
Welch-Aspin's t	0.315	0.315	0
Yuen	0.1221	0.1221	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1296	0.1296	0
Welch-Aspin's t	0.092	0.092	0
Yuen	0.0231	0.0231	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1204

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3176	0.3181	0.0005
Welch-Aspin's t	0.3006	0.3011	0.0005
Yuen Test	0.1412	0.1439	0.0027
Tukey's Quick Test	0.1522	0.1524	0.0001
Haga Test	0.0001	0.1579	0.1578
$\alpha=0.01$			
Student's t	0.1083	0.1084	0.0002
Welch-Aspin's t	0.0854	0.0855	0.0001
Yuen	0.0424	0.0429	0.0006
Tukey's Quick	0.0396	0.0396	0
Haga	0	0.041	0.041
$\alpha=0.001$			
Student's t	0.0194	0.0195	0
Welch-Aspin's t	0.0104	0.0104	0
Yuen	0.0077	0.0077	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0414	0.0414

Table 1205

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8589	0.8589	0
Welch-Aspin's t	0.8582	0.8582	0
Yuen Test	0.5882	0.5882	0
Tukey's Quick Test	0.0026	0.0026	0
Haga Test	0	0.0027	0.0027
$\alpha=0.01$			
Student's t	0.6323	0.6323	0
Welch-Aspin's t	0.6298	0.6298	0
Yuen	0.2968	0.2968	0
Tukey's Quick	0.002	0.002	0
Haga	0	0.002	0.002
$\alpha=0.001$			
Student's t	0.2965	0.2965	0
Welch-Aspin's t	0.2912	0.2912	0
Yuen	0.0757	0.0757	0
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0008	0.0008

Table 1206

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9805	0.9805	0
Welch-Aspin's t	0.9804	0.9804	0
Yuen Test	0.8383	0.8383	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9127	0.9127	0
Welch-Aspin's t	0.9123	0.9123	0
Yuen	0.5963	0.5963	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6956	0.6956	0
Welch-Aspin's t	0.6938	0.6938	0
Yuen	0.2663	0.2663	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1207

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5517	0.5517	0
Welch-Aspin's t	0.3954	0.3955	0.0001
Yuen Test	0.2216	0.2218	0.0003
Tukey's Quick Test	0.0304	0.0304	0
Haga Test	0	0.012	0.012
$\alpha=0.01$			
Student's t	0.2853	0.2853	0
Welch-Aspin's t	0.1305	0.1305	0
Yuen	0.1081	0.1082	0
Tukey's Quick	0.0069	0.0069	0
Haga	0	0.0041	0.0041
$\alpha=0.001$			
Student's t	0.0847	0.0847	0
Welch-Aspin's t	0.0317	0.0317	0
Yuen	0.0497	0.0497	0
Tukey's Quick	0.0008	0.0008	0
Haga	0	0.0022	0.0022

Table 1208

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6213	0.6213	0
Welch-Aspin's t	0.4013	0.4014	0.0001
Yuen Test	0.2376	0.2378	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.367	0.367	0
Welch-Aspin's t	0.1245	0.1245	0
Yuen	0.1196	0.1197	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1358	0.1358	0
Welch-Aspin's t	0.0302	0.0302	0
Yuen	0.0629	0.0629	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1209

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9323	0.9323	0
Welch-Aspin's t	0.9255	0.9255	0
Yuen Test	0.6974	0.6974	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7864	0.7864	0
Welch-Aspin's t	0.752	0.752	0
Yuen	0.3737	0.3737	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4819	0.4819	0
Welch-Aspin's t	0.401	0.401	0
Yuen	0.0959	0.0959	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1210

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7423	0.7423	0
Welch-Aspin's t	0.7247	0.7247	0
Yuen Test	0.3065	0.3066	0.0001
Tukey's Quick Test	0.4474	0.4474	0
Haga Test	0	0.4503	0.4503
$\alpha=0.01$			
Student's t	0.3744	0.3744	0
Welch-Aspin's t	0.3331	0.3331	0
Yuen	0.0956	0.0956	0
Tukey's Quick	0.1704	0.1704	0
Haga	0	0.1708	0.1708
$\alpha=0.001$			
Student's t	0.0862	0.0862	0
Welch-Aspin's t	0.0529	0.0529	0
Yuen	0.019	0.019	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1713	0.1713

Table 1211

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen Test	0.9717	0.9717	0
Tukey's Quick Test	0.0027	0.0027	0
Haga Test	0	0.0027	0.0027
$\alpha=0.01$			
Student's t	0.9948	0.9948	0
Welch-Aspin's t	0.9946	0.9946	0
Yuen	0.8344	0.8344	0
Tukey's Quick	0.0028	0.0028	0
Haga	0	0.0028	0.0028
$\alpha=0.001$			
Student's t	0.9369	0.9369	0
Welch-Aspin's t	0.9348	0.9348	0
Yuen	0.4513	0.4513	0
Tukey's Quick	0.0026	0.0026	0
Haga	0	0.0025	0.0025

Table 1212

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9995	0.9995	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9919	0.9919	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen	0.9117	0.9117	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1213

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9505	0.9505	0
Welch-Aspin's t	0.8872	0.8872	0
Yuen Test	0.5261	0.5261	0
Tukey's Quick Test	0.0513	0.0513	0
Haga Test	0	0.0383	0.0383
$\alpha=0.01$			
Student's t	0.7945	0.7945	0
Welch-Aspin's t	0.502	0.502	0
Yuen	0.2665	0.2665	0
Tukey's Quick	0.0304	0.0304	0
Haga	0	0.0234	0.0234
$\alpha=0.001$			
Student's t	0.4388	0.4388	0
Welch-Aspin's t	0.1401	0.1401	0
Yuen	0.1146	0.1146	0
Tukey's Quick	0.0071	0.0071	0
Haga	0	0.0168	0.0168

Table 1214

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9731	0.9731	0
Welch-Aspin's t	0.9042	0.9042	0
Yuen Test	0.5376	0.5376	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8783	0.8783	0
Welch-Aspin's t	0.485	0.485	0
Yuen	0.3006	0.3006	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6111	0.6111	0
Welch-Aspin's t	0.1299	0.1299	0
Yuen	0.16	0.16	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1215

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9946	0.9946	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9995	0.9995	0
Yuen	0.9401	0.9401	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.991	0.991	0
Welch-Aspin's t	0.9853	0.9853	0
Yuen	0.6326	0.6326	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1216

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0366	0.0919	0.0553
Welch-Aspin's t	0.0268	0.0756	0.0488
Yuen Test	0.0473	0.1211	0.0737
Tukey's Quick Test	0.009	0.0269	0.0179
Haga Test	0.0241	0.0363	0.0122
$\alpha=0.01$			
Student's t	0.0145	0.0419	0.0274
Welch-Aspin's t	0.0106	0.0326	0.022
Yuen	0.017	0.0357	0.0187
Tukey's Quick	0.0044	0.0135	0.0091
Haga	0.0123	0.0183	0.0059
$\alpha=0.001$			
Student's t	0.0056	0.0125	0.0069
Welch-Aspin's t	0.004	0.0087	0.0047
Yuen	0.0033	0.0059	0.0026
Tukey's Quick	n/a	n/a	n/a
Haga	0.0122	0.0181	0.0059

Table 1217

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0369	0.0607	0.0238
Welch-Aspin's t	0.0323	0.0537	0.0214
Yuen Test	0.0213	0.0791	0.0579
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0092	0.0165	0.0073
Welch-Aspin's t	0.0068	0.0127	0.0059
Yuen	0.006	0.0333	0.0273
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0016	0.0034	0.0018
Welch-Aspin's t	0.0009	0.0021	0.0013
Yuen	0.0017	0.0114	0.0097
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1218

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0408	0.0594	0.0186
Welch-Aspin's t	0.0376	0.0549	0.0173
Yuen Test	0.0207	0.0634	0.0427
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0098	0.0146	0.0047
Welch-Aspin's t	0.0081	0.0121	0.004
Yuen	0.0041	0.0223	0.0182
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0014	0.0023	0.0009
Welch-Aspin's t	0.0009	0.0015	0.0006
Yuen	0.0006	0.0069	0.0063
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1219

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1337	0.253	0.1193
Welch-Aspin's t	0.0248	0.0747	0.0499
Yuen Test	0.0484	0.1471	0.0986
Tukey's Quick Test	0.0007	0.0021	0.0014
Haga Test	0.0016	0.0024	0.0008
$\alpha=0.01$			
Student's t	0.0723	0.1477	0.0754
Welch-Aspin's t	0.0101	0.0335	0.0234
Yuen	0.0265	0.0788	0.0523
Tukey's Quick	0.0004	0.0012	0.0008
Haga	0.0013	0.0019	0.0006
$\alpha=0.001$			
Student's t	0.0321	0.076	0.0438
Welch-Aspin's t	0.0038	0.0114	0.0076
Yuen	0.0136	0.0386	0.025
Tukey's Quick	0.0002	0.0007	0.0005
Haga	0.0012	0.0016	0.0005

Table 1220

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1891	0.3472	0.158
Welch-Aspin's t	0.0244	0.0732	0.0489
Yuen Test	0.0456	0.1395	0.094
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1186	0.2228	0.1041
Welch-Aspin's t	0.0092	0.031	0.0217
Yuen	0.0248	0.0736	0.0488
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0646	0.1301	0.0655
Welch-Aspin's t	0.0037	0.0104	0.0067
Yuen	0.0118	0.0381	0.0263
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1221

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0816	0.1313	0.0496
Welch-Aspin's t	0.032	0.0539	0.0219
Yuen Test	0.0211	0.0807	0.0596
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0302	0.0498	0.0196
Welch-Aspin's t	0.0067	0.0128	0.0061
Yuen	0.0061	0.0349	0.0288
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0079	0.0141	0.0062
Welch-Aspin's t	0.0009	0.0021	0.0013
Yuen	0.0016	0.0128	0.0111
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1222

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0463	0.0915	0.0452
Welch-Aspin's t	0.0333	0.0734	0.0402
Yuen Test	0.0522	0.1107	0.0584
Tukey's Quick Test	0.0113	0.0251	0.0138
Haga Test	0.0188	0.0341	0.0153
$\alpha=0.01$			
Student's t	0.0175	0.0384	0.0209
Welch-Aspin's t	0.0124	0.0291	0.0167
Yuen	0.0201	0.034	0.0139
Tukey's Quick	0.0054	0.0118	0.0064
Haga	0.0087	0.0159	0.0072
$\alpha=0.001$			
Student's t	0.0068	0.0114	0.0045
Welch-Aspin's t	0.0048	0.0077	0.0029
Yuen	0.0039	0.0058	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0087	0.0161	0.0074

Table 1223

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0623	0.0755	0.0133
Welch-Aspin's t	0.0548	0.0667	0.0119
Yuen Test	0.0303	0.0726	0.0423
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0167	0.0206	0.0038
Welch-Aspin's t	0.0124	0.0155	0.0032
Yuen	0.0081	0.0269	0.0188
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0029	0.0038	0.0009
Welch-Aspin's t	0.0016	0.0023	0.0007
Yuen	0.0021	0.0081	0.006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1224

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.081	0.0891	0.008
Welch-Aspin's t	0.0753	0.0827	0.0074
Yuen Test	0.0358	0.0631	0.0273
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0222	0.0241	0.0019
Welch-Aspin's t	0.0186	0.0202	0.0016
Yuen	0.0075	0.0185	0.011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0036	0.0039	0.0003
Welch-Aspin's t	0.0024	0.0026	0.0002
Yuen	0.0011	0.0047	0.0036
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1225

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1676	0.2632	0.0956
Welch-Aspin's t	0.03	0.0716	0.0416
Yuen Test	0.0527	0.137	0.0843
Tukey's Quick Test	0.0009	0.0021	0.0012
Haga Test	0.0013	0.0023	0.001
$\alpha=0.01$			
Student's t	0.0922	0.1538	0.0616
Welch-Aspin's t	0.0115	0.0303	0.0188
Yuen	0.029	0.0728	0.0438
Tukey's Quick	0.0005	0.0011	0.0007
Haga	0.001	0.0017	0.0007
$\alpha=0.001$			
Student's t	0.0412	0.075	0.0338
Welch-Aspin's t	0.0044	0.0101	0.0057
Yuen	0.0146	0.0347	0.0201
Tukey's Quick	0.0003	0.0007	0.0004
Haga	0.0009	0.0015	0.0007

Table 1226

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2343	0.3593	0.125
Welch-Aspin's t	0.03	0.0707	0.0406
Yuen Test	0.0498	0.1311	0.0813
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1497	0.2324	0.0826
Welch-Aspin's t	0.0105	0.0279	0.0174
Yuen	0.027	0.0688	0.0418
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0828	0.1347	0.0519
Welch-Aspin's t	0.0041	0.0092	0.0051
Yuen	0.0128	0.035	0.0222
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1227

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1292	0.1574	0.0282
Welch-Aspin's t	0.0547	0.0667	0.012
Yuen Test	0.0303	0.0741	0.0438
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0521	0.0628	0.0107
Welch-Aspin's t	0.0125	0.0157	0.0032
Yuen	0.0083	0.0285	0.0202
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0149	0.0181	0.0032
Welch-Aspin's t	0.0016	0.0023	0.0007
Yuen	0.0021	0.0094	0.0073
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1228

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0576	0.0941	0.0365
Welch-Aspin's t	0.0404	0.0728	0.0324
Yuen Test	0.057	0.1016	0.0446
Tukey's Quick Test	0.0142	0.0247	0.0105
Haga Test	0.0142	0.0334	0.0192
$\alpha=0.01$			
Student's t	0.0209	0.0362	0.0154
Welch-Aspin's t	0.0141	0.0262	0.0121
Yuen	0.0226	0.0331	0.0105
Tukey's Quick	0.0068	0.0111	0.0043
Haga	0.0058	0.0149	0.0091
$\alpha=0.001$			
Student's t	0.0079	0.0108	0.0029
Welch-Aspin's t	0.0055	0.0073	0.0018
Yuen	0.0045	0.0058	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	0.0058	0.0148	0.009

Table 1229

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1004	0.1077	0.0073
Welch-Aspin's t	0.0892	0.0957	0.0065
Yuen Test	0.0433	0.073	0.0296
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.0291	0.0312	0.002
Welch-Aspin's t	0.0219	0.0236	0.0017
Yuen	0.0111	0.0235	0.0124
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0055	0.0059	0.0005
Welch-Aspin's t	0.0029	0.0033	0.0004
Yuen	0.0028	0.006	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1230

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1467	0.1498	0.003
Welch-Aspin's t	0.1378	0.1406	0.0028
Yuen Test	0.0597	0.076	0.0163
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0467	0.0474	0.0007
Welch-Aspin's t	0.0394	0.04	0.0006
Yuen	0.0131	0.0192	0.0062
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0087	0.0088	0.0001
Welch-Aspin's t	0.0059	0.006	0.0001
Yuen	0.0019	0.0037	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1231

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2071	0.284	0.0769
Welch-Aspin's t	0.0371	0.0714	0.0343
Yuen Test	0.057	0.1279	0.071
Tukey's Quick Test	0.0011	0.0021	0.0009
Haga Test	0.001	0.0022	0.0013
$\alpha=0.01$			
Student's t	0.1155	0.1645	0.049
Welch-Aspin's t	0.0131	0.0276	0.0145
Yuen	0.0312	0.0669	0.0356
Tukey's Quick	0.0007	0.0011	0.0005
Haga	0.0007	0.0016	0.0009
$\alpha=0.001$			
Student's t	0.0527	0.078	0.0253
Welch-Aspin's t	0.0049	0.0092	0.0043
Yuen	0.0157	0.0306	0.0149
Tukey's Quick	0.0003	0.0006	0.0002
Haga	0.0006	0.0014	0.0008

Table 1232

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2836	0.3819	0.0983
Welch-Aspin's t	0.037	0.0706	0.0336
Yuen Test	0.054	0.1225	0.0685
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1863	0.2516	0.0654
Welch-Aspin's t	0.0119	0.0256	0.0137
Yuen	0.029	0.0641	0.0351
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1045	0.1438	0.0394
Welch-Aspin's t	0.0048	0.0085	0.0037
Yuen	0.0136	0.0315	0.0179
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1233

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1952	0.2105	0.0152
Welch-Aspin's t	0.0893	0.0958	0.0064
Yuen Test	0.0431	0.0736	0.0305
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0863	0.0917	0.0054
Welch-Aspin's t	0.0223	0.0239	0.0016
Yuen	0.0113	0.0247	0.0134
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0267	0.0283	0.0016
Welch-Aspin's t	0.003	0.0033	0.0004
Yuen	0.0028	0.0073	0.0044
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1234

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.077	0.1025	0.0256
Welch-Aspin's t	0.0535	0.076	0.0225
Yuen Test	0.0638	0.0936	0.0298
Tukey's Quick Test	0.0187	0.0263	0.0076
Haga Test	0.0101	0.0351	0.025
$\alpha=0.01$			
Student's t	0.0261	0.0353	0.0092
Welch-Aspin's t	0.0168	0.0239	0.0071
Yuen	0.026	0.0324	0.0064
Tukey's Quick	0.0084	0.011	0.0026
Haga	0.0035	0.0149	0.0114
$\alpha=0.001$			
Student's t	0.0095	0.0108	0.0014
Welch-Aspin's t	0.0064	0.0073	0.0009
Yuen	0.0054	0.0062	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	0.0034	0.0148	0.0114

Table 1235

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1758	0.1786	0.0028
Welch-Aspin's t	0.1583	0.1608	0.0026
Yuen Test	0.0682	0.0844	0.0163
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.059	0.0597	0.0007
Welch-Aspin's t	0.0451	0.0457	0.0006
Yuen	0.0172	0.023	0.0058
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.012	0.0122	0.0002
Welch-Aspin's t	0.0066	0.0068	0.0002
Yuen	0.004	0.0052	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1236

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2822	0.2829	0.0007
Welch-Aspin's t	0.2685	0.2691	0.0007
Yuen Test	0.1113	0.1184	0.0071
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1103	0.1104	0.0002
Welch-Aspin's t	0.0958	0.0959	0.0001
Yuen	0.0273	0.0297	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.025	0.025	0
Welch-Aspin's t	0.0174	0.0174	0
Yuen	0.0037	0.0043	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1237

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2684	0.324	0.0556
Welch-Aspin's t	0.0491	0.0738	0.0248
Yuen Test	0.0626	0.1148	0.0521
Tukey's Quick Test	0.0016	0.0024	0.0007
Haga Test	0.0007	0.0023	0.0016
$\alpha=0.01$			
Student's t	0.1533	0.1867	0.0334
Welch-Aspin's t	0.0152	0.0244	0.0092
Yuen	0.0343	0.059	0.0247
Tukey's Quick	0.0008	0.0012	0.0003
Haga	0.0004	0.0016	0.0011
$\alpha=0.001$			
Student's t	0.0723	0.0873	0.0151
Welch-Aspin's t	0.0058	0.0084	0.0026
Yuen	0.0172	0.026	0.0088
Tukey's Quick	0.0004	0.0005	0.0001
Haga	0.0004	0.0013	0.0009

Table 1238

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3589	0.4286	0.0697
Welch-Aspin's t	0.0492	0.0733	0.0241
Yuen Test	0.0602	0.1119	0.0516
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2434	0.2886	0.0452
Welch-Aspin's t	0.0141	0.0229	0.0089
Yuen	0.0314	0.0573	0.0259
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1418	0.1668	0.025
Welch-Aspin's t	0.0055	0.0078	0.0023
Yuen	0.015	0.0277	0.0126
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1239

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.311	0.3171	0.0061
Welch-Aspin's t	0.1594	0.1619	0.0025
Yuen Test	0.0681	0.0854	0.0173
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1553	0.1574	0.0021
Welch-Aspin's t	0.0451	0.0458	0.0007
Yuen	0.0172	0.024	0.0068
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0538	0.0544	0.0006
Welch-Aspin's t	0.0065	0.0066	0.0001
Yuen	0.0039	0.0057	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1240

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1344	0.1439	0.0096
Welch-Aspin's t	0.0935	0.1018	0.0083
Yuen Test	0.0796	0.0898	0.0102
Tukey's Quick Test	0.0405	0.0429	0.0024
Haga Test	0.003	0.0548	0.0518
$\alpha=0.01$			
Student's t	0.0443	0.0467	0.0025
Welch-Aspin's t	0.0249	0.0268	0.0018
Yuen	0.0345	0.0367	0.0022
Tukey's Quick	0.0164	0.0169	0.0005
Haga	0.0007	0.0215	0.0208
$\alpha=0.001$			
Student's t	0.0138	0.0141	0.0003
Welch-Aspin's t	0.0086	0.0087	0.0002
Yuen	0.0073	0.0076	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.0007	0.0213	0.0206

Table 1241

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4209	0.4213	0.0003
Welch-Aspin's t	0.392	0.3923	0.0003
Yuen Test	0.1605	0.1633	0.0028
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0	0.0005	0.0005
$\alpha=0.01$			
Student's t	0.1872	0.1872	0.0001
Welch-Aspin's t	0.15	0.1501	0.0001
Yuen	0.0403	0.0409	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0485	0.0485	0
Welch-Aspin's t	0.0282	0.0282	0
Yuen	0.0079	0.008	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1242

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6578	0.6579	0
Welch-Aspin's t	0.6422	0.6422	0
Yuen Test	0.3075	0.3082	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3883	0.3883	0
Welch-Aspin's t	0.355	0.355	0
Yuen	0.0991	0.0992	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1401	0.1401	0
Welch-Aspin's t	0.1064	0.1064	0
Yuen	0.0152	0.0153	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1243

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4219	0.4457	0.0238
Welch-Aspin's t	0.0857	0.0953	0.0096
Yuen Test	0.0771	0.0977	0.0206
Tukey's Quick Test	0.004	0.0044	0.0003
Haga Test	0.0002	0.0036	0.0034
$\alpha=0.01$			
Student's t	0.2623	0.2739	0.0116
Welch-Aspin's t	0.0217	0.0244	0.0027
Yuen	0.0421	0.0498	0.0077
Tukey's Quick	0.0019	0.002	0.0001
Haga	0.0001	0.0023	0.0022
$\alpha=0.001$			
Student's t	0.1284	0.1321	0.0037
Welch-Aspin's t	0.0079	0.0085	0.0006
Yuen	0.0203	0.0224	0.0021
Tukey's Quick	0.0009	0.0009	0
Haga	0.0001	0.0019	0.0018

Table 1244

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5296	0.5601	0.0305
Welch-Aspin's t	0.0862	0.0958	0.0096
Yuen Test	0.0755	0.0972	0.0217
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3915	0.4089	0.0173
Welch-Aspin's t	0.0201	0.0229	0.0028
Yuen	0.0363	0.0461	0.0097
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2449	0.2521	0.0072
Welch-Aspin's t	0.0067	0.0073	0.0006
Yuen	0.0175	0.0213	0.0038
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1245

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.609	0.6096	0.0006
Welch-Aspin's t	0.3968	0.3971	0.0003
Yuen Test	0.1612	0.1644	0.0032
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.388	0.3882	0.0002
Welch-Aspin's t	0.151	0.1511	0.0001
Yuen	0.0402	0.041	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1752	0.1752	0.0001
Welch-Aspin's t	0.0273	0.0273	0
Yuen	0.0077	0.0079	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1246

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0342	0.1016	0.0674
Welch-Aspin's t	0.0222	0.0754	0.0531
Yuen Test	0.0415	0.1294	0.0879
Tukey's Quick Test	0.0083	0.0292	0.0209
Haga Test	0.0287	0.0402	0.0115
$\alpha=0.01$			
Student's t	0.0152	0.0547	0.0395
Welch-Aspin's t	0.0083	0.0298	0.0214
Yuen	0.0147	0.0481	0.0333
Tukey's Quick	0.0067	0.0247	0.018
Haga	0.0247	0.034	0.0093
$\alpha=0.001$			
Student's t	0.007	0.0237	0.0167
Welch-Aspin's t	0.0024	0.0072	0.0049
Yuen	0.0049	0.0146	0.0097
Tukey's Quick	n/a	n/a	n/a
Haga	0.0247	0.034	0.0093

Table 1247

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0282	0.0615	0.0334
Welch-Aspin's t	0.0234	0.0521	0.0287
Yuen Test	0.0162	0.0879	0.0717
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0001	0.0001	0
$\alpha=0.01$			
Student's t	0.0072	0.0182	0.011
Welch-Aspin's t	0.0048	0.0127	0.0079
Yuen	0.0047	0.0394	0.0347
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0013	0.0043	0.003
Welch-Aspin's t	0.0006	0.0022	0.0016
Yuen	0.0013	0.0135	0.0122
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1248

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.028	0.0564	0.0284
Welch-Aspin's t	0.025	0.0508	0.0258
Yuen Test	0.0137	0.0713	0.0576
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0066	0.0145	0.008
Welch-Aspin's t	0.0051	0.0115	0.0064
Yuen	0.0027	0.0284	0.0257
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.001	0.0026	0.0016
Welch-Aspin's t	0.0005	0.0016	0.001
Yuen	0.0005	0.0098	0.0093
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1249

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1384	0.2928	0.1545
Welch-Aspin's t	0.0223	0.0753	0.0531
Yuen Test	0.0416	0.1278	0.0862
Tukey's Quick Test	0.0004	0.0016	0.0011
Haga Test	0.0019	0.0026	0.0007
$\alpha=0.01$			
Student's t	0.0809	0.1854	0.1045
Welch-Aspin's t	0.0084	0.0297	0.0212
Yuen	0.0127	0.0375	0.0248
Tukey's Quick	0.0004	0.0014	0.001
Haga	0.0018	0.0026	0.0007
$\alpha=0.001$			
Student's t	0.0409	0.1129	0.072
Welch-Aspin's t	0.0022	0.0056	0.0034
Yuen	0.0043	0.0165	0.0122
Tukey's Quick	0.0004	0.0013	0.0009
Haga	0.0018	0.0025	0.0007

Table 1250

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2021	0.4146	0.2125
Welch-Aspin's t	0.0223	0.0756	0.0533
Yuen Test	0.0416	0.1279	0.0863
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1366	0.2906	0.1539
Welch-Aspin's t	0.0084	0.0296	0.0212
Yuen	0.0126	0.0355	0.0229
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0845	0.1924	0.1079
Welch-Aspin's t	0.0023	0.0056	0.0034
Yuen	0.0035	0.0149	0.0114
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1251

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0691	0.1405	0.0714
Welch-Aspin's t	0.0235	0.0524	0.0288
Yuen Test	0.0162	0.0883	0.072
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0265	0.0576	0.0311
Welch-Aspin's t	0.0048	0.0127	0.0079
Yuen	0.0046	0.0391	0.0345
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0075	0.0187	0.0112
Welch-Aspin's t	0.0006	0.0022	0.0016
Yuen	0.0013	0.0131	0.0118
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1252

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0361	0.101	0.0649
Welch-Aspin's t	0.0232	0.0742	0.051
Yuen Test	0.0423	0.1275	0.0852
Tukey's Quick Test	0.0083	0.0287	0.0204
Haga Test	0.0281	0.0397	0.0116
$\alpha=0.01$			
Student's t	0.0157	0.0531	0.0374
Welch-Aspin's t	0.0086	0.0286	0.02
Yuen	0.0152	0.047	0.0318
Tukey's Quick	0.0072	0.0241	0.0169
Haga	0.0235	0.0334	0.0099
$\alpha=0.001$			
Student's t	0.0073	0.0231	0.0158
Welch-Aspin's t	0.0025	0.0071	0.0047
Yuen	0.0049	0.0141	0.0092
Tukey's Quick	n/a	n/a	n/a
Haga	0.0237	0.0335	0.0098

Table 1253

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0326	0.0617	0.029
Welch-Aspin's t	0.0273	0.0523	0.025
Yuen Test	0.0179	0.0853	0.0674
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0001	0.0001	0
$\alpha=0.01$			
Student's t	0.0086	0.0181	0.0096
Welch-Aspin's t	0.0057	0.0127	0.0069
Yuen	0.0052	0.0374	0.0322
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0041	0.0025
Welch-Aspin's t	0.0007	0.0021	0.0014
Yuen	0.0014	0.0126	0.0112
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1254

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0341	0.0576	0.0235
Welch-Aspin's t	0.0306	0.0518	0.0212
Yuen Test	0.0159	0.0683	0.0524
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0081	0.0146	0.0064
Welch-Aspin's t	0.0063	0.0115	0.0052
Yuen	0.0032	0.0261	0.0229
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0012	0.0025	0.0012
Welch-Aspin's t	0.0007	0.0015	0.0008
Yuen	0.0005	0.0088	0.0083
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1255

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1461	0.2935	0.1474
Welch-Aspin's t	0.0236	0.0749	0.0512
Yuen Test	0.0428	0.1255	0.0828
Tukey's Quick Test	0.0004	0.0016	0.0011
Haga Test	0.0019	0.0027	0.0008
$\alpha=0.01$			
Student's t	0.0857	0.1863	0.1006
Welch-Aspin's t	0.0087	0.029	0.0203
Yuen	0.0131	0.0371	0.024
Tukey's Quick	0.0004	0.0014	0.001
Haga	0.0018	0.0026	0.0008
$\alpha=0.001$			
Student's t	0.0433	0.113	0.0697
Welch-Aspin's t	0.0022	0.0054	0.0032
Yuen	0.0044	0.0165	0.0121
Tukey's Quick	0.0004	0.0013	0.0009
Haga	0.0018	0.0026	0.0007

Table 1256

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2136	0.4154	0.2018
Welch-Aspin's t	0.0237	0.0748	0.051
Yuen Test	0.0427	0.1255	0.0829
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.145	0.2913	0.1463
Welch-Aspin's t	0.0088	0.029	0.0202
Yuen	0.0132	0.0353	0.0222
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0891	0.1927	0.1036
Welch-Aspin's t	0.0022	0.0053	0.0031
Yuen	0.0036	0.0142	0.0106
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1257

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0786	0.141	0.0625
Welch-Aspin's t	0.0276	0.0522	0.0245
Yuen Test	0.0182	0.0852	0.0671
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0309	0.0584	0.0274
Welch-Aspin's t	0.0057	0.0127	0.007
Yuen	0.0051	0.0374	0.0324
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0087	0.0184	0.0097
Welch-Aspin's t	0.0007	0.0021	0.0014
Yuen	0.0013	0.0122	0.0109
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1258

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0385	0.1007	0.0622
Welch-Aspin's t	0.0245	0.0732	0.0487
Yuen Test	0.0433	0.1249	0.0817
Tukey's Quick Test	0.0089	0.0284	0.0195
Haga Test	0.0269	0.0394	0.0125
$\alpha=0.01$			
Student's t	0.0163	0.0523	0.036
Welch-Aspin's t	0.0089	0.0282	0.0193
Yuen	0.0152	0.046	0.0308
Tukey's Quick	0.0075	0.0235	0.016
Haga	0.022	0.0325	0.0105
$\alpha=0.001$			
Student's t	0.0075	0.0218	0.0144
Welch-Aspin's t	0.0024	0.0066	0.0042
Yuen	0.0051	0.0139	0.0088
Tukey's Quick	n/a	n/a	n/a
Haga	0.0217	0.0322	0.0104

Table 1259

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0375	0.0625	0.025
Welch-Aspin's t	0.0314	0.0528	0.0214
Yuen Test	0.0193	0.0821	0.0628
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0001	0.0001	0
$\alpha=0.01$			
Student's t	0.0098	0.0183	0.0084
Welch-Aspin's t	0.0065	0.0126	0.0061
Yuen	0.0055	0.0354	0.0299
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.0041	0.0023
Welch-Aspin's t	0.0008	0.002	0.0012
Yuen	0.0014	0.0118	0.0103
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1260

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0414	0.0604	0.019
Welch-Aspin's t	0.0372	0.0544	0.0172
Yuen Test	0.0186	0.0655	0.0469
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0101	0.0151	0.005
Welch-Aspin's t	0.0078	0.0119	0.0041
Yuen	0.0037	0.0245	0.0207
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0025	0.001
Welch-Aspin's t	0.0009	0.0015	0.0006
Yuen	0.0005	0.0078	0.0072
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1261

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1545	0.2937	0.1392
Welch-Aspin's t	0.0248	0.0734	0.0486
Yuen Test	0.044	0.1231	0.0791
Tukey's Quick Test	0.0005	0.0016	0.0011
Haga Test	0.0018	0.0026	0.0008
$\alpha=0.01$			
Student's t	0.091	0.1871	0.096
Welch-Aspin's t	0.0091	0.0282	0.0192
Yuen	0.0135	0.0366	0.0232
Tukey's Quick	0.0005	0.0014	0.001
Haga	0.0017	0.0026	0.0008
$\alpha=0.001$			
Student's t	0.0457	0.1126	0.0668
Welch-Aspin's t	0.0024	0.0053	0.003
Yuen	0.0045	0.0161	0.0117
Tukey's Quick	0.0004	0.0012	0.0008
Haga	0.0017	0.0024	0.0007

Table 1262

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2236	0.4156	0.192
Welch-Aspin's t	0.0246	0.0734	0.0488
Yuen Test	0.0437	0.1236	0.0799
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.153	0.2911	0.1382
Welch-Aspin's t	0.009	0.0279	0.0188
Yuen	0.0135	0.0347	0.0212
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0949	0.1932	0.0983
Welch-Aspin's t	0.0024	0.0054	0.0029
Yuen	0.0035	0.014	0.0104
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1263

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0883	0.1435	0.0553
Welch-Aspin's t	0.0314	0.0532	0.0218
Yuen Test	0.0197	0.0826	0.0629
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0352	0.059	0.0238
Welch-Aspin's t	0.0066	0.0127	0.006
Yuen	0.0055	0.0353	0.0298
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0103	0.0188	0.0085
Welch-Aspin's t	0.0007	0.002	0.0012
Yuen	0.0014	0.0114	0.01
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1264

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0419	0.1005	0.0586
Welch-Aspin's t	0.0264	0.0721	0.0458
Yuen Test	0.0448	0.1218	0.077
Tukey's Quick Test	0.0099	0.0276	0.0177
Haga Test	0.0243	0.0381	0.0139
$\alpha=0.01$			
Student's t	0.0175	0.0511	0.0336
Welch-Aspin's t	0.0094	0.0271	0.0177
Yuen	0.0159	0.0448	0.0289
Tukey's Quick	0.008	0.0228	0.0148
Haga	0.0205	0.0315	0.011
$\alpha=0.001$			
Student's t	0.0078	0.0212	0.0134
Welch-Aspin's t	0.0026	0.0065	0.0039
Yuen	0.0053	0.0134	0.0082
Tukey's Quick	n/a	n/a	n/a
Haga	0.0205	0.0312	0.0107

Table 1265

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0455	0.0662	0.0208
Welch-Aspin's t	0.0385	0.0562	0.0177
Yuen Test	0.0223	0.0792	0.0569
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0.0001	0.0001	0
$\alpha=0.01$			
Student's t	0.0122	0.019	0.0068
Welch-Aspin's t	0.0081	0.013	0.0049
Yuen	0.0059	0.0328	0.0269
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0023	0.0042	0.0018
Welch-Aspin's t	0.001	0.002	0.001
Yuen	0.0015	0.0107	0.0092
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1266

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0532	0.0677	0.0145
Welch-Aspin's t	0.0481	0.0612	0.0131
Yuen Test	0.0228	0.0632	0.0405
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0135	0.0172	0.0036
Welch-Aspin's t	0.0106	0.0135	0.0029
Yuen	0.0044	0.0221	0.0177
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0021	0.0028	0.0008
Welch-Aspin's t	0.0012	0.0017	0.0005
Yuen	0.0007	0.0069	0.0062
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1267

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1659	0.2963	0.1304
Welch-Aspin's t	0.0266	0.0726	0.046
Yuen Test	0.045	0.1206	0.0755
Tukey's Quick Test	0.0007	0.0017	0.0011
Haga Test	0.0017	0.0027	0.001
$\alpha=0.01$			
Student's t	0.0974	0.1883	0.0909
Welch-Aspin's t	0.0093	0.0266	0.0173
Yuen	0.0139	0.0355	0.0216
Tukey's Quick	0.0005	0.0014	0.0009
Haga	0.0015	0.0023	0.0008
$\alpha=0.001$			
Student's t	0.0497	0.1129	0.0632
Welch-Aspin's t	0.0026	0.0052	0.0026
Yuen	0.0046	0.016	0.0115
Tukey's Quick	0.0004	0.0012	0.0008
Haga	0.0014	0.0023	0.0008

Table 1268

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2395	0.418	0.1785
Welch-Aspin's t	0.0264	0.0726	0.0463
Yuen Test	0.0448	0.1202	0.0753
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.165	0.2943	0.1293
Welch-Aspin's t	0.0095	0.027	0.0175
Yuen	0.0139	0.0333	0.0194
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.102	0.1947	0.0928
Welch-Aspin's t	0.0025	0.0051	0.0025
Yuen	0.0036	0.0138	0.0101
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1269

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.104	0.1498	0.0459
Welch-Aspin's t	0.038	0.056	0.018
Yuen Test	0.022	0.0792	0.0572
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0423	0.0618	0.0195
Welch-Aspin's t	0.0081	0.0131	0.0049
Yuen	0.006	0.0327	0.0267
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0126	0.0196	0.007
Welch-Aspin's t	0.001	0.002	0.001
Yuen	0.0016	0.0104	0.0088
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1270

Multimodal Lumpy Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0487	0.1017	0.053
Welch-Aspin's t	0.03	0.0709	0.0409
Yuen Test	0.0473	0.1164	0.0691
Tukey's Quick Test	0.0111	0.0272	0.0162
Haga Test	0.0222	0.0375	0.0152
$\alpha=0.01$			
Student's t	0.0193	0.0486	0.0292
Welch-Aspin's t	0.0102	0.0252	0.015
Yuen	0.0167	0.0426	0.026
Tukey's Quick	0.0091	0.022	0.0128
Haga	0.0177	0.0304	0.0127
$\alpha=0.001$			
Student's t	0.0086	0.0198	0.0112
Welch-Aspin's t	0.0029	0.0062	0.0033
Yuen	0.0057	0.0128	0.0071
Tukey's Quick	n/a	n/a	n/a
Haga	0.0178	0.0304	0.0126

Table 1271

Multimodal Lumpy Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0638	0.0778	0.0139
Welch-Aspin's t	0.0542	0.0661	0.0119
Yuen Test	0.0279	0.0746	0.0467
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.0181	0.0226	0.0045
Welch-Aspin's t	0.0122	0.0155	0.0033
Yuen	0.0075	0.0287	0.0212
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0034	0.0047	0.0013
Welch-Aspin's t	0.0016	0.0023	0.0007
Yuen	0.0018	0.009	0.0072
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1272

Multimodal Lumpy Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0839	0.092	0.0081
Welch-Aspin's t	0.0765	0.0837	0.0072
Yuen Test	0.033	0.0633	0.0302
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0234	0.0254	0.002
Welch-Aspin's t	0.0185	0.0201	0.0016
Yuen	0.0065	0.0195	0.013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.004	0.0044	0.0004
Welch-Aspin's t	0.0024	0.0026	0.0003
Yuen	0.0009	0.0052	0.0043
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1273

Multimodal Lumpy Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1917	0.3054	0.1138
Welch-Aspin's t	0.0301	0.0709	0.0408
Yuen Test	0.0476	0.1135	0.0659
Tukey's Quick Test	0.0006	0.0015	0.001
Haga Test	0.0015	0.0025	0.001
$\alpha=0.01$			
Student's t	0.1135	0.1941	0.0806
Welch-Aspin's t	0.0104	0.0252	0.0147
Yuen	0.0149	0.035	0.0201
Tukey's Quick	0.0006	0.0014	0.0008
Haga	0.0014	0.0024	0.001
$\alpha=0.001$			
Student's t	0.0578	0.1145	0.0568
Welch-Aspin's t	0.0028	0.005	0.0022
Yuen	0.0047	0.015	0.0103
Tukey's Quick	0.0005	0.0011	0.0006
Haga	0.0014	0.0023	0.0009

Table 1274

Multimodal Lumpy Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2725	0.4273	0.1548
Welch-Aspin's t	0.0301	0.0708	0.0408
Yuen Test	0.0474	0.113	0.0656
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.19	0.303	0.113
Welch-Aspin's t	0.0104	0.0252	0.0148
Yuen	0.0151	0.0334	0.0183
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1187	0.2013	0.0825
Welch-Aspin's t	0.0029	0.005	0.0021
Yuen	0.0039	0.0125	0.0086
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1275

Multimodal Lumpy Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1402	0.1721	0.0319
Welch-Aspin's t	0.0546	0.0665	0.0119
Yuen Test	0.0282	0.0751	0.0468
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.06	0.0732	0.0132
Welch-Aspin's t	0.0121	0.0153	0.0032
Yuen	0.0074	0.0285	0.0211
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0186	0.0232	0.0045
Welch-Aspin's t	0.0015	0.0022	0.0007
Yuen	0.0018	0.0086	0.0067
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1276

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0178	0.0358	0.018
Welch-Aspin's t	0.0026	0.0051	0.0025
Yuen Test	0.0046	0.0091	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0021	0.0042	0.0021
Welch-Aspin's t	0.0001	0.0003	0.0001
Yuen	0.0042	0.0083	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0002	0.0001
Welch-Aspin's t	0.0001	0.0002	0.0001
Yuen	0.0008	0.0017	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1277

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0232	0.0465	0.0233
Welch-Aspin's t	0.0224	0.045	0.0226
Yuen Test	0.0021	0.0043	0.0022
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0031	0.0061	0.0031
Welch-Aspin's t	0.0025	0.005	0.0025
Yuen	0.0001	0.0001	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0002	0.0004	0.0002
Welch-Aspin's t	0	0.0001	0.0001
Yuen	n/a	n/a	n/a
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1278

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0251	0.0501	0.025
Welch-Aspin's t	0.0244	0.0487	0.0243
Yuen Test	0.0028	0.0057	0.0029
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0047	0.0095	0.0048
Welch-Aspin's t	0.0036	0.0072	0.0036
Yuen	0.0001	0.0002	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.0007	0.0003
Welch-Aspin's t	0.0002	0.0004	0.0002
Yuen	n/a	n/a	n/a
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1279

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0319	0.0331	0.0012
Welch-Aspin's t	0.004	0.1134	0.1094
Yuen Test	0.0059	0.0083	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0171	0.0171	0
Welch-Aspin's t	0.0003	0.0171	0.0168
Yuen	0.0054	0.0055	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0031	0.0031	0
Welch-Aspin's t	0.0003	0.0005	0.0003
Yuen	0.001	0.001	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1280

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size=0.0 σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.041	0.0414	0.0003
Welch-Aspin's t	0.0045	0.2519	0.2474
Yuen Test	0.0061	0.0094	0.0033
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0133	0.0133	0
Welch-Aspin's t	0.0003	0.0703	0.07
Yuen	0.0057	0.0058	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.004	0.004	0
Welch-Aspin's t	0.0003	0.005	0.0048
Yuen	0.0026	0.0026	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1281

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0304	0.0499	0.0196
Welch-Aspin's t	0.0133	0.0578	0.0445
Yuen Test	0.0021	0.0051	0.003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0065	0.0083	0.0018
Welch-Aspin's t	0.0012	0.011	0.0099
Yuen	0.0001	0.0002	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0009	0.0009	0
Welch-Aspin's t	0	0.0007	0.0006
Yuen	n/a	n/a	n/a
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1282

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1341	0.1364	0.0023
Welch-Aspin's t	0.1213	0.1235	0.0022
Yuen Test	0.5517	0.5563	0.0046
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1132	0.1152	0.002
Welch-Aspin's t	0.1112	0.1113	0.0001
Yuen	0.551	0.5551	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1087	0.1088	0.0001
Welch-Aspin's t	0.1087	0.1087	0.0001
Yuen	0.5468	0.5476	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1283

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.086	0.0906	0.0046
Welch-Aspin's t	0.083	0.0871	0.0042
Yuen Test	0.4468	0.4473	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0195	0.0203	0.0007
Welch-Aspin's t	0.0123	0.0126	0.0003
Yuen	0.4328	0.4328	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0014	0.0015	0
Welch-Aspin's t	0.0005	0.0005	0
Yuen	0.4256	0.4256	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1284

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1052	0.1088	0.0036
Welch-Aspin's t	0.1043	0.1077	0.0034
Yuen Test	0.4207	0.4212	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0298	0.0303	0.0004
Welch-Aspin's t	0.0282	0.0285	0.0004
Yuen	0.4098	0.4098	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0041	0
Welch-Aspin's t	0.0025	0.0025	0
Yuen	0.405	0.405	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1285

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0922	0.0924	0.0002
Welch-Aspin's t	0.0185	0.0369	0.0184
Yuen Test	0.4959	0.4964	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0346	0.0346	0
Welch-Aspin's t	0.0135	0.0148	0.0013
Yuen	0.4879	0.4879	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0165	0.0165	0
Welch-Aspin's t	0.013	0.013	0
Yuen	0.4831	0.4831	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1286

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0769	0.0769	0
Welch-Aspin's t	0.0073	0.0741	0.0668
Yuen Test	0.476	0.4764	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0293	0.0293	0
Welch-Aspin's t	0.0018	0.0133	0.0115
Yuen	0.4758	0.4758	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0087	0.0087	0
Welch-Aspin's t	0.0018	0.0022	0.0004
Yuen	0.4723	0.4723	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1287

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0902	0.0923	0.0021
Welch-Aspin's t	0.0567	0.0661	0.0094
Yuen Test	0.4288	0.4293	0.0004
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0296	0.0297	0.0001
Welch-Aspin's t	0.0064	0.0078	0.0014
Yuen	0.4221	0.4221	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0045	0.0045	0
Welch-Aspin's t	0.0002	0.0003	0
Yuen	0.4141	0.4141	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1288

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1995	0.2016	0.0022
Welch-Aspin's t	0.1354	0.1374	0.002
Yuen Test	0.5554	0.56	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1187	0.1189	0.0001
Welch-Aspin's t	0.1166	0.1167	0.0001
Yuen	0.5507	0.5539	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1144	0.1145	0.0001
Welch-Aspin's t	0.1111	0.1112	0.0001
Yuen	0.5477	0.5485	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1289

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2804	0.2807	0.0003
Welch-Aspin's t	0.2795	0.2797	0.0002
Yuen Test	0.4822	0.4823	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1033	0.1033	0
Welch-Aspin's t	0.0994	0.0994	0
Yuen	0.4478	0.4478	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0344	0.0344	0
Welch-Aspin's t	0.0124	0.0124	0
Yuen	0.4441	0.4441	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1290

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4169	0.417	0.0001
Welch-Aspin's t	0.4167	0.4168	0.0001
Yuen Test	0.546	0.546	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2021	0.2021	0
Welch-Aspin's t	0.2002	0.2002	0
Yuen	0.4243	0.4243	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0596	0.0596	0
Welch-Aspin's t	0.0551	0.0551	0
Yuen	0.4144	0.4144	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1291

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1798	0.1798	0
Welch-Aspin's t	0.0589	0.0601	0.0012
Yuen Test	0.5052	0.5052	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0819	0.0819	0
Welch-Aspin's t	0.0154	0.0156	0.0001
Yuen	0.4996	0.4996	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0339	0.0339	0
Welch-Aspin's t	0.0137	0.0137	0
Yuen	0.493	0.493	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1292

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1778	0.1778	0
Welch-Aspin's t	0.0455	0.0473	0.0018
Yuen Test	0.4855	0.4856	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0749	0.0749	0
Welch-Aspin's t	0.0129	0.013	0.0001
Yuen	0.4816	0.4816	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0232	0.0232	0
Welch-Aspin's t	0.0094	0.0094	0
Yuen	0.4783	0.4783	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1293

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3203	0.3203	0
Welch-Aspin's t	0.291	0.2913	0.0002
Yuen Test	0.4663	0.4664	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1461	0.1461	0
Welch-Aspin's t	0.0847	0.0847	0
Yuen	0.432	0.432	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0399	0.0399	0
Welch-Aspin's t	0.0052	0.0052	0
Yuen	0.4305	0.4305	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1294

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.347	0.3483	0.0013
Welch-Aspin's t	0.2321	0.2323	0.0001
Yuen Test	0.5602	0.5647	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1338	0.1339	0.0001
Welch-Aspin's t	0.118	0.1181	0.0001
Yuen	0.5504	0.5537	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1177	0.1178	0.0001
Welch-Aspin's t	0.1137	0.1138	0.0001
Yuen	0.5469	0.5477	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1295

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5695	0.5696	0
Welch-Aspin's t	0.5674	0.5674	0
Yuen Test	0.6178	0.6178	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3119	0.3119	0
Welch-Aspin's t	0.31	0.31	0
Yuen	0.4545	0.4545	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1143	0.1143	0
Welch-Aspin's t	0.0968	0.0968	0
Yuen	0.4476	0.4476	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1296

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7914	0.7914	0
Welch-Aspin's t	0.7906	0.7906	0
Yuen Test	0.6704	0.6704	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5671	0.5671	0
Welch-Aspin's t	0.5668	0.5668	0
Yuen	0.61	0.61	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2816	0.2816	0
Welch-Aspin's t	0.2801	0.2801	0
Yuen	0.4171	0.4171	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1297

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3172	0.3172	0
Welch-Aspin's t	0.1582	0.1583	0.0001
Yuen Test	0.5052	0.5052	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.153	0.153	0
Welch-Aspin's t	0.0642	0.0642	0
Yuen	0.5008	0.5008	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0568	0.0568	0
Welch-Aspin's t	0.0224	0.0224	0
Yuen	0.4965	0.4965	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1298

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3434	0.3434	0
Welch-Aspin's t	0.1757	0.1757	0
Yuen Test	0.4867	0.4867	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.168	0.168	0
Welch-Aspin's t	0.079	0.079	0
Yuen	0.4818	0.4818	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0605	0.0605	0
Welch-Aspin's t	0.036	0.036	0
Yuen	0.4791	0.4791	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1299

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6651	0.6651	0
Welch-Aspin's t	0.6897	0.6897	0
Yuen Test	0.6056	0.6056	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4124	0.4124	0
Welch-Aspin's t	0.3811	0.3811	0
Yuen	0.4394	0.4394	0
Tukey's Quick	0	0	0
Haga	0	0	0
$\alpha=0.001$			
Student's t	0.1737	0.1737	0
Welch-Aspin's t	0.0805	0.0805	0
Yuen	0.4312	0.4312	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1300

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3766	0.3767	0.0001
Welch-Aspin's t	0.3711	0.3712	0.0001
Yuen Test	0.565	0.5693	0.0043
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2805	0.2806	0.0001
Welch-Aspin's t	0.1206	0.1207	0.0001
Yuen	0.556	0.5578	0.0018
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.117	0.1171	0.0001
Welch-Aspin's t	0.1149	0.115	0.0001
Yuen	0.5475	0.5483	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1301

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8813	0.8813	0
Welch-Aspin's t	0.8768	0.8768	0
Yuen Test	0.6938	0.6938	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6948	0.6948	0
Welch-Aspin's t	0.6883	0.6883	0
Yuen	0.6066	0.6066	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3998	0.3998	0
Welch-Aspin's t	0.3879	0.3879	0
Yuen	0.4476	0.4476	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1302

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9844	0.9844	0
Welch-Aspin's t	0.984	0.984	0
Yuen Test	0.9189	0.9189	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9318	0.9318	0
Welch-Aspin's t	0.93	0.93	0
Yuen	0.7762	0.7762	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7589	0.7589	0
Welch-Aspin's t	0.755	0.755	0
Yuen	0.5969	0.5969	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1303

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5925	0.5925	0
Welch-Aspin's t	0.5202	0.5202	0
Yuen Test	0.5082	0.5082	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3384	0.3384	0
Welch-Aspin's t	0.1605	0.1605	0
Yuen	0.5041	0.5041	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1332	0.1332	0
Welch-Aspin's t	0.0754	0.0754	0
Yuen	0.4969	0.4969	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1304

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6325	0.6325	0
Welch-Aspin's t	0.5755	0.5755	0
Yuen Test	0.6896	0.6896	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3835	0.3835	0
Welch-Aspin's t	0.2464	0.2464	0
Yuen	0.5994	0.5994	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1625	0.1625	0
Welch-Aspin's t	0.1553	0.1553	0
Yuen	0.48	0.48	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1305

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9471	0.9471	0
Welch-Aspin's t	0.9675	0.9675	0
Yuen Test	0.8994	0.8994	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8211	0.8211	0
Welch-Aspin's t	0.8608	0.8608	0
Yuen	0.6914	0.6914	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5491	0.5491	0
Welch-Aspin's t	0.5312	0.5312	0
Yuen	0.4308	0.4308	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1306

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7703	0.7704	0.0001
Welch-Aspin's t	0.7512	0.7513	0.0001
Yuen Test	0.5655	0.5667	0.0012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4083	0.4084	0.0001
Welch-Aspin's t	0.3446	0.3447	0
Yuen	0.5608	0.5616	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2401	0.2401	0
Welch-Aspin's t	0.1165	0.1165	0
Yuen	0.5502	0.551	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1307

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9994	0.9994	0
Welch-Aspin's t	0.9994	0.9994	0
Yuen Test	0.9726	0.9726	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9936	0.9936	0
Welch-Aspin's t	0.9922	0.9922	0
Yuen	0.8672	0.8672	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9416	0.9416	0
Welch-Aspin's t	0.9318	0.9318	0
Yuen	0.565	0.565	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1308

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9996	0.9996	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9937	0.9937	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9995	0.9995	0
Welch-Aspin's t	0.9993	0.9993	0
Yuen	0.9269	0.9269	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1309

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9562	0.9562	0
Welch-Aspin's t	0.9886	0.9886	0
Yuen Test	0.7314	0.7314	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8067	0.8067	0
Welch-Aspin's t	0.6641	0.6641	0
Yuen	0.6518	0.6518	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4875	0.4875	0
Welch-Aspin's t	0.2859	0.2859	0
Yuen	0.4999	0.4999	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1310

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9842	0.9842	0
Welch-Aspin's t	0.9958	0.9958	0
Yuen Test	0.7545	0.7545	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.892	0.892	0
Welch-Aspin's t	0.628	0.628	0
Yuen	0.7477	0.7477	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6329	0.6329	0
Welch-Aspin's t	0.3386	0.3386	0
Yuen	0.6945	0.6945	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1311

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9993	0.9993	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9996	0.9996	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.9874	0.9874	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9906	0.9906	0
Welch-Aspin's t	0.9974	0.9974	0
Yuen	0.7462	0.7462	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1312

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1316	0.1339	0.0024
Welch-Aspin's t	0.1147	0.1169	0.0022
Yuen Test	0.551	0.5556	0.0046
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1133	0.1153	0.002
Welch-Aspin's t	0.1092	0.1093	0.0001
Yuen	0.5512	0.5552	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1086	0.1087	0.0001
Welch-Aspin's t	0.1085	0.1086	0.0001
Yuen	0.5463	0.5472	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1313

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0697	0.0776	0.0079
Welch-Aspin's t	0.0608	0.0666	0.0059
Yuen Test	0.4347	0.4352	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.013	0.0137	0.0008
Welch-Aspin's t	0.0101	0.0107	0.0006
Yuen	0.4247	0.4247	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0023	0.0023	0
Welch-Aspin's t	0.0018	0.0018	0
Yuen	0.4239	0.4239	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1314

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0925	0.0974	0.0049
Welch-Aspin's t	0.0909	0.0952	0.0043
Yuen Test	0.4193	0.4201	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0233	0.024	0.0007
Welch-Aspin's t	0.0215	0.0219	0.0005
Yuen	0.4035	0.4035	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0024	0.0025	0
Welch-Aspin's t	0.0014	0.0015	0
Yuen	0.3858	0.3858	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1315

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0831	0.0833	0.0002
Welch-Aspin's t	0.0066	0.0403	0.0337
Yuen Test	0.4884	0.4889	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0238	0.0238	0
Welch-Aspin's t	0.0014	0.006	0.0047
Yuen	0.487	0.487	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0051	0.0051	0
Welch-Aspin's t	0.001	0.001	0
Yuen	0.4836	0.4836	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1316

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0811	0.0811	0
Welch-Aspin's t	0.0071	0.0863	0.0792
Yuen Test	0.4756	0.4764	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0325	0.0325	0
Welch-Aspin's t	0.0017	0.0155	0.0138
Yuen	0.4765	0.4765	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0096	0.0096	0
Welch-Aspin's t	0.0018	0.0022	0.0004
Yuen	0.4621	0.4621	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1317

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0848	0.0892	0.0043
Welch-Aspin's t	0.0433	0.0548	0.0115
Yuen Test	0.4249	0.4257	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0264	0.0266	0.0002
Welch-Aspin's t	0.0051	0.0069	0.0017
Yuen	0.4142	0.4142	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.004	0.004	0
Welch-Aspin's t	0.0003	0.0004	0.0001
Yuen	0.4053	0.4053	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1318

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1652	0.1674	0.0022
Welch-Aspin's t	0.1352	0.1372	0.002
Yuen Test	0.5514	0.5559	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1162	0.1163	0.0001
Welch-Aspin's t	0.1157	0.1158	0.0001
Yuen	0.5509	0.5541	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1133	0.1134	0.0001
Welch-Aspin's t	0.111	0.1111	0.0001
Yuen	0.5465	0.5473	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1319

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2461	0.2467	0.0006
Welch-Aspin's t	0.2427	0.2431	0.0003
Yuen Test	0.4613	0.4614	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0848	0.0848	0
Welch-Aspin's t	0.0777	0.0777	0
Yuen	0.4487	0.4487	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0124	0.0124	0
Welch-Aspin's t	0.0038	0.0038	0
Yuen	0.4406	0.4406	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1320

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.381	0.3812	0.0001
Welch-Aspin's t	0.3805	0.3806	0.0001
Yuen Test	0.4808	0.4808	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1681	0.1681	0
Welch-Aspin's t	0.1649	0.1649	0
Yuen	0.4196	0.4196	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0408	0.0408	0
Welch-Aspin's t	0.0346	0.0346	0
Yuen	0.4147	0.4147	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1321

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1484	0.1484	0
Welch-Aspin's t	0.0228	0.0252	0.0024
Yuen Test	0.5008	0.5008	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0697	0.0697	0
Welch-Aspin's t	0.0029	0.0031	0.0002
Yuen	0.5006	0.5006	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0191	0.0191	0
Welch-Aspin's t	0.0016	0.0016	0
Yuen	0.4928	0.4928	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1322

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1765	0.1765	0
Welch-Aspin's t	0.0255	0.03	0.0045
Yuen Test	0.4815	0.4815	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0778	0.0778	0
Welch-Aspin's t	0.0111	0.0114	0.0004
Yuen	0.4818	0.4818	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0247	0.0247	0
Welch-Aspin's t	0.0067	0.0067	0
Yuen	0.4779	0.4779	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1323

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.296	0.2961	0.0001
Welch-Aspin's t	0.2488	0.2494	0.0005
Yuen Test	0.4443	0.4444	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1305	0.1305	0
Welch-Aspin's t	0.0531	0.0532	0
Yuen	0.4311	0.4311	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0316	0.0316	0
Welch-Aspin's t	0.0027	0.0027	0
Yuen	0.4258	0.4258	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1324

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2959	0.2977	0.0019
Welch-Aspin's t	0.1709	0.171	0.0001
Yuen Test	0.5604	0.5648	0.0044
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.133	0.1331	0.0001
Welch-Aspin's t	0.1178	0.1179	0.0001
Yuen	0.5509	0.5542	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1166	0.1167	0.0001
Welch-Aspin's t	0.1127	0.1128	0.0001
Yuen	0.5474	0.5483	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1325

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5296	0.5296	0
Welch-Aspin's t	0.5282	0.5282	0
Yuen Test	0.5452	0.5452	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2778	0.2778	0
Welch-Aspin's t	0.2718	0.2718	0
Yuen	0.4499	0.45	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0757	0.0757	0
Welch-Aspin's t	0.0586	0.0586	0
Yuen	0.4474	0.4474	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1326

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7585	0.7585	0
Welch-Aspin's t	0.758	0.758	0
Yuen Test	0.6599	0.6599	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5149	0.5149	0
Welch-Aspin's t	0.5141	0.5142	0
Yuen	0.4765	0.4765	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.23	0.23	0
Welch-Aspin's t	0.2243	0.2243	0
Yuen	0.4149	0.4149	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1327

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2935	0.2935	0
Welch-Aspin's t	0.1025	0.1027	0.0002
Yuen Test	0.5044	0.5045	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1178	0.1178	0
Welch-Aspin's t	0.0464	0.0464	0
Yuen	0.5001	0.5001	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0406	0.0406	0
Welch-Aspin's t	0.01	0.01	0
Yuen	0.4976	0.4976	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1328

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3276	0.3276	0
Welch-Aspin's t	0.1397	0.1398	0.0001
Yuen Test	0.4861	0.4861	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.169	0.169	0
Welch-Aspin's t	0.0642	0.0642	0
Yuen	0.4813	0.4813	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0579	0.0579	0
Welch-Aspin's t	0.0293	0.0293	0
Yuen	0.479	0.479	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1329

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6294	0.6294	0
Welch-Aspin's t	0.6252	0.6253	0
Yuen Test	0.5315	0.5315	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3791	0.3791	0
Welch-Aspin's t	0.3017	0.3017	0
Yuen	0.4327	0.4327	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1448	0.1448	0
Welch-Aspin's t	0.0409	0.0409	0
Yuen	0.431	0.431	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1330

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3663	0.3664	0.0001
Welch-Aspin's t	0.356	0.3561	0.0001
Yuen Test	0.5627	0.567	0.0043
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1913	0.1914	0.0001
Welch-Aspin's t	0.1195	0.1196	0.0001
Yuen	0.5514	0.5534	0.002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1166	0.1167	0.0001
Welch-Aspin's t	0.1146	0.1147	0.0001
Yuen	0.5466	0.5474	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1331

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8594	0.8594	0
Welch-Aspin's t	0.8578	0.8578	0
Yuen Test	0.6834	0.6834	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.6472	0.6472	0
Welch-Aspin's t	0.6428	0.6428	0
Yuen	0.4799	0.4799	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3312	0.3312	0
Welch-Aspin's t	0.32	0.32	0
Yuen	0.4475	0.4475	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1332

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9791	0.9791	0
Welch-Aspin's t	0.9787	0.9787	0
Yuen Test	0.9054	0.9054	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9116	0.9116	0
Welch-Aspin's t	0.9102	0.9102	0
Yuen	0.735	0.735	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7069	0.7069	0
Welch-Aspin's t	0.7052	0.7052	0
Yuen	0.4477	0.4477	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1333

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.552	0.552	0
Welch-Aspin's t	0.4074	0.4074	0
Yuen Test	0.5082	0.5082	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2953	0.2953	0
Welch-Aspin's t	0.1353	0.1353	0
Yuen	0.5019	0.5019	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5003	0.5003	0
Welch-Aspin's t	0.4118	0.4118	0
Yuen	0.4316	0.4316	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1334

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.617	0.617	0
Welch-Aspin's t	0.4554	0.4554	0
Yuen Test	0.688	0.688	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3731	0.3731	0
Welch-Aspin's t	0.2262	0.2262	0
Yuen	0.564	0.564	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1618	0.1618	0
Welch-Aspin's t	0.1399	0.1399	0
Yuen	0.4783	0.4783	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1335

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9337	0.9337	0
Welch-Aspin's t	0.9544	0.9544	0
Yuen Test	0.8765	0.8765	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7926	0.7926	0
Welch-Aspin's t	0.8107	0.8107	0
Yuen	0.5392	0.5392	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1166	0.1167	0.0001
Welch-Aspin's t	0.1146	0.1147	0.0001
Yuen	0.5466	0.5474	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1336

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7648	0.7649	0.0001
Welch-Aspin's t	0.7113	0.7114	0.0001
Yuen Test	0.5653	0.5665	0.0012
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.39	0.39	0.0001
Welch-Aspin's t	0.2668	0.2669	0
Yuen	0.5606	0.5613	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1603	0.1603	0
Welch-Aspin's t	0.1155	0.1155	0
Yuen	0.5494	0.5503	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1337

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9979	0.9979	0
Welch-Aspin's t	0.9978	0.9978	0
Yuen Test	0.9608	0.9608	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9897	0.9897	0
Welch-Aspin's t	0.9883	0.9883	0
Yuen	0.8366	0.8366	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9207	0.9207	0
Welch-Aspin's t	0.9133	0.9133	0
Yuen	0.4584	0.4584	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1338

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9992	0.9992	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen	0.99	0.99	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9991	0.9991	0
Welch-Aspin's t	0.9989	0.9989	0
Yuen	0.8994	0.8994	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1339

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9368	0.9368	0
Welch-Aspin's t	0.9629	0.9629	0
Yuen Test	0.7225	0.7225	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7752	0.7752	0
Welch-Aspin's t	0.4664	0.4664	0
Yuen	0.6364	0.6364	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4603	0.4603	0
Welch-Aspin's t	0.2625	0.2625	0
Yuen	0.4995	0.4995	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1340

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9788	0.9788	0
Welch-Aspin's t	0.9875	0.9875	0
Yuen Test	0.7544	0.7544	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8776	0.8776	0
Welch-Aspin's t	0.4524	0.4524	0
Yuen	0.7471	0.7471	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6111	0.6111	0
Welch-Aspin's t	0.3365	0.3365	0
Yuen	0.6807	0.6807	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1341

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9999	0.9999	0
Yuen Test	0.9988	0.9988	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9992	0.9992	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen	0.9761	0.9761	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9866	0.9866	0
Welch-Aspin's t	0.9944	0.9944	0
Yuen	0.6234	0.6234	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1342

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0059	0.3425	0.3366
Welch-Aspin's t	0.0053	0.3386	0.3332
Yuen Test	0.0059	0.5644	0.5585
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0005	0.3089	0.3084
Welch-Aspin's t	0.0003	0.1195	0.1192
Yuen	0.0043	0.5605	0.5562
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.1142	0.1139
Welch-Aspin's t	0.0003	0.1123	0.112
Yuen	0.0009	0.5488	0.5479
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1343

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0122	0.0666	0.0544
Welch-Aspin's t	0.0095	0.0621	0.0526
Yuen Test	0.0003	0.6684	0.6681
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0012	0.0411	0.0398
Welch-Aspin's t	0.0006	0.0403	0.0397
Yuen	0	0.6013	0.6013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0387	0.0387
Welch-Aspin's t	0	0.0387	0.0387
Yuen	0	0.4444	0.4444
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1344

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.018	0.0611	0.0431
Welch-Aspin's t	0.0156	0.058	0.0424
Yuen Test	0.0002	0.6451	0.6449
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0018	0.0274	0.0256
Welch-Aspin's t	0.0013	0.0256	0.0243
Yuen	0	0.6435	0.6435
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0097	0.0096
Welch-Aspin's t	0	0.0089	0.0089
Yuen	0	0.6051	0.6051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1345

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0563	0.396	0.3397
Welch-Aspin's t	0.0056	0.3444	0.3388
Yuen Test	0.0061	0.745	0.739
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0368	0.3726	0.3358
Welch-Aspin's t	0.0003	0.3363	0.336
Yuen	0.0049	0.6781	0.6732
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0061	0.1533	0.1473
Welch-Aspin's t	0.0003	0.3358	0.3356
Yuen	0.0022	0.4971	0.4949
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1346

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1429	0.4814	0.3385
Welch-Aspin's t	0.0058	0.3435	0.3377
Yuen Test	0.0061	0.7451	0.7389
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0548	0.3924	0.3377
Welch-Aspin's t	0.0003	0.3364	0.3362
Yuen	0.005	0.7441	0.7391
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0362	0.3179	0.2816
Welch-Aspin's t	0.0002	0.3358	0.3356
Yuen	0.0022	0.7067	0.7045
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1347

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0445	0.141	0.0964
Welch-Aspin's t	0.0098	0.0619	0.052
Yuen Test	0.0003	0.6694	0.6691
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0103	0.0526	0.0423
Welch-Aspin's t	0.0006	0.0397	0.0391
Yuen	0	0.6634	0.6634
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0011	0.0405	0.0394
Welch-Aspin's t	0	0.0394	0.0394
Yuen	0	0.6282	0.6282
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1348

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.3384	0.3323
Welch-Aspin's t	0.0058	0.318	0.3122
Yuen Test	0.006	0.5644	0.5583
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.002	0.1472	0.1452
Welch-Aspin's t	0.0002	0.1142	0.114
Yuen	0.0044	0.5552	0.5508
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.1142	0.1139
Welch-Aspin's t	0.0003	0.1124	0.1121
Yuen	0.0008	0.548	0.5471
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1349

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0236	0.0635	0.0399
Welch-Aspin's t	0.0184	0.0582	0.0397
Yuen Test	0.0005	0.6622	0.6617
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0026	0.0403	0.0377
Welch-Aspin's t	0.0015	0.0391	0.0377
Yuen	0	0.4564	0.4564
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0379	0.0378
Welch-Aspin's t	0	0.0378	0.0377
Yuen	0	0.4359	0.4359
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1350

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0415	0.0675	0.026
Welch-Aspin's t	0.0367	0.0622	0.0255
Yuen Test	0.0003	0.6434	0.6431
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0053	0.0166	0.0113
Welch-Aspin's t	0.0037	0.0144	0.0106
Yuen	0	0.6351	0.6351
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0002	0.0051	0.0048
Welch-Aspin's t	0.0001	0.0049	0.0048
Yuen	0	0.4192	0.4192
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1351

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0754	0.4006	0.3253
Welch-Aspin's t	0.0059	0.3312	0.3253
Yuen Test	0.006	0.745	0.7389
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0474	0.3489	0.3015
Welch-Aspin's t	0.0003	0.324	0.3237
Yuen	0.005	0.514	0.509
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0061	0.0353	0.0292
Welch-Aspin's t	0.0003	0.3185	0.3183
Yuen	0.0022	0.4971	0.4949
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1352

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2104	0.5498	0.3394
Welch-Aspin's t	0.0059	0.3437	0.3377
Yuen Test	0.006	0.7453	0.7393
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0622	0.3905	0.3283
Welch-Aspin's t	0.0003	0.3363	0.336
Yuen	0.005	0.7431	0.7381
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0478	0.0777	0.0299
Welch-Aspin's t	0.0002	0.3318	0.3315
Yuen	0.0022	0.4898	0.4877
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1353

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0773	0.1236	0.0463
Welch-Aspin's t	0.0169	0.0568	0.0399
Yuen Test	0.0005	0.6644	0.6639
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0185	0.0579	0.0393
Welch-Aspin's t	0.0013	0.0405	0.0392
Yuen	0	0.6602	0.6602
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0024	0.0417	0.0393
Welch-Aspin's t	0	0.0393	0.0393
Yuen	0	0.4294	0.4294
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1354

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.1739	0.1678
Welch-Aspin's t	0.0058	0.0398	0.034
Yuen Test	0.0059	0.5625	0.5566
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0022	0.0216	0.0193
Welch-Aspin's t	0.0003	0.0052	0.0049
Yuen	0.0052	0.5556	0.5504
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.0053	0.005
Welch-Aspin's t	0.0003	0.0025	0.0022
Yuen	0.0009	0.5488	0.548
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1355

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0441	0.0823	0.0381
Welch-Aspin's t	0.0342	0.0723	0.0381
Yuen Test	0.0006	0.5368	0.5363
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0054	0.0432	0.0378
Welch-Aspin's t	0.0028	0.0406	0.0378
Yuen	0	0.4377	0.4377
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.0368	0.0365
Welch-Aspin's t	0.0001	0.0332	0.0332
Yuen	0	0.4364	0.4364
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1356

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0883	0.0993	0.011
Welch-Aspin's t	0.0792	0.0899	0.0107
Yuen Test	0.0009	0.6376	0.6367
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0141	0.0191	0.0051
Welch-Aspin's t	0.0101	0.0151	0.005
Yuen	0	0.445	0.445
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0008	0.0052	0.0044
Welch-Aspin's t	0.0003	0.0047	0.0044
Yuen	0	0.4004	0.4004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1357

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1277	0.4424	0.3147
Welch-Aspin's t	0.006	0.33	0.3239
Yuen Test	0.0061	0.6046	0.5985
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0525	0.0922	0.0397
Welch-Aspin's t	0.0003	0.3196	0.3193
Yuen	0.0055	0.5031	0.4976
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0077	0.0091	0.0014
Welch-Aspin's t	0.0002	0.2902	0.29
Yuen	0.0022	0.4956	0.4935
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1358

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.243	0.5762	0.3332
Welch-Aspin's t	0.0059	0.3414	0.3354
Yuen Test	0.0059	0.7461	0.7401
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1002	0.1388	0.0386
Welch-Aspin's t	0.0003	0.3315	0.3312
Yuen	0.0055	0.5211	0.5155
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0528	0.0559	0.0031
Welch-Aspin's t	0.0002	0.3294	0.3291
Yuen	0.0023	0.4789	0.4766
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1359

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1302	0.1694	0.0392
Welch-Aspin's t	0.0352	0.0741	0.0389
Yuen Test	0.0006	0.6609	0.6603
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0362	0.0755	0.0393
Welch-Aspin's t	0.0029	0.0422	0.0393
Yuen	0	0.4556	0.4556
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0046	0.0429	0.0383
Welch-Aspin's t	0.0001	0.0389	0.0388
Yuen	0	0.4204	0.4204
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1360

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0188	0.1489	0.1301
Welch-Aspin's t	0.0061	0.1343	0.1283
Yuen Test	0.0061	0.5571	0.551
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0041	0.1175	0.1134
Welch-Aspin's t	0.0003	0.1107	0.1104
Yuen	0.0054	0.5562	0.5508
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.1107	0.1105
Welch-Aspin's t	0.0003	0.1087	0.1084
Yuen	0.0008	0.548	0.5472
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1361

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0936	0.1305	0.0369
Welch-Aspin's t	0.077	0.1138	0.0367
Yuen Test	0.0008	0.4456	0.4447
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0131	0.0355	0.0224
Welch-Aspin's t	0.0079	0.0201	0.0122
Yuen	0	0.4325	0.4324
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0006	0.0026	0.0019
Welch-Aspin's t	0.0002	0.0008	0.0006
Yuen	0	0.4321	0.432
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1362

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2142	0.2188	0.0046
Welch-Aspin's t	0.1977	0.2023	0.0046
Yuen Test	0.0018	0.4264	0.4247
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0461	0.0506	0.0045
Welch-Aspin's t	0.0348	0.0393	0.0045
Yuen	0.0001	0.4004	0.4004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0032	0.0062	0.003
Welch-Aspin's t	0.0014	0.0032	0.0018
Yuen	0	0.3958	0.3958
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1363

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2087	0.2262	0.0174
Welch-Aspin's t	0.006	0.3231	0.3171
Yuen Test	0.0059	0.5118	0.5059
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.054	0.0552	0.0012
Welch-Aspin's t	0.0003	0.1088	0.1085
Yuen	0.0057	0.4965	0.4908
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0152	0.0162	0.001
Welch-Aspin's t	0.0003	0.0059	0.0056
Yuen	0.0022	0.4918	0.4896
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1364

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2549	0.2679	0.013
Welch-Aspin's t	0.006	0.3363	0.3303
Yuen Test	0.0059	0.5098	0.5038
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1928	0.1944	0.0015
Welch-Aspin's t	0.0003	0.3291	0.3288
Yuen	0.0056	0.4829	0.4774
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0544	0.0559	0.0015
Welch-Aspin's t	0.0002	0.147	0.1468
Yuen	0.0022	0.4725	0.4703
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1365

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2423	0.2807	0.0384
Welch-Aspin's t	0.0756	0.1142	0.0386
Yuen Test	0.0008	0.4461	0.4453
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0781	0.1041	0.026
Welch-Aspin's t	0.0072	0.0446	0.0373
Yuen	0	0.4202	0.4201
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0122	0.0137	0.0015
Welch-Aspin's t	0.0001	0.0162	0.0161
Yuen	0	0.4148	0.4148
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1366

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1542	0.1563	0.002
Welch-Aspin's t	0.1205	0.1221	0.0016
Yuen Test	0.5524	0.5569	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1196	0.1198	0.0001
Welch-Aspin's t	0.1111	0.1112	0.0001
Yuen	0.552	0.5551	0.0031
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1113	0.1113	0.0001
Welch-Aspin's t	0.1112	0.1113	0.0001
Yuen	0.547	0.5478	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1367

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3598	0.3599	0.0001
Welch-Aspin's t	0.3181	0.3182	0.0001
Yuen Test	0.4469	0.4469	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0754	0.0754	0
Welch-Aspin's t	0.0445	0.0445	0
Yuen	0.4356	0.4356	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0052	0.0052	0
Welch-Aspin's t	0.0015	0.0015	0
Yuen	0.4318	0.4318	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1368

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7121	0.7121	0
Welch-Aspin's t	0.6953	0.6953	0
Yuen Test	0.425	0.425	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3221	0.3221	0
Welch-Aspin's t	0.2705	0.2705	0
Yuen	0.4101	0.4101	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.046	0.046	0
Welch-Aspin's t	0.0241	0.0241	0
Yuen	0.4001	0.4001	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1369

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3032	0.3032	0
Welch-Aspin's t	0.0353	0.0366	0.0012
Yuen Test	0.5009	0.5009	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1488	0.1488	0
Welch-Aspin's t	0.0014	0.0014	0
Yuen	0.5	0.5	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.049	0.049	0
Welch-Aspin's t	0.0013	0.0014	0
Yuen	0.4926	0.4926	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1370

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5318	0.5318	0
Welch-Aspin's t	0.0406	0.042	0.0014
Yuen Test	0.4819	0.4819	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2673	0.2673	0
Welch-Aspin's t	0.0151	0.0152	0.0001
Yuen	0.4812	0.4812	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1438	0.1438	0
Welch-Aspin's t	0.0092	0.0092	0
Yuen	0.4773	0.4773	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1371

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6362	0.6362	0
Welch-Aspin's t	0.318	0.3182	0.0002
Yuen Test	0.4306	0.4306	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3133	0.3133	0
Welch-Aspin's t	0.0458	0.0458	0
Yuen	0.4197	0.4197	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0709	0.0709	0
Welch-Aspin's t	0.002	0.002	0
Yuen	0.4196	0.4196	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1372

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.3456	0.3395
Welch-Aspin's t	0.0057	0.3452	0.3395
Yuen Test	0.0061	0.7457	0.7397
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0003	0.3382	0.3379
Welch-Aspin's t	0.0003	0.3362	0.3359
Yuen	0.0045	0.5623	0.5578
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.3363	0.336
Welch-Aspin's t	0.0002	0.3341	0.3339
Yuen	0.0015	0.5566	0.5551
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1373

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0093	0.0902	0.0809
Welch-Aspin's t	0.0048	0.0726	0.0678
Yuen Test	0.0001	0.6684	0.6683
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0007	0.0396	0.039
Welch-Aspin's t	0.0006	0.0395	0.039
Yuen	0	0.6688	0.6688
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0	0.0394	0.0394
Welch-Aspin's t	0	0.0394	0.0394
Yuen	0	0.6635	0.6635
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1374

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.012	0.0823	0.0703
Welch-Aspin's t	0.0098	0.0745	0.0647
Yuen Test	0.0001	0.6436	0.6436
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0011	0.0323	0.0312
Welch-Aspin's t	0.0007	0.0314	0.0307
Yuen	0	0.6435	0.6435
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.023	0.0229
Welch-Aspin's t	0	0.02	0.02
Yuen	0	0.6443	0.6443
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1375

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.054	0.3927	0.3387
Welch-Aspin's t	0.0057	0.3444	0.3387
Yuen Test	0.006	0.7453	0.7393
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0496	0.3884	0.3388
Welch-Aspin's t	0.0003	0.3359	0.3356
Yuen	0.0045	0.7434	0.7388
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.006	0.3451	0.3391
Welch-Aspin's t	0.0002	0.3347	0.3344
Yuen	0.0011	0.7408	0.7397
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1376

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1413	0.4807	0.3395
Welch-Aspin's t	0.0058	0.3453	0.3395
Yuen Test	0.006	0.7459	0.7399
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0538	0.3933	0.3395
Welch-Aspin's t	0.0003	0.3365	0.3362
Yuen	0.0045	0.7443	0.7397
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0531	0.3917	0.3386
Welch-Aspin's t	0.0003	0.3317	0.3315
Yuen	0.0011	0.7401	0.739
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1377

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0398	0.1986	0.1588
Welch-Aspin's t	0.0045	0.0709	0.0664
Yuen Test	0.0001	0.6685	0.6684
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.007	0.0765	0.0695
Welch-Aspin's t	0.0006	0.0397	0.0392
Yuen	0	0.6681	0.6681
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0007	0.0396	0.0389
Welch-Aspin's t	0	0.0389	0.0389
Yuen	0	0.6634	0.6634
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1378

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.3453	0.3392
Welch-Aspin's t	0.0058	0.345	0.3392
Yuen Test	0.006	0.7456	0.7395
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0003	0.3369	0.3366
Welch-Aspin's t	0.0003	0.3361	0.3358
Yuen	0.0046	0.5621	0.5575
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.3367	0.3364
Welch-Aspin's t	0.0002	0.3345	0.3343
Yuen	0.0016	0.557	0.5553
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1379

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0124	0.0765	0.0641
Welch-Aspin's t	0.0068	0.0649	0.0581
Yuen Test	0.0001	0.6693	0.6693
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0007	0.0382	0.0375
Welch-Aspin's t	0.0007	0.0382	0.0375
Yuen	0	0.6684	0.6684
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.038	0.0379
Welch-Aspin's t	0	0.0379	0.0379
Yuen	0	0.6626	0.6626
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1380

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.014	0.0689	0.0549
Welch-Aspin's t	0.0128	0.0627	0.05
Yuen Test	0.0001	0.6441	0.644
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0012	0.0321	0.0309
Welch-Aspin's t	0.001	0.0314	0.0304
Yuen	0	0.6435	0.6435
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0205	0.0204
Welch-Aspin's t	0	0.0158	0.0157
Yuen	0	0.6429	0.6429
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1381

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0541	0.3938	0.3397
Welch-Aspin's t	0.0059	0.3337	0.3279
Yuen Test	0.006	0.7455	0.7395
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0525	0.3916	0.3391
Welch-Aspin's t	0.0003	0.3244	0.3241
Yuen	0.0045	0.7432	0.7387
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0061	0.3456	0.3395
Welch-Aspin's t	0.0002	0.3233	0.3231
Yuen	0.0011	0.7404	0.7393
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1382

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.178	0.5174	0.3393
Welch-Aspin's t	0.0059	0.3452	0.3393
Yuen Test	0.0061	0.7456	0.7395
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0541	0.3935	0.3394
Welch-Aspin's t	0.0003	0.3364	0.3362
Yuen	0.0045	0.7435	0.739
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0537	0.3919	0.3382
Welch-Aspin's t	0.0002	0.3314	0.3311
Yuen	0.0011	0.7392	0.7381
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1383

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0485	0.1939	0.1454
Welch-Aspin's t	0.0065	0.067	0.0605
Yuen Test	0.0001	0.6697	0.6696
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0107	0.0737	0.063
Welch-Aspin's t	0.0006	0.0397	0.0391
Yuen	0	0.6686	0.6686
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0007	0.0397	0.039
Welch-Aspin's t	0	0.039	0.039
Yuen	0	0.6627	0.6627
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1384

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.006	0.345	0.3391
Welch-Aspin's t	0.0058	0.3448	0.339
Yuen Test	0.006	0.7449	0.739
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0003	0.3365	0.3362
Welch-Aspin's t	0.0003	0.3363	0.336
Yuen	0.0045	0.5621	0.5576
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.3361	0.3358
Welch-Aspin's t	0.0002	0.3339	0.3336
Yuen	0.0016	0.5571	0.5555
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1385

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0143	0.0686	0.0542
Welch-Aspin's t	0.0101	0.0577	0.0476
Yuen Test	0.0001	0.6688	0.6687
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0008	0.0401	0.0393
Welch-Aspin's t	0.0006	0.04	0.0393
Yuen	0	0.6654	0.6654
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0392	0.0391
Welch-Aspin's t	0	0.0391	0.0391
Yuen	0	0.6628	0.6628
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1386

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0155	0.0588	0.0433
Welch-Aspin's t	0.0143	0.0541	0.0398
Yuen Test	0.0001	0.6437	0.6436
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0015	0.0312	0.0297
Welch-Aspin's t	0.0012	0.0297	0.0285
Yuen	0	0.6445	0.6445
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0	0.0171	0.0171
Welch-Aspin's t	0	0.0105	0.0105
Yuen	0	0.6438	0.6438
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1387

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0542	0.3928	0.3386
Welch-Aspin's t	0.0059	0.3445	0.3386
Yuen Test	0.0061	0.7454	0.7393
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0533	0.3923	0.339
Welch-Aspin's t	0.0003	0.3361	0.3358
Yuen	0.0044	0.7434	0.739
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0062	0.3455	0.3393
Welch-Aspin's t	0.0003	0.3345	0.3342
Yuen	0.0011	0.74	0.7389
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1388

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2133	0.5526	0.3393
Welch-Aspin's t	0.006	0.3453	0.3393
Yuen Test	0.0061	0.7455	0.7393
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0545	0.3943	0.3399
Welch-Aspin's t	0.0003	0.3369	0.3366
Yuen	0.0046	0.7443	0.7397
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0539	0.3925	0.3386
Welch-Aspin's t	0.0002	0.3319	0.3316
Yuen	0.0011	0.74	0.7389
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1389

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0532	0.1791	0.1259
Welch-Aspin's t	0.0103	0.0566	0.0463
Yuen Test	0.0001	0.6686	0.6685
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0137	0.066	0.0523
Welch-Aspin's t	0.0007	0.04	0.0394
Yuen	0	0.6656	0.6656
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0008	0.0399	0.0391
Welch-Aspin's t	0	0.0391	0.0391
Yuen	0	0.6619	0.6619
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1390

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.3454	0.3393
Welch-Aspin's t	0.0059	0.3441	0.3382
Yuen Test	0.006	0.7453	0.7393
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0004	0.3366	0.3363
Welch-Aspin's t	0.0003	0.3366	0.3362
Yuen	0.0045	0.5624	0.5579
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.3359	0.3356
Welch-Aspin's t	0.0003	0.3298	0.3295
Yuen	0.0017	0.5574	0.5557
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1391

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0153	0.0563	0.041
Welch-Aspin's t	0.014	0.0525	0.0385
Yuen Test	0.0001	0.6688	0.6687
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0013	0.0393	0.0379
Welch-Aspin's t	0.0006	0.0386	0.0379
Yuen	0	0.664	0.664
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0382	0.0381
Welch-Aspin's t	0	0.0381	0.0381
Yuen	0	0.6636	0.6636
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1392

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0219	0.0557	0.0338
Welch-Aspin's t	0.0172	0.0501	0.0328
Yuen Test	0.0001	0.6444	0.6443
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0027	0.03	0.0274
Welch-Aspin's t	0.0013	0.027	0.0257
Yuen	0	0.6435	0.6435
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.01	0.01
Welch-Aspin's t	0	0.0082	0.0082
Yuen	0	0.644	0.644
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1393

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0553	0.3828	0.3276
Welch-Aspin's t	0.0059	0.3327	0.3269
Yuen Test	0.006	0.7456	0.7396
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0539	0.382	0.3281
Welch-Aspin's t	0.0003	0.3251	0.3248
Yuen	0.0045	0.7437	0.7391
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0061	0.3338	0.3277
Welch-Aspin's t	0.0002	0.3189	0.3186
Yuen	0.0011	0.74	0.739
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1394

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2417	0.581	0.3393
Welch-Aspin's t	0.0059	0.3447	0.3388
Yuen Test	0.006	0.7447	0.7386
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0549	0.3953	0.3404
Welch-Aspin's t	0.0003	0.3373	0.337
Yuen	0.0046	0.7442	0.7397
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0539	0.3926	0.3387
Welch-Aspin's t	0.0003	0.3298	0.3295
Yuen	0.0011	0.7404	0.7393
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1395

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0547	0.1583	0.1037
Welch-Aspin's t	0.0145	0.0536	0.0391
Yuen Test	0.0001	0.6686	0.6685
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0153	0.055	0.0397
Welch-Aspin's t	0.0007	0.0397	0.0391
Yuen	0	0.6636	0.6636
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0018	0.0407	0.039
Welch-Aspin's t	0	0.039	0.039
Yuen	0	0.6632	0.6632
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1396

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0061	0.3441	0.3379
Welch-Aspin's t	0.0061	0.3424	0.3363
Yuen Test	0.0061	0.7453	0.7392
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0003	0.3365	0.3362
Welch-Aspin's t	0.0003	0.3364	0.3362
Yuen	0.0045	0.5617	0.5572
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.3353	0.3351
Welch-Aspin's t	0.0002	0.3242	0.324
Yuen	0.0016	0.5565	0.5549
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1397

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0171	0.0548	0.0377
Welch-Aspin's t	0.0156	0.0533	0.0377
Yuen Test	0.0002	0.6691	0.6689
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0033	0.0409	0.0376
Welch-Aspin's t	0.0008	0.0384	0.0376
Yuen	0	0.6632	0.6632
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0001	0.0379	0.0378
Welch-Aspin's t	0	0.0378	0.0378
Yuen	0	0.6633	0.6633
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1398

Discrete Mass At Zero With Gap Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0399	0.07	0.0301
Welch-Aspin's t	0.0378	0.0672	0.0295
Yuen Test	0.0002	0.6439	0.6437
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0047	0.0225	0.0179
Welch-Aspin's t	0.0041	0.0187	0.0147
Yuen	0	0.6437	0.6437
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0003	0.0049	0.0046
Welch-Aspin's t	0.0001	0.0045	0.0044
Yuen	0	0.6364	0.6364
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1399

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0593	0.3862	0.3269
Welch-Aspin's t	0.006	0.3298	0.3237
Yuen Test	0.0061	0.7452	0.7391
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0537	0.3809	0.3272
Welch-Aspin's t	0.0003	0.3242	0.3239
Yuen	0.0045	0.7436	0.7391
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0063	0.3333	0.3269
Welch-Aspin's t	0.0003	0.318	0.3178
Yuen	0.0011	0.7404	0.7393
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1400

Discrete Mass At Zero With Gap Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2511	0.5905	0.3394
Welch-Aspin's t	0.0059	0.3421	0.3361
Yuen Test	0.006	0.7455	0.7395
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0591	0.3983	0.3392
Welch-Aspin's t	0.0003	0.3362	0.3359
Yuen	0.0046	0.7438	0.7392
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0538	0.3923	0.3386
Welch-Aspin's t	0.0003	0.3294	0.3291
Yuen	0.0011	0.7398	0.7387
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1401

Discrete Mass At Zero With Gap Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0681	0.1202	0.0521
Welch-Aspin's t	0.0155	0.0547	0.0392
Yuen Test	0.0002	0.6692	0.669
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0161	0.0551	0.039
Welch-Aspin's t	0.0008	0.0398	0.039
Yuen	0	0.6638	0.6638
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0035	0.0429	0.0393
Welch-Aspin's t	0	0.0394	0.0393
Yuen	0	0.6637	0.6637
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1402

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0255	0.0508	0.0253
Welch-Aspin's t	0.0227	0.0452	0.0226
Yuen Test	0.0205	0.0408	0.0204
Tukey's Quick Test	0.0033	0.0065	0.0032
Haga Test	0.004	0.008	0.004
<hr/>			
$\alpha=0.01$			
Student's t	0.0051	0.0101	0.005
Welch-Aspin's t	0.004	0.0079	0.004
Yuen	0.0035	0.0071	0.0036
Tukey's Quick	0.0008	0.0016	0.0008
Haga	0.001	0.002	0.001
<hr/>			
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0003	0.0007	0.0003
Yuen	0.0004	0.0007	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	0.001	0.002	0.001

Table 1403

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0251	0.0503	0.0252
Welch-Aspin's t	0.0248	0.0497	0.0249
Yuen Test	0.0254	0.0507	0.0253
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0052	0.0102	0.005
Welch-Aspin's t	0.005	0.0099	0.0049
Yuen	0.0052	0.0102	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0005	0.001	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1404

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0249	0.0501	0.0251
Welch-Aspin's t	0.0248	0.0499	0.025
Yuen Test	0.0252	0.0508	0.0256
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0051	0.0102	0.0051
Welch-Aspin's t	0.005	0.0101	0.005
Yuen	0.0053	0.0105	0.0052
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0005	0.001	0.0005
Yuen	0.0005	0.001	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1405

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0246	0.0499	0.0253
Welch-Aspin's t	0.0286	0.0548	0.0262
Yuen Test	0.0342	0.0674	0.0332
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0048	0.0101	0.0052
Welch-Aspin's t	0.0072	0.0136	0.0063
Yuen	0.0105	0.0211	0.0106
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0004	0.001	0.0006
Welch-Aspin's t	0.0012	0.0022	0.0011
Yuen	0.0023	0.0046	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1406

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0242	0.0497	0.0255
Welch-Aspin's t	0.0302	0.0572	0.027
Yuen Test	0.0391	0.0774	0.0382
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0047	0.0098	0.0052
Welch-Aspin's t	0.0085	0.0158	0.0073
Yuen	0.0155	0.0305	0.015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0006
Welch-Aspin's t	0.0018	0.0034	0.0016
Yuen	0.005	0.01	0.005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1407

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0248	0.0501	0.0253
Welch-Aspin's t	0.0254	0.0501	0.0247
Yuen Test	0.0263	0.0516	0.0253
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0051	0.0103	0.0052
Welch-Aspin's t	0.0054	0.0104	0.005
Yuen	0.0057	0.0111	0.0054
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0005	0.001	0.0005
Welch-Aspin's t	0.0006	0.0011	0.0005
Yuen	0.0006	0.0013	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1408

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0469	0.0595	0.0126
Welch-Aspin's t	0.0421	0.0532	0.0112
Yuen Test	0.0338	0.0452	0.0114
Tukey's Quick Test	0.0118	0.0145	0.0027
Haga Test	0.0033	0.0172	0.0139
$\alpha=0.01$			
Student's t	0.0102	0.0126	0.0024
Welch-Aspin's t	0.0081	0.01	0.0019
Yuen	0.0063	0.0083	0.002
Tukey's Quick	0.0021	0.0026	0.0004
Haga	0.0005	0.0031	0.0026
$\alpha=0.001$			
Student's t	0.0011	0.0013	0.0002
Welch-Aspin's t	0.0008	0.0009	0.0001
Yuen	0.0006	0.0008	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.0031	0.0026

Table 1409

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0762	0.0827	0.0066
Welch-Aspin's t	0.0754	0.0819	0.0065
Yuen Test	0.0696	0.077	0.0073
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0198	0.021	0.0011
Welch-Aspin's t	0.0193	0.0204	0.0011
Yuen	0.0174	0.0185	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0027	0.0001
Welch-Aspin's t	0.0025	0.0026	0.0001
Yuen	0.0022	0.0023	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1410

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1022	0.1061	0.004
Welch-Aspin's t	0.1019	0.1058	0.004
Yuen Test	0.0929	0.0979	0.005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0291	0.0297	0.0005
Welch-Aspin's t	0.0289	0.0294	0.0005
Yuen	0.0258	0.0265	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0045	0.0046	0
Welch-Aspin's t	0.0044	0.0045	0
Yuen	0.0038	0.0038	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1411

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0548	0.065	0.0102
Welch-Aspin's t	0.0588	0.0701	0.0112
Yuen Test	0.0627	0.0796	0.0169
Tukey's Quick Test	0.0003	0.0003	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.0126	0.0145	0.0018
Welch-Aspin's t	0.0166	0.0191	0.0025
Yuen	0.021	0.0261	0.0051
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0017	0.0002
Welch-Aspin's t	0.0031	0.0036	0.0004
Yuen	0.0048	0.0058	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1412

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0574	0.0671	0.0097
Welch-Aspin's t	0.0626	0.0741	0.0115
Yuen Test	0.0721	0.0919	0.0198
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0135	0.015	0.0016
Welch-Aspin's t	0.0194	0.0223	0.0029
Yuen	0.0295	0.0368	0.0073
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0015	0.0017	0.0001
Welch-Aspin's t	0.0044	0.005	0.0006
Yuen	0.0104	0.0127	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1413

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0852	0.0907	0.0054
Welch-Aspin's t	0.0856	0.0909	0.0054
Yuen Test	0.0795	0.086	0.0064
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.023	0.0238	0.0008
Welch-Aspin's t	0.0234	0.0241	0.0008
Yuen	0.0218	0.0228	0.0011
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0032	0.0033	0.0001
Welch-Aspin's t	0.0035	0.0035	0.0001
Yuen	0.0032	0.0033	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1414

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1026	0.1067	0.0041
Welch-Aspin's t	0.0931	0.0966	0.0036
Yuen Test	0.0669	0.0715	0.0046
Tukey's Quick Test	0.0264	0.0274	0.0009
Haga Test	0.0011	0.0318	0.0307
$\alpha=0.01$			
Student's t	0.0265	0.0272	0.0006
Welch-Aspin's t	0.0212	0.0217	0.0005
Yuen	0.0134	0.0141	0.0008
Tukey's Quick	0.0055	0.0056	0.0002
Haga	0.0002	0.0065	0.0064
$\alpha=0.001$			
Student's t	0.0032	0.0032	0.0001
Welch-Aspin's t	0.0021	0.0022	0
Yuen	0.0013	0.0014	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0066	0.0065

Table 1415

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.26	0.2605	0.0005
Welch-Aspin's t	0.2583	0.2588	0.0005
Yuen Test	0.22	0.2208	0.0008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0984	0.0985	0.0001
Welch-Aspin's t	0.0965	0.0966	0.0001
Yuen	0.0757	0.0758	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0203	0.0203	0
Welch-Aspin's t	0.0193	0.0193	0
Yuen	0.0137	0.0137	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1416

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4082	0.4083	0.0001
Welch-Aspin's t	0.4076	0.4077	0.0001
Yuen Test	0.349	0.3492	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1918	0.1918	0
Welch-Aspin's t	0.1907	0.1907	0
Yuen	0.1516	0.1516	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.052	0.052	0
Welch-Aspin's t	0.0512	0.0512	0
Yuen	0.0371	0.0371	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1417

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1474	0.1495	0.0021
Welch-Aspin's t	0.1432	0.146	0.0027
Yuen Test	0.1368	0.1422	0.0054
Tukey's Quick Test	0.0006	0.0007	0
Haga Test	0	0.0002	0.0002
$\alpha=0.01$			
Student's t	0.0442	0.0445	0.0003
Welch-Aspin's t	0.0486	0.0491	0.0005
Yuen	0.0516	0.0531	0.0015
Tukey's Quick	0.0001	0.0001	0
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0068	0.0068	0
Welch-Aspin's t	0.0108	0.0108	0.0001
Yuen	0.0131	0.0134	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1418

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1642	0.1659	0.0017
Welch-Aspin's t	0.1524	0.155	0.0027
Yuen Test	0.1552	0.1613	0.0061
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.052	0.0522	0.0002
Welch-Aspin's t	0.0546	0.0551	0.0006
Yuen	0.0693	0.0715	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0083	0.0083	0
Welch-Aspin's t	0.0146	0.0148	0.0001
Yuen	0.0261	0.0267	0.0006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1419

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3191	0.3194	0.0003
Welch-Aspin's t	0.3153	0.3156	0.0003
Yuen Test	0.2707	0.2712	0.0005
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1324	0.1324	0
Welch-Aspin's t	0.13	0.13	0
Yuen	0.1056	0.1057	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0309	0.0309	0
Welch-Aspin's t	0.0305	0.0305	0
Yuen	0.0233	0.0233	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1420

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1975	0.1986	0.001
Welch-Aspin's t	0.1812	0.1821	0.0009
Yuen Test	0.119	0.1206	0.0016
Tukey's Quick Test	0.0733	0.0735	0.0001
Haga Test	0.0001	0.082	0.0818
$\alpha=0.01$			
Student's t	0.06	0.0602	0.0002
Welch-Aspin's t	0.0487	0.0488	0.0001
Yuen	0.0258	0.026	0.0003
Tukey's Quick	0.0193	0.0193	0
Haga	0	0.0214	0.0214
$\alpha=0.001$			
Student's t	0.0086	0.0086	0
Welch-Aspin's t	0.0057	0.0057	0
Yuen	0.0027 n/a	0.0027 n/a	0 n/a
Tukey's Quick			
Haga	0	0.0214	0.0214

Table 1421

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5595	0.5595	0
Welch-Aspin's t	0.5573	0.5573	0
Yuen Test	0.4713	0.4714	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3007	0.3007	0
Welch-Aspin's t	0.2968	0.2968	0
Yuen	0.221	0.221	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0947	0.0947	0
Welch-Aspin's t	0.0911	0.0911	0
Yuen	0.0567	0.0567	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1422

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7913	0.7913	0
Welch-Aspin's t	0.7908	0.7908	0
Yuen Test	0.7068	0.7068	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5604	0.5604	0
Welch-Aspin's t	0.5589	0.5589	0
Yuen	0.4478	0.4478	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2657	0.2657	0
Welch-Aspin's t	0.2633	0.2633	0
Yuen	0.1788	0.1788	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1423

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=0.8\sigma, Scale=1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3082	0.3086	0.0003
Welch-Aspin's t	0.2778	0.2783	0.0005
Yuen Test	0.2438	0.2452	0.0014
Tukey's Quick Test	0.0021	0.0021	0
Haga Test	0	0.0009	0.0009
$\alpha=0.01$			
Student's t	0.12	0.1201	0
Welch-Aspin's t	0.1116	0.1117	0.0001
Yuen	0.106	0.1064	0.0003
Tukey's Quick	0.0005	0.0005	0
Haga	0	0.0003	0.0003
$\alpha=0.001$			
Student's t	0.024	0.024	0
Welch-Aspin's t	0.0298	0.0298	0
Yuen	0.0313	0.0313	0
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001

Table 1424

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3506	0.3508	0.0002
Welch-Aspin's t	0.2924	0.2929	0.0005
Yuen Test	0.2659	0.2675	0.0016
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1485	0.1485	0
Welch-Aspin's t	0.1214	0.1215	0.0001
Yuen	0.1344	0.1349	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0341	0.0341	0
Welch-Aspin's t	0.0381	0.0381	0
Yuen	0.0565	0.0566	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1425

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6645	0.6645	0
Welch-Aspin's t	0.656	0.656	0
Yuen Test	0.5658	0.5658	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4058	0.4058	0
Welch-Aspin's t	0.3931	0.3931	0
Yuen	0.3039	0.3039	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1538	0.1538	0
Welch-Aspin's t	0.1459	0.1459	0
Yuen	0.0989	0.0989	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1426

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3811	0.3813	0.0002
Welch-Aspin's t	0.3563	0.3564	0.0001
Yuen Test	0.2192	0.2195	0.0003
Tukey's Quick Test	0.1649	0.1649	0
Haga Test	0	0.1752	0.1752
$\alpha=0.01$			
Student's t	0.1451	0.1452	0
Welch-Aspin's t	0.1203	0.1203	0
Yuen	0.0541	0.0542	0
Tukey's Quick	0.0523	0.0523	0
Haga	0	0.0554	0.0554
$\alpha=0.001$			
Student's t	0.0256	0.0256	0
Welch-Aspin's t	0.0174	0.0174	0
Yuen	0.0058	0.0058	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0557	0.0557

Table 1427

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.8883	0.8883	0
Welch-Aspin's t	0.8874	0.8874	0
Yuen Test	0.803	0.803	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.6954	0.6954	0
Welch-Aspin's t	0.6913	0.6913	0
Yuen	0.5396	0.5396	0
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.3713	0.3713	0
Welch-Aspin's t	0.3627	0.3627	0
Yuen	0.2175	0.2175	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1428

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9864	0.9864	0
Welch-Aspin's t	0.9864	0.9864	0
Yuen Test	0.9629	0.9629	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9365	0.9365	0
Welch-Aspin's t	0.936	0.936	0
Yuen	0.8559	0.8559	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.7617	0.7617	0
Welch-Aspin's t	0.7592	0.7592	0
Yuen	0.5815	0.5815	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1429

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5928	0.5929	0
Welch-Aspin's t	0.5119	0.512	0
Yuen Test	0.4134	0.4136	0.0002
Tukey's Quick Test	0.0045	0.0045	0
Haga Test	0	0.0024	0.0024
$\alpha=0.01$			
Student's t	0.3181	0.3182	0
Welch-Aspin's t	0.2514	0.2514	0
Yuen	0.2118	0.2118	0
Tukey's Quick	0.0016	0.0016	0
Haga	0	0.0011	0.0011
$\alpha=0.001$			
Student's t	0.0941	0.0941	0
Welch-Aspin's t	0.0848	0.0848	0
Yuen	0.0767	0.0767	0
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0006	0.0006

Table 1430

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6562	0.6562	0
Welch-Aspin's t	0.5285	0.5285	0
Yuen Test	0.425	0.4252	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3917	0.3917	0
Welch-Aspin's t	0.2595	0.2596	0
Yuen	0.2384	0.2385	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1396	0.1396	0
Welch-Aspin's t	0.0948	0.0948	0
Yuen	0.1193	0.1193	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1431

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9481	0.9481	0
Welch-Aspin's t	0.9438	0.9438	0
Yuen Test	0.8818	0.8818	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8264	0.8264	0
Welch-Aspin's t	0.81	0.81	0
Yuen	0.6718	0.6718	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.5463	0.5463	0
Welch-Aspin's t	0.5133	0.5133	0
Yuen	0.3462	0.3462	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1432

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7886	0.7886	0
Welch-Aspin's t	0.7657	0.7657	0
Yuen Test	0.4835	0.4835	0
Tukey's Quick Test	0.4345	0.4345	0
Haga Test	0	0.439	0.439
$\alpha=0.01$			
Student's t	0.4681	0.4681	0
Welch-Aspin's t	0.4111	0.4111	0
Yuen	0.1562	0.1562	0
Tukey's Quick	0.2083	0.2083	0
Haga	0	0.2102	0.2102
$\alpha=0.001$			
Student's t	0.1349	0.1349	0
Welch-Aspin's t	0.096	0.096	0
Yuen	0.0218	0.0218	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.21	0.21

Table 1433

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9997	0.9997	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen Test	0.9963	0.9963	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.9955	0.9955	0
Welch-Aspin's t	0.9954	0.9954	0
Yuen	0.9649	0.9649	0
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.9524	0.9524	0
Welch-Aspin's t	0.9499	0.9499	0
Yuen	0.7751	0.7751	0
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001

Table 1434

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	1	1	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9997	0.9997	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9998	0.9998	0
Welch-Aspin's t	0.9997	0.9997	0
Yuen	0.993	0.993	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1435

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9568	0.9568	0
Welch-Aspin's t	0.8944	0.8944	0
Yuen Test	0.6987	0.6987	0
Tukey's Quick Test	0.0093	0.0093	0
Haga Test	0	0.0074	0.0074
$\alpha=0.01$			
Student's t	0.8251	0.8251	0
Welch-Aspin's t	0.6245	0.6245	0
Yuen	0.4397	0.4397	0
Tukey's Quick	0.0063	0.0063	0
Haga	0	0.0052	0.0052
$\alpha=0.001$			
Student's t	0.4987	0.4987	0
Welch-Aspin's t	0.298	0.298	0
Yuen	0.2282	0.2282	0
Tukey's Quick	0.0021	0.0021	0
Haga	0	0.0042	0.0042

Table 1436

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9766	0.9766	0
Welch-Aspin's t	0.9043	0.9043	0
Yuen Test	0.6837	0.6837	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8968	0.8968	0
Welch-Aspin's t	0.6175	0.6175	0
Yuen	0.4254	0.4254	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6533	0.6533	0
Welch-Aspin's t	0.2826	0.2826	0
Yuen	0.2495	0.2495	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1437

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9993	0.9993	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9995	0.9995	0
Welch-Aspin's t	0.9993	0.9993	0
Yuen	0.9888	0.9888	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9923	0.9923	0
Welch-Aspin's t	0.987	0.987	0
Yuen	0.891	0.891	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1438

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0458	0.059	0.0132
Welch-Aspin's t	0.041	0.0527	0.0116
Yuen Test	0.0336	0.0457	0.0121
Tukey's Quick Test	0.0115	0.0143	0.0029
Haga Test	0.0034	0.0172	0.0138
$\alpha=0.01$			
Student's t	0.0101	0.0125	0.0024
Welch-Aspin's t	0.008	0.0099	0.0019
Yuen	0.0064	0.0085	0.0021
Tukey's Quick	0.0021	0.0026	0.0005
Haga	0.0005	0.003	0.0025
$\alpha=0.001$			
Student's t	0.001	0.0013	0.0002
Welch-Aspin's t	0.0007	0.0008	0.0002
Yuen	0.0006	0.0008	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	0.0005	0.003	0.0025

Table 1439

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0729	0.08	0.0071
Welch-Aspin's t	0.0722	0.0791	0.007
Yuen Test	0.0669	0.0748	0.008
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.019	0.0201	0.0012
Welch-Aspin's t	0.0185	0.0196	0.0011
Yuen	0.0166	0.018	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0025	0.0026	0.0001
Welch-Aspin's t	0.0024	0.0025	0.0001
Yuen	0.0021	0.0022	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1440

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0973	0.1018	0.0045
Welch-Aspin's t	0.0969	0.1014	0.0045
Yuen Test	0.0887	0.094	0.0052
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0273	0.028	0.0007
Welch-Aspin's t	0.0271	0.0277	0.0007
Yuen	0.0243	0.0251	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0041	0.0041	0
Welch-Aspin's t	0.004	0.0041	0
Yuen	0.0036	0.0036	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1441

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0626	0.0765	0.0139
Welch-Aspin's t	0.0566	0.0689	0.0123
Yuen Test	0.0621	0.0807	0.0186
Tukey's Quick Test	0.0003	0.0004	0.0001
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.0159	0.0186	0.0027
Welch-Aspin's t	0.0163	0.0191	0.0027
Yuen	0.0216	0.0276	0.006
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.002	0.0023	0.0003
Welch-Aspin's t	0.003	0.0036	0.0005
Yuen	0.0052	0.0065	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1442

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0697	0.0838	0.0141
Welch-Aspin's t	0.06	0.0723	0.0123
Yuen Test	0.0707	0.092	0.0213
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0187	0.0216	0.0029
Welch-Aspin's t	0.0182	0.0214	0.0032
Yuen	0.0297	0.0382	0.0085
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0026	0.0029	0.0003
Welch-Aspin's t	0.0042	0.0049	0.0007
Yuen	0.0109	0.0137	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1443

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size=0.2 σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0883	0.0949	0.0067
Welch-Aspin's t	0.0813	0.0871	0.0058
Yuen Test	0.0766	0.0835	0.0069
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0247	0.0258	0.0011
Welch-Aspin's t	0.0221	0.023	0.0009
Yuen	0.0207	0.0219	0.0012
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0037	0.0038	0.0001
Welch-Aspin's t	0.0032	0.0032	0.0001
Yuen	0.0029	0.0031	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1444

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0982	0.1027	0.0045
Welch-Aspin's t	0.089	0.0929	0.0039
Yuen Test	0.0648	0.0698	0.005
Tukey's Quick Test	0.0278	0.0287	0.0009
Haga Test	0.0011	0.0334	0.0324
$\alpha=0.01$			
Student's t	0.0252	0.026	0.0007
Welch-Aspin's t	0.0202	0.0207	0.0006
Yuen	0.0128	0.0137	0.0009
Tukey's Quick	0.0059	0.006	0.0001
Haga	0.0001	0.0069	0.0067
$\alpha=0.001$			
Student's t	0.0031	0.0032	0.0001
Welch-Aspin's t	0.002	0.002	0
Yuen	0.0012	0.0013	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0001	0.0069	0.0068

Table 1445

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2406	0.2412	0.0007
Welch-Aspin's t	0.2388	0.2394	0.0007
Yuen Test	0.2044	0.2054	0.001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0884	0.0885	0.0001
Welch-Aspin's t	0.0866	0.0867	0.0001
Yuen	0.0693	0.0694	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0175	0.0175	0
Welch-Aspin's t	0.0166	0.0166	0
Yuen	0.0122	0.0122	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1446

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3771	0.3772	0.0001
Welch-Aspin's t	0.3763	0.3764	0.0001
Yuen Test	0.3242	0.3244	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1697	0.1697	0
Welch-Aspin's t	0.1687	0.1687	0
Yuen	0.1351	0.1351	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0442	0.0442	0
Welch-Aspin's t	0.0435	0.0435	0
Yuen	0.0316	0.0316	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1447

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1537	0.1571	0.0033
Welch-Aspin's t	0.1294	0.1327	0.0033
Yuen Test	0.1277	0.1344	0.0067
Tukey's Quick Test	0.0009	0.0009	0
Haga Test	0	0.0002	0.0002
$\alpha=0.01$			
Student's t	0.0499	0.0505	0.0006
Welch-Aspin's t	0.0432	0.0439	0.0007
Yuen	0.0491	0.0511	0.0019
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.0083	0.0084	0
Welch-Aspin's t	0.0097	0.0098	0.0001
Yuen	0.0132	0.0136	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1448

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1757	0.1788	0.0031
Welch-Aspin's t	0.1367	0.14	0.0033
Yuen Test	0.1431	0.1507	0.0076
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0615	0.062	0.0005
Welch-Aspin's t	0.0479	0.0487	0.0008
Yuen	0.0637	0.0666	0.0029
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0119	0.0119	0
Welch-Aspin's t	0.0129	0.013	0.0002
Yuen	0.0253	0.0262	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1449

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3048	0.3053	0.0005
Welch-Aspin's t	0.2842	0.2846	0.0004
Yuen Test	0.2454	0.2461	0.0007
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1275	0.1276	0.0001
Welch-Aspin's t	0.1127	0.1128	0.0001
Yuen	0.0932	0.0933	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0301	0.0301	0
Welch-Aspin's t	0.0251	0.0251	0
Yuen	0.0205	0.0205	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1450

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1837	0.185	0.0013
Welch-Aspin's t	0.1683	0.1694	0.0011
Yuen Test	0.112	0.1139	0.0018
Tukey's Quick Test	0.0581	0.0584	0.0003
Haga Test	0.0003	0.0657	0.0654
$\alpha=0.01$			
Student's t	0.0551	0.0553	0.0002
Welch-Aspin's t	0.0446	0.0448	0.0001
Yuen	0.0238	0.0241	0.0003
Tukey's Quick	0.0138	0.0138	0
Haga	0	0.0158	0.0157
$\alpha=0.001$			
Student's t	0.0078	0.0078	0
Welch-Aspin's t	0.0052	0.0052	0
Yuen	0.0023	0.0024	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0157	0.0157

Table 1451

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5192	0.5192	0
Welch-Aspin's t	0.5167	0.5167	0
Yuen Test	0.4364	0.4365	0.0001
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2679	0.2679	0
Welch-Aspin's t	0.2639	0.2639	0
Yuen	0.1979	0.1979	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0798	0.0798	0
Welch-Aspin's t	0.0765	0.0765	0
Yuen	0.0486	0.0486	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1452

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7503	0.7503	0
Welch-Aspin's t	0.7495	0.7495	0
Yuen Test	0.6655	0.6655	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.5075	0.5075	0
Welch-Aspin's t	0.5056	0.5056	0
Yuen	0.4039	0.4039	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2255	0.2255	0
Welch-Aspin's t	0.2229	0.2229	0
Yuen	0.1513	0.1513	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1453

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3062	0.3069	0.0006
Welch-Aspin's t	0.2465	0.2472	0.0007
Yuen Test	0.2226	0.2246	0.002
Tukey's Quick Test	0.0016	0.0016	0
Haga Test	0	0.0006	0.0006
$\alpha=0.01$			
Student's t	0.1248	0.1249	0.0001
Welch-Aspin's t	0.0962	0.0963	0.0001
Yuen	0.0969	0.0975	0.0005
Tukey's Quick	0.0003	0.0003	0
Haga	0	0.0003	0.0003
$\alpha=0.001$			
Student's t	0.0271	0.0271	0
Welch-Aspin's t	0.0254	0.0254	0
Yuen	0.0293	0.0294	0.0001
Tukey's Quick	0	0	0
Haga	0	0.0001	0.0001

Table 1454

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3514	0.3519	0.0005
Welch-Aspin's t	0.2563	0.2571	0.0008
Yuen Test	0.2395	0.2419	0.0024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1577	0.1578	0
Welch-Aspin's t	0.1022	0.1024	0.0002
Yuen	0.1194	0.1202	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.041	0.041	0
Welch-Aspin's t	0.0309	0.0309	0
Yuen	0.0512	0.0514	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1455

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6287	0.6287	0
Welch-Aspin's t	0.6002	0.6002	0
Yuen Test	0.5164	0.5164	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3761	0.3761	0
Welch-Aspin's t	0.3391	0.3391	0
Yuen	0.264	0.264	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1404	0.1404	0
Welch-Aspin's t	0.1161	0.1161	0
Yuen	0.082	0.082	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1456

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3519	0.3521	0.0002
Welch-Aspin's t	0.3278	0.328	0.0002
Yuen Test	0.2035	0.2039	0.0004
Tukey's Quick Test	0.1327	0.1327	0
Haga Test	0	0.1428	0.1427
$\alpha=0.01$			
Student's t	0.1298	0.1298	0
Welch-Aspin's t	0.1072	0.1072	0
Yuen	0.0493	0.0494	0.0001
Tukey's Quick	0.0396	0.0396	0
Haga	0	0.0426	0.0426
$\alpha=0.001$			
Student's t	0.0224	0.0224	0
Welch-Aspin's t	0.0153	0.0153	0
Yuen	0.0052	0.0052	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.0429	0.0429

Table 1457

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.855	0.855	0
Welch-Aspin's t	0.8536	0.8536	0
Yuen Test	0.7634	0.7634	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.6406	0.6406	0
Welch-Aspin's t	0.6357	0.6357	0
Yuen	0.4899	0.4899	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.3188	0.3188	0
Welch-Aspin's t	0.3101	0.3101	0
Yuen	0.1862	0.1862	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1458

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9774	0.9774	0
Welch-Aspin's t	0.9773	0.9773	0
Yuen Test	0.9457	0.9457	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9071	0.9071	0
Welch-Aspin's t	0.9062	0.9062	0
Yuen	0.8124	0.8124	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6968	0.6968	0
Welch-Aspin's t	0.6934	0.6934	0
Yuen	0.5179	0.5179	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1459

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5701	0.5702	0.0001
Welch-Aspin's t	0.4532	0.4533	0.0001
Yuen Test	0.3723	0.3726	0.0003
Tukey's Quick Test	0.0038	0.0038	0
Haga Test	0	0.002	0.002
$\alpha=0.01$			
Student's t	0.3101	0.3101	0
Welch-Aspin's t	0.2118	0.2118	0
Yuen	0.1882	0.1882	0.0001
Tukey's Quick	0.0012	0.0012	0
Haga	0	0.0009	0.0009
$\alpha=0.001$			
Student's t	0.0957	0.0957	0
Welch-Aspin's t	0.0691	0.0691	0
Yuen	0.0689	0.0689	0
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0005	0.0005

Table 1460

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6341	0.6342	0
Welch-Aspin's t	0.4634	0.4634	0.0001
Yuen Test	0.3789	0.3792	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.3853	0.3853	0
Welch-Aspin's t	0.2146	0.2146	0
Yuen	0.2081	0.2082	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1459	0.1459	0
Welch-Aspin's t	0.0746	0.0746	0
Yuen	0.1036	0.1036	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1461

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9273	0.9273	0
Welch-Aspin's t	0.9132	0.9132	0
Yuen Test	0.8381	0.8381	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.7853	0.7853	0
Welch-Aspin's t	0.7431	0.7431	0
Yuen	0.6021	0.6021	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.4976	0.4976	0
Welch-Aspin's t	0.4273	0.4273	0
Yuen	0.2866	0.2866	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1462

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.7469	0.7469	0
Welch-Aspin's t	0.7213	0.7213	0
Yuen Test	0.4513	0.4513	0
Tukey's Quick Test	0.3806	0.3806	0
Haga Test	0	0.3855	0.3855
$\alpha=0.01$			
Student's t	0.4221	0.4221	0
Welch-Aspin's t	0.3672	0.3672	0
Yuen	0.1416	0.1416	0
Tukey's Quick	0.17	0.17	0
Haga	0	0.1724	0.1724
$\alpha=0.001$			
Student's t	0.1151	0.1151	0
Welch-Aspin's t	0.0815	0.0815	0
Yuen	0.0193	0.0193	0
Tukey's Quick	n/a	n/a	n/a
Haga	0	0.1726	0.1726

Table 1463

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9991	0.9991	0
Welch-Aspin's t	0.999	0.999	0
Yuen Test	0.993	0.993	0
Tukey's Quick Test	0.0001	0.0001	0
Haga Test	0	0.0001	0.0001
$\alpha=0.01$			
Student's t	0.9906	0.9906	0
Welch-Aspin's t	0.9903	0.9903	0
Yuen	0.9443	0.9443	0
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001
$\alpha=0.001$			
Student's t	0.9226	0.9226	0
Welch-Aspin's t	0.9181	0.9181	0
Yuen	0.7148	0.7148	0
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0001	0.0001

Table 1464

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen Test	0.9999	0.9999	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	1	1	0
Welch-Aspin's t	1	1	0
Yuen	0.9991	0.9991	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.999	0.999	0
Welch-Aspin's t	0.999	0.999	0
Yuen	0.9848	0.9848	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1465

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9399	0.9399	0
Welch-Aspin's t	0.8399	0.8399	0
Yuen Test	0.6397	0.6397	0
Tukey's Quick Test	0.0087	0.0087	0
Haga Test	0	0.0064	0.0064
$\alpha=0.01$			
Student's t	0.7935	0.7935	0
Welch-Aspin's t	0.54	0.54	0
Yuen	0.3886	0.3886	0
Tukey's Quick	0.0055	0.0055	0
Haga	0	0.0045	0.0045
$\alpha=0.001$			
Student's t	0.47	0.47	0
Welch-Aspin's t	0.2371	0.2371	0
Yuen	0.198	0.198	0
Tukey's Quick	0.0017	0.0017	0
Haga	0	0.0035	0.0035

Table 1466

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:1.1

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9651	0.9651	0
Welch-Aspin's t	0.8483	0.8483	0
Yuen Test	0.6239	0.6239	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.8725	0.8725	0
Welch-Aspin's t	0.5308	0.5308	0
Yuen	0.3754	0.3754	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.6263	0.6263	0
Welch-Aspin's t	0.2232	0.2232	0
Yuen	0.2142	0.2142	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1467

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale= $1:1.1$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.9999	0.9999	0
Welch-Aspin's t	0.9998	0.9998	0
Yuen Test	0.9978	0.9978	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.9988	0.9988	0
Welch-Aspin's t	0.9976	0.9976	0
Yuen	0.9751	0.9751	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.9848	0.9848	0
Welch-Aspin's t	0.9675	0.9675	0
Yuen	0.8247	0.8247	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1468

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0468	0.0746	0.0278
Welch-Aspin's t	0.0348	0.0548	0.02
Yuen Test	0.0374	0.0624	0.025
Tukey's Quick Test	0.0118	0.0178	0.006
Haga Test	0.0084	0.0249	0.0165
$\alpha=0.01$			
Student's t	0.0138	0.0215	0.0077
Welch-Aspin's t	0.0084	0.0129	0.0046
Yuen	0.0106	0.0174	0.0068
Tukey's Quick	0.0038	0.0056	0.0018
Haga	0.0025	0.0079	0.0054
$\alpha=0.001$			
Student's t	0.0025	0.0038	0.0014
Welch-Aspin's t	0.0013	0.002	0.0007
Yuen	0.0014	0.0023	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	0.0025	0.0079	0.0054

Table 1469

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0441	0.0621	0.018
Welch-Aspin's t	0.0391	0.0547	0.0157
Yuen Test	0.0435	0.0603	0.0168
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.012	0.016	0.004
Welch-Aspin's t	0.0092	0.0121	0.0029
Yuen	0.0101	0.0134	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.002	0.0025	0.0006
Welch-Aspin's t	0.0012	0.0015	0.0003
Yuen	0.0016	0.0021	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1470

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0473	0.0622	0.0149
Welch-Aspin's t	0.0439	0.0575	0.0136
Yuen Test	0.0474	0.0611	0.0138
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0124	0.0153	0.0029
Welch-Aspin's t	0.0104	0.0128	0.0024
Yuen	0.0123	0.015	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.002	0.0024	0.0004
Welch-Aspin's t	0.0014	0.0016	0.0003
Yuen	0.0016	0.0019	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1471

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=0.2\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1552	0.2603	0.1052
Welch-Aspin's t	0.0338	0.0531	0.0193
Yuen Test	0.0437	0.0724	0.0287
Tukey's Quick Test	0.0003	0.0005	0.0002
Haga Test	0.0001	0.0004	0.0003
$\alpha=0.01$			
Student's t	0.0853	0.1389	0.0536
Welch-Aspin's t	0.0081	0.0125	0.0044
Yuen	0.0209	0.0338	0.0129
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0002	0.0001
$\alpha=0.001$			
Student's t	0.036	0.0565	0.0205
Welch-Aspin's t	0.0016	0.0026	0.0009
Yuen	0.0083	0.0143	0.006
Tukey's Quick	0	0.0001	0
Haga	0	0.0002	0.0001

Table 1472

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2083	0.3551	0.1468
Welch-Aspin's t	0.0328	0.0513	0.0185
Yuen Test	0.0409	0.0676	0.0266
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1345	0.2237	0.0892
Welch-Aspin's t	0.0075	0.0114	0.0039
Yuen	0.0201	0.0323	0.0122
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0724	0.1169	0.0445
Welch-Aspin's t	0.0015	0.0022	0.0008
Yuen	0.009	0.0151	0.0062
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1473

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0918	0.1338	0.0421
Welch-Aspin's t	0.0396	0.0553	0.0157
Yuen Test	0.044	0.0609	0.0169
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0363	0.0506	0.0143
Welch-Aspin's t	0.0091	0.0121	0.003
Yuen	0.01	0.0133	0.0033
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0101	0.0132	0.0031
Welch-Aspin's t	0.0012	0.0014	0.0003
Yuen	0.0017	0.0022	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1474

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0622	0.082	0.0198
Welch-Aspin's t	0.0466	0.0608	0.0142
Yuen Test	0.047	0.0662	0.0192
Tukey's Quick Test	0.0149	0.0195	0.0046
Haga Test	0.0064	0.027	0.0207
$\alpha=0.01$			
Student's t	0.0192	0.0245	0.0053
Welch-Aspin's t	0.0114	0.0146	0.0032
Yuen	0.0132	0.0185	0.0053
Tukey's Quick	0.0051	0.0064	0.0014
Haga	0.0019	0.0089	0.007
$\alpha=0.001$			
Student's t	0.0034	0.0044	0.001
Welch-Aspin's t	0.0018	0.0023	0.0005
Yuen	0.0018	0.0025	0.0007
Tukey's Quick	n/a	n/a	n/a
Haga	0.0019	0.009	0.0071

Table 1475

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.075	0.0841	0.0091
Welch-Aspin's t	0.0672	0.075	0.0078
Yuen Test	0.0711	0.0801	0.0091
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0227	0.0245	0.0018
Welch-Aspin's t	0.0176	0.0189	0.0013
Yuen	0.0186	0.0202	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0043	0.0046	0.0002
Welch-Aspin's t	0.0025	0.0026	0.0001
Yuen	0.003	0.0032	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1476

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.093	0.099	0.006
Welch-Aspin's t	0.0872	0.0926	0.0054
Yuen Test	0.0863	0.0924	0.0061
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0286	0.0296	0.001
Welch-Aspin's t	0.0243	0.0251	0.0008
Yuen	0.0259	0.0269	0.001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0051	0.0052	0.0001
Welch-Aspin's t	0.0036	0.0037	0.0001
Yuen	0.0041	0.0041	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1477

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.5σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1956	0.275	0.0794
Welch-Aspin's t	0.0457	0.0594	0.0137
Yuen Test	0.0535	0.0765	0.0231
Tukey's Quick Test	0.0004	0.0005	0.0001
Haga Test	0.0001	0.0004	0.0003
$\alpha=0.01$			
Student's t	0.111	0.1503	0.0393
Welch-Aspin's t	0.0111	0.0144	0.0033
Yuen	0.0248	0.0356	0.0108
Tukey's Quick	0.0002	0.0002	0
Haga	0	0.0002	0.0002
$\alpha=0.001$			
Student's t	0.0498	0.0644	0.0146
Welch-Aspin's t	0.0022	0.0029	0.0007
Yuen	0.0112	0.0157	0.0045
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0002	0.0002

Table 1478

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2577	0.3707	0.113
Welch-Aspin's t	0.0443	0.0574	0.0131
Yuen Test	0.0498	0.0712	0.0213
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1717	0.238	0.0663
Welch-Aspin's t	0.0101	0.0131	0.003
Yuen	0.0236	0.0341	0.0104
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0966	0.1286	0.032
Welch-Aspin's t	0.0019	0.0025	0.0006
Yuen	0.0113	0.0161	0.0048
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1479

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1455	0.1682	0.0227
Welch-Aspin's t	0.0684	0.076	0.0076
Yuen Test	0.072	0.0809	0.0089
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0637	0.0708	0.007
Welch-Aspin's t	0.0176	0.019	0.0013
Yuen	0.0188	0.0205	0.0017
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0194	0.0208	0.0015
Welch-Aspin's t	0.0024	0.0026	0.0001
Yuen	0.003	0.0033	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1480

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0807	0.0948	0.0142
Welch-Aspin's t	0.0606	0.0707	0.0101
Yuen Test	0.0587	0.0738	0.015
Tukey's Quick Test	0.0204	0.0235	0.0031
Haga Test	0.0042	0.0326	0.0284
$\alpha=0.01$			
Student's t	0.0261	0.0298	0.0037
Welch-Aspin's t	0.0156	0.0179	0.0023
Yuen	0.0167	0.0206	0.004
Tukey's Quick	0.0075	0.0084	0.0009
Haga	0.0013	0.0115	0.0103
$\alpha=0.001$			
Student's t	0.0049	0.0055	0.0006
Welch-Aspin's t	0.0025	0.0028	0.0003
Yuen	0.0023	0.0028	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	0.0013	0.0115	0.0102

Table 1481

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1197	0.1239	0.0042
Welch-Aspin's t	0.1083	0.1119	0.0036
Yuen Test	0.1078	0.1123	0.0045
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0402	0.0409	0.0008
Welch-Aspin's t	0.0316	0.0322	0.0005
Yuen	0.0324	0.0332	0.0008
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0082	0.0083	0.0001
Welch-Aspin's t	0.0049	0.0049	0
Yuen	0.0052	0.0053	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1482

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1655	0.1674	0.002
Welch-Aspin's t	0.1565	0.1583	0.0018
Yuen Test	0.146	0.1483	0.0023
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0586	0.0589	0.0003
Welch-Aspin's t	0.0507	0.0509	0.0002
Yuen	0.0488	0.0491	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0126	0.0126	0
Welch-Aspin's t	0.009	0.009	0
Yuen	0.0096	0.0096	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1483

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=0.8\sigma, Scale=1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2407	0.3	0.0593
Welch-Aspin's t	0.0593	0.0693	0.0099
Yuen Test	0.0656	0.0844	0.0188
Tukey's Quick Test	0.0005	0.0005	0.0001
Haga Test	0.0001	0.0005	0.0004
$\alpha=0.01$			
Student's t	0.1425	0.1702	0.0277
Welch-Aspin's t	0.0153	0.0177	0.0024
Yuen	0.0298	0.0384	0.0087
Tukey's Quick	0.0003	0.0003	0
Haga	0	0.0004	0.0003
$\alpha=0.001$			
Student's t	0.0661	0.0761	0.0099
Welch-Aspin's t	0.003	0.0035	0.0005
Yuen	0.0143	0.0177	0.0033
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0002	0.0002

Table 1484

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3113	0.3966	0.0853
Welch-Aspin's t	0.0578	0.0671	0.0093
Yuen Test	0.0624	0.0802	0.0178
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2135	0.262	0.0484
Welch-Aspin's t	0.0136	0.0158	0.0021
Yuen	0.0273	0.0359	0.0086
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1253	0.1475	0.0222
Welch-Aspin's t	0.0026	0.003	0.0004
Yuen	0.0143	0.0179	0.0036
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1485

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2162	0.2278	0.0116
Welch-Aspin's t	0.1095	0.1132	0.0037
Yuen Test	0.1092	0.1136	0.0044
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1035	0.1068	0.0033
Welch-Aspin's t	0.0317	0.0323	0.0006
Yuen	0.033	0.0339	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0352	0.0358	0.0006
Welch-Aspin's t	0.0049	0.0049	0
Yuen	0.0053	0.0054	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1486

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1113	0.1199	0.0086
Welch-Aspin's t	0.0842	0.0904	0.0063
Yuen Test	0.0775	0.0879	0.0105
Tukey's Quick Test	0.0281	0.03	0.0019
Haga Test	0.0025	0.0412	0.0386
$\alpha=0.01$			
Student's t	0.0386	0.0408	0.0022
Welch-Aspin's t	0.0234	0.0247	0.0014
Yuen	0.0226	0.0253	0.0027
Tukey's Quick	0.0114	0.012	0.0006
Haga	0.0008	0.0164	0.0156
$\alpha=0.001$			
Student's t	0.0077	0.008	0.0004
Welch-Aspin's t	0.0039	0.0041	0.0002
Yuen	0.0033	0.0036	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	0.0008	0.0162	0.0154

Table 1487

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2035	0.205	0.0014
Welch-Aspin's t	0.1865	0.1877	0.0012
Yuen Test	0.1731	0.1748	0.0017
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0785	0.0788	0.0002
Welch-Aspin's t	0.0632	0.0633	0.0002
Yuen	0.0613	0.0616	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0186	0.0187	0
Welch-Aspin's t	0.0114	0.0114	0
Yuen	0.0113	0.0114	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1488

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3046	0.305	0.0004
Welch-Aspin's t	0.2915	0.2918	0.0004
Yuen Test	0.2631	0.2637	0.0006
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1321	0.1322	0.0001
Welch-Aspin's t	0.117	0.117	0
Yuen	0.1007	0.1008	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0356	0.0356	0
Welch-Aspin's t	0.0263	0.0263	0
Yuen	0.0246	0.0246	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1489

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale= $1:4$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3099	0.3482	0.0383
Welch-Aspin's t	0.0826	0.0886	0.006
Yuen Test	0.0858	0.0992	0.0135
Tukey's Quick Test	0.0005	0.0006	0
Haga Test	0	0.0006	0.0006
$\alpha=0.01$			
Student's t	0.1929	0.2098	0.0169
Welch-Aspin's t	0.0221	0.0236	0.0015
Yuen	0.0383	0.0441	0.0058
Tukey's Quick	0.0003	0.0004	0
Haga	0	0.0005	0.0004
$\alpha=0.001$			
Student's t	0.0945	0.1004	0.0059
Welch-Aspin's t	0.0045	0.0048	0.0003
Yuen	0.0183	0.0207	0.0025
Tukey's Quick	0.0001	0.0001	0
Haga	0	0.0004	0.0004

Table 1490

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3904	0.447	0.0566
Welch-Aspin's t	0.0803	0.0861	0.0058
Yuen Test	0.0815	0.0945	0.013
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2797	0.3104	0.0307
Welch-Aspin's t	0.0203	0.0216	0.0013
Yuen	0.0359	0.0419	0.0059
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1718	0.1854	0.0136
Welch-Aspin's t	0.0038	0.0041	0.0003
Yuen	0.0182	0.021	0.0029
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1491

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.336	0.3401	0.0042
Welch-Aspin's t	0.1888	0.19	0.0012
Yuen Test	0.1748	0.1765	0.0017
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1813	0.1823	0.0011
Welch-Aspin's t	0.0634	0.0635	0.0002
Yuen	0.062	0.0623	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0714	0.0716	0.0002
Welch-Aspin's t	0.0117	0.0117	0
Yuen	0.0114	0.0115	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1492

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.194	0.1971	0.0032
Welch-Aspin's t	0.1489	0.1512	0.0023
Yuen Test	0.1273	0.132	0.0048
Tukey's Quick Test	0.0545	0.0552	0.0007
Haga Test	0.0009	0.0726	0.0716
$\alpha=0.01$			
Student's t	0.0749	0.0757	0.0008
Welch-Aspin's t	0.0456	0.046	0.0004
Yuen	0.0389	0.0401	0.0011
Tukey's Quick	0.0253	0.0255	0.0002
Haga	0.0003	0.0336	0.0333
$\alpha=0.001$			
Student's t	0.0168	0.017	0.0001
Welch-Aspin's t	0.0084	0.0085	0.0001
Yuen	0.0065	0.0067	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	0.0002	0.0338	0.0336

Table 1493

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4483	0.4484	0.0001
Welch-Aspin's t	0.4224	0.4225	0.0001
Yuen Test	0.3664	0.3666	0.0002
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2268	0.2268	0
Welch-Aspin's t	0.1904	0.1904	0
Yuen	0.156	0.156	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0738	0.0738	0
Welch-Aspin's t	0.0481	0.0481	0
Yuen	0.0413	0.0413	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1494

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6612	0.6612	0
Welch-Aspin's t	0.6464	0.6464	0
Yuen Test	0.5728	0.5728	0
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.4141	0.4141	0
Welch-Aspin's t	0.3832	0.3832	0
Yuen	0.3132	0.3132	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1742	0.1742	0
Welch-Aspin's t	0.1392	0.1392	0
Yuen	0.0996	0.0996	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1495

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.4647	0.479	0.0143
Welch-Aspin's t	0.1444	0.1466	0.0022
Yuen Test	0.1323	0.1383	0.006
Tukey's Quick Test	0.0012	0.0012	0
Haga Test	0	0.0011	0.0011
$\alpha=0.01$			
Student's t	0.3169	0.3227	0.0058
Welch-Aspin's t	0.0425	0.043	0.0005
Yuen	0.0601	0.0626	0.0025
Tukey's Quick	0.0006	0.0006	0
Haga	0	0.0008	0.0008
$\alpha=0.001$			
Student's t	0.1753	0.1772	0.0019
Welch-Aspin's t	0.009	0.0091	0.0001
Yuen	0.0277	0.0289	0.0012
Tukey's Quick	0.0003	0.0003	0
Haga	0	0.0007	0.0007

Table 1496

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.5578	0.5801	0.0222
Welch-Aspin's t	0.1435	0.1457	0.0022
Yuen Test	0.1234	0.129	0.0055
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.433	0.4439	0.0109
Welch-Aspin's t	0.0386	0.039	0.0004
Yuen	0.0549	0.0574	0.0024
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2934	0.298	0.0046
Welch-Aspin's t	0.0075	0.0076	0.0001
Yuen	0.0263	0.0276	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1497

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:4

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.6199	0.6203	0.0004
Welch-Aspin's t	0.4286	0.4287	0.0001
Yuen Test	0.3708	0.3711	0.0003
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.419	0.4191	0.0001
Welch-Aspin's t	0.1934	0.1934	0
Yuen	0.1567	0.1568	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.2146	0.2146	0
Welch-Aspin's t	0.0483	0.0483	0
Yuen	0.0413	0.0413	0
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1498

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0459	0.0824	0.0365
Welch-Aspin's t	0.0278	0.0493	0.0215
Yuen Test	0.0335	0.0592	0.0257
Tukey's Quick Test	0.0089	0.0187	0.0098
Haga Test	0.0143	0.0274	0.0131
$\alpha=0.01$			
Student's t	0.0154	0.0269	0.0115
Welch-Aspin's t	0.0056	0.0096	0.004
Yuen	0.0101	0.0184	0.0083
Tukey's Quick	0.0066	0.0119	0.0053
Haga	0.0077	0.0176	0.0099
$\alpha=0.001$			
Student's t	0.0036	0.0065	0.0029
Welch-Aspin's t	0.0007	0.0013	0.0006
Yuen	0.0022 n/a	0.0039 n/a	0.0017 n/a
Tukey's Quick			
Haga	0.0079	0.0177	0.0099

Table 1499

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0352	0.0607	0.0255
Welch-Aspin's t	0.0297	0.051	0.0213
Yuen Test	0.0335	0.0555	0.0221
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0097	0.0158	0.0062
Welch-Aspin's t	0.0065	0.0105	0.004
Yuen	0.007	0.011	0.0041
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0017	0.0026	0.0009
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0009	0.0015	0.0005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1500

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0338	0.0568	0.023
Welch-Aspin's t	0.0305	0.0511	0.0207
Yuen Test	0.035	0.0547	0.0197
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0084	0.0134	0.005
Welch-Aspin's t	0.0065	0.0103	0.0038
Yuen	0.0082	0.0122	0.004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0013	0.0019	0.0006
Welch-Aspin's t	0.0007	0.0011	0.0004
Yuen	0.0008	0.0012	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1501

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1677	0.3135	0.1458
Welch-Aspin's t	0.0284	0.0501	0.0217
Yuen Test	0.0339	0.0596	0.0257
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0003	0.0005	0.0002
$\alpha=0.01$			
Student's t	0.1026	0.1892	0.0866
Welch-Aspin's t	0.0054	0.0094	0.004
Yuen	0.0089	0.0164	0.0075
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0002	0.0004	0.0002
$\alpha=0.001$			
Student's t	0.0539	0.0966	0.0427
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0039	0.0066	0.0027
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0002	0.0004	0.0002

Table 1502

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2303	0.4367	0.2064
Welch-Aspin's t	0.0278	0.0493	0.0216
Yuen Test	0.0337	0.06	0.0263
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1656	0.3097	0.1441
Welch-Aspin's t	0.0053	0.0093	0.004
Yuen	0.0076	0.0152	0.0076
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1066	0.1964	0.0898
Welch-Aspin's t	0.0005	0.0009	0.0004
Yuen	0.0036	0.0065	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1503

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.08	0.1419	0.0619
Welch-Aspin's t	0.0295	0.0506	0.0211
Yuen Test	0.0337	0.056	0.0223
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0327	0.0562	0.0235
Welch-Aspin's t	0.0064	0.0103	0.004
Yuen	0.0068	0.0107	0.0039
Tukey's Quick	0	0	0
Haga	0	0	0
$\alpha=0.001$			
Student's t	0.0098	0.0162	0.0064
Welch-Aspin's t	0.0007	0.001	0.0004
Yuen	0.0009	0.0015	0.0005
Tukey's Quick	0	0	0
Haga	0	0	0

Table 1504

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0496	0.083	0.0334
Welch-Aspin's t	0.0304	0.05	0.0196
Yuen Test	0.0356	0.0601	0.0246
Tukey's Quick Test	0.0109	0.0192	0.0084
Haga Test	0.0123	0.0282	0.0159
$\alpha=0.01$			
Student's t	0.0167	0.0275	0.0107
Welch-Aspin's t	0.0061	0.0098	0.0037
Yuen	0.0108	0.0185	0.0077
Tukey's Quick	0.0074	0.012	0.0046
Haga	0.0067	0.0177	0.011
$\alpha=0.001$			
Student's t	0.0043	0.0067	0.0025
Welch-Aspin's t	0.0008	0.0013	0.0005
Yuen	0.0024	0.0039	0.0016
Tukey's Quick	n/a	n/a	n/a
Haga	0.0065	0.0175	0.011

Table 1505

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0406	0.0621	0.0216
Welch-Aspin's t	0.0344	0.0522	0.0178
Yuen Test	0.0388	0.0578	0.0189
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0114	0.0167	0.0053
Welch-Aspin's t	0.0077	0.0112	0.0034
Yuen	0.0079	0.0113	0.0034
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.002	0.0028	0.0008
Welch-Aspin's t	0.0008	0.0011	0.0003
Yuen	0.0011	0.0015	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1506

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.5σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.041	0.0595	0.0185
Welch-Aspin's t	0.037	0.0536	0.0166
Yuen Test	0.0416	0.0577	0.0161
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0104	0.0144	0.004
Welch-Aspin's t	0.0081	0.0112	0.0031
Yuen	0.0101	0.0133	0.0032
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0017	0.0022	0.0005
Welch-Aspin's t	0.001	0.0012	0.0003
Yuen	0.001	0.0013	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1507

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=0.5\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1769	0.3144	0.1375
Welch-Aspin's t	0.0303	0.0501	0.0198
Yuen Test	0.0353	0.0593	0.024
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0002	0.0004	0.0002
$\alpha=0.01$			
Student's t	0.1099	0.1905	0.0807
Welch-Aspin's t	0.0057	0.0094	0.0037
Yuen	0.0088	0.0152	0.0064
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0003	0.0002
$\alpha=0.001$			
Student's t	0.0576	0.0973	0.0396
Welch-Aspin's t	0.0006	0.0009	0.0004
Yuen	0.0039	0.0064	0.0025
Tukey's Quick	0.0001	0.0002	0
Haga	0.0001	0.0003	0.0002

Table 1508

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2422	0.4373	0.195
Welch-Aspin's t	0.0304	0.0504	0.0199
Yuen Test	0.0356	0.0596	0.024
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1751	0.3102	0.1351
Welch-Aspin's t	0.0057	0.0094	0.0037
Yuen	0.0078	0.0136	0.0058
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1135	0.1979	0.0843
Welch-Aspin's t	0.0006	0.001	0.0004
Yuen	0.0037	0.006	0.0023
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1509

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.5σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0907	0.1449	0.0542
Welch-Aspin's t	0.0346	0.0526	0.018
Yuen Test	0.039	0.0582	0.0192
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0383	0.0584	0.0201
Welch-Aspin's t	0.0077	0.0111	0.0033
Yuen	0.0079	0.0113	0.0034
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0117	0.0171	0.0054
Welch-Aspin's t	0.0009	0.0012	0.0003
Yuen	0.0012	0.0016	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1510

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0534	0.0845	0.0311
Welch-Aspin's t	0.0326	0.0509	0.0182
Yuen Test	0.0374	0.0608	0.0234
Tukey's Quick Test	0.013	0.0201	0.0071
Haga Test	0.0104	0.0295	0.0191
$\alpha=0.01$			
Student's t	0.018	0.0277	0.0097
Welch-Aspin's t	0.0064	0.0099	0.0034
Yuen	0.0111	0.0184	0.0074
Tukey's Quick	0.0079	0.0121	0.0042
Haga	0.0062	0.0179	0.0116
$\alpha=0.001$			
Student's t	0.0045	0.0068	0.0023
Welch-Aspin's t	0.0009	0.0014	0.0005
Yuen	0.0024	0.0039	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	0.0061	0.018	0.0119

Table 1511

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0468	0.0653	0.0184
Welch-Aspin's t	0.0399	0.0552	0.0153
Yuen Test	0.0444	0.0608	0.0165
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0136	0.0178	0.0042
Welch-Aspin's t	0.0091	0.0118	0.0027
Yuen	0.0093	0.0121	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0025	0.0032	0.0006
Welch-Aspin's t	0.0011	0.0014	0.0003
Yuen	0.0013	0.0017	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1512

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 0.8σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0492	0.0642	0.015
Welch-Aspin's t	0.0447	0.058	0.0133
Yuen Test	0.0486	0.0618	0.0133
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0134	0.0163	0.003
Welch-Aspin's t	0.0105	0.0128	0.0022
Yuen	0.0127	0.0153	0.0026
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0022	0.0026	0.0004
Welch-Aspin's t	0.0012	0.0014	0.0002
Yuen	0.0013	0.0015	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1513

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=0.8\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.187	0.3157	0.1288
Welch-Aspin's t	0.0328	0.051	0.0182
Yuen Test	0.0363	0.0593	0.0229
Tukey's Quick Test	0.0002	0.0004	0.0001
Haga Test	0.0002	0.0005	0.0003
$\alpha=0.01$			
Student's t	0.1169	0.1915	0.0746
Welch-Aspin's t	0.0064	0.0097	0.0033
Yuen	0.009	0.0148	0.0059
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0003	0.0002
$\alpha=0.001$			
Student's t	0.0619	0.0988	0.0368
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0041	0.0067	0.0026
Tukey's Quick	0.0001	0.0002	0.0001
Haga	0.0001	0.0003	0.0002

Table 1514

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2562	0.4402	0.1841
Welch-Aspin's t	0.0332	0.0518	0.0185
Yuen Test	0.0366	0.0593	0.0226
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1855	0.3121	0.1266
Welch-Aspin's t	0.0062	0.0096	0.0034
Yuen	0.0079	0.0129	0.005
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.1211	0.1994	0.0783
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0037	0.006	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1515

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 0.8σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1024	0.1492	0.0468
Welch-Aspin's t	0.0398	0.0549	0.0151
Yuen Test	0.0447	0.0611	0.0164
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0437	0.0609	0.0171
Welch-Aspin's t	0.0091	0.0118	0.0027
Yuen	0.0093	0.0121	0.0028
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0139	0.0183	0.0044
Welch-Aspin's t	0.001	0.0013	0.0002
Yuen	0.0013	0.0016	0.0004
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1516

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0592	0.0869	0.0277
Welch-Aspin's t	0.0365	0.0528	0.0163
Yuen Test	0.0396	0.0612	0.0217
Tukey's Quick Test	0.0159	0.0213	0.0054
Haga Test	0.0079	0.0311	0.0232
$\alpha=0.01$			
Student's t	0.0199	0.0285	0.0085
Welch-Aspin's t	0.007	0.0101	0.003
Yuen	0.0124	0.0194	0.0071
Tukey's Quick	0.0089	0.0125	0.0036
Haga	0.0053	0.0182	0.0129
$\alpha=0.001$			
Student's t	0.0048	0.0069	0.0021
Welch-Aspin's t	0.0009	0.0013	0.0004
Yuen	0.0025	0.0039	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	0.0054	0.0185	0.0131

Table 1517

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0561	0.0708	0.0147
Welch-Aspin's t	0.0479	0.0601	0.0121
Yuen Test	0.0531	0.0664	0.0133
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0166	0.0199	0.0033
Welch-Aspin's t	0.0113	0.0135	0.0021
Yuen	0.0113	0.0135	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0033	0.0037	0.0005
Welch-Aspin's t	0.0013	0.0015	0.0002
Yuen	0.0016	0.0019	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1518

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 1.2σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0627	0.0736	0.0109
Welch-Aspin's t	0.0571	0.0667	0.0096
Yuen Test	0.0602	0.0702	0.0099
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0177	0.0199	0.0021
Welch-Aspin's t	0.014	0.0156	0.0016
Yuen	0.0165	0.0184	0.0019
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0031	0.0033	0.0002
Welch-Aspin's t	0.0018	0.0019	0.0001
Yuen	0.0019	0.0021	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1519

Digit Preference Data Set, $n_1=5$, $n_2=15$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2016	0.3193	0.1177
Welch-Aspin's t	0.0366	0.0527	0.0162
Yuen Test	0.039	0.0606	0.0216
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0001	0.0005	0.0004
$\alpha=0.01$			
Student's t	0.127	0.1947	0.0677
Welch-Aspin's t	0.0069	0.0099	0.003
Yuen	0.01	0.0154	0.0054
Tukey's Quick	0.0002	0.0003	0
Haga	0.0001	0.0004	0.0003
$\alpha=0.001$			
Student's t	0.0676	0.1007	0.0331
Welch-Aspin's t	0.0007	0.0011	0.0003
Yuen	0.0041	0.0066	0.0025
Tukey's Quick	0.0001	0.0002	0
Haga	0.0001	0.0003	0.0002

Table 1520

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 1.2σ , Scale= $1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2724	0.4428	0.1704
Welch-Aspin's t	0.0361	0.0525	0.0164
Yuen Test	0.0389	0.0606	0.0217
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.1996	0.3157	0.1162
Welch-Aspin's t	0.0071	0.0101	0.0031
Yuen	0.0092	0.0139	0.0047
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.131	0.2018	0.0708
Welch-Aspin's t	0.0007	0.001	0.0003
Yuen	0.0038	0.0059	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1521

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 1.2σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1195	0.1583	0.0388
Welch-Aspin's t	0.0483	0.0605	0.0122
Yuen Test	0.0533	0.0667	0.0134
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0524	0.0662	0.0138
Welch-Aspin's t	0.0113	0.0135	0.0021
Yuen	0.0114	0.0136	0.0022
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0172	0.0206	0.0034
Welch-Aspin's t	0.0014	0.0016	0.0002
Yuen	0.0016	0.0019	0.0003
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1522

Digit Preference Data Set, $n_1 = n_2 = 5$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0702	0.0925	0.0223
Welch-Aspin's t	0.044	0.0569	0.0129
Yuen Test	0.0444	0.0632	0.0187
Tukey's Quick Test	0.0183	0.0225	0.0042
Haga Test	0.0061	0.033	0.0269
$\alpha=0.01$			
Student's t	0.0248	0.0317	0.0069
Welch-Aspin's t	0.0088	0.0113	0.0025
Yuen	0.0145	0.0205	0.006
Tukey's Quick	0.0125	0.0155	0.0029
Haga	0.0042	0.0228	0.0186
$\alpha=0.001$			
Student's t	0.006	0.0078	0.0017
Welch-Aspin's t	0.0011	0.0014	0.0004
Yuen	0.0029	0.0042	0.0013
Tukey's Quick	n/a	n/a	n/a
Haga	0.0043	0.0229	0.0186

Table 1523

Digit Preference Data Set, $n_1 = n_2 = 15$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0795	0.0888	0.0093
Welch-Aspin's t	0.0688	0.0763	0.0075
Yuen Test	0.0736	0.0821	0.0085
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0252	0.0271	0.0019
Welch-Aspin's t	0.0174	0.0186	0.0012
Yuen	0.0175	0.0189	0.0014
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0051	0.0054	0.0003
Welch-Aspin's t	0.0023	0.0024	0.0001
Yuen	0.0023	0.0025	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1524

Digit Preference Data Set, $n_1 = n_2 = 25$, Effect Size = 2.0σ , Scale = 1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.0975	0.1031	0.0056
Welch-Aspin's t	0.0896	0.0945	0.0049
Yuen Test	0.0899	0.0953	0.0055
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0304	0.0314	0.001
Welch-Aspin's t	0.0246	0.0253	0.0007
Yuen	0.0262	0.0271	0.0009
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0059	0.006	0.0001
Welch-Aspin's t	0.0036	0.0036	0.0001
Yuen	0.0039	0.004	0.0001
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1525

Digit Preference Data Set, $n_1=5, n_2=15, Effect\ Size=2.0\sigma, Scale=1:16$

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.2306	0.3296	0.099
Welch-Aspin's t	0.0441	0.0572	0.0131
Yuen Test	0.0457	0.0643	0.0186
Tukey's Quick Test	0.0002	0.0003	0.0001
Haga Test	0.0001	0.0005	0.0004
$\alpha=0.01$			
Student's t	0.1484	0.2045	0.056
Welch-Aspin's t	0.0086	0.0112	0.0026
Yuen	0.0132	0.0183	0.0051
Tukey's Quick	0.0002	0.0003	0.0001
Haga	0.0001	0.0005	0.0004
$\alpha=0.001$			
Student's t	0.0817	0.108	0.0263
Welch-Aspin's t	0.0009	0.0011	0.0003
Yuen	0.0053	0.0074	0.0021
Tukey's Quick	0.0002	0.0002	0
Haga	0.0001	0.0005	0.0004

Table 1526

Digit Preference Data Set, $n_1=5$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.3087	0.4528	0.1441
Welch-Aspin's t	0.0444	0.0575	0.0131
Yuen Test	0.0461	0.0648	0.0186
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.2296	0.3269	0.0973
Welch-Aspin's t	0.0088	0.0112	0.0024
Yuen	0.0123	0.0167	0.0044
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.153	0.2111	0.0581
Welch-Aspin's t	0.0009	0.0011	0.0002
Yuen	0.006	0.0081	0.0021
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

Table 1527

Digit Preference Data Set, $n_1=15$, $n_2=25$, Effect Size= 2.0σ , Scale=1:16

$\alpha=0.05$	L0.025	Total	U0.025
Student's t	0.1599	0.1853	0.0254
Welch-Aspin's t	0.0683	0.0758	0.0075
Yuen Test	0.0732	0.0817	0.0084
Tukey's Quick Test	n/a	n/a	n/a
Haga Test	n/a	n/a	n/a
$\alpha=0.01$			
Student's t	0.0744	0.083	0.0086
Welch-Aspin's t	0.0174	0.0186	0.0012
Yuen	0.0175	0.019	0.0015
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a
$\alpha=0.001$			
Student's t	0.0254	0.0274	0.002
Welch-Aspin's t	0.0023	0.0024	0.0001
Yuen	0.0024	0.0026	0.0002
Tukey's Quick	n/a	n/a	n/a
Haga	n/a	n/a	n/a

CHAPTER 5 CONCLUSION AND DISCUSSION

The purpose of this research was to examine the robustness and comparative power of five statistic tests with the focus on the nonparametric Haga's test under the conditions of nonnormality and heteroscedasticity. Student's t test was used in the research as a comparison baseline for the other tests. Welch-Aspin's t test was included in the research as an alternative to Student's t test because it was considered an improved version of Student's t test when equal variance was not assumed (Wilcox, 1996). Yuen's test was designed for situations when there were outliers and heavy tails in the data sets. As noted frequently in the literature (e.g., Wilcox, 1997) Yuen's test is robust and a test of choice when treatments impact scale as well as location, and therefore it was also included as an alternative test.

Tukey's Quick test was similar to Haga's test in computation. They had similar procedures for computing test statistics, similar critical tables and similar test statistics in many situations. It was included as an additional contrast to Haga's test.

Haga's test is a nonparametric test designed for shift in location. Its robustness and comparative power under the conditions of nonnormality and heteroscedasticity was assessed. Absence in this study was Behrens-Fisher problem, the conditions under which there is only variance without treatment effects, because it is not a practical, real world outcome.

The normal distribution served as a baseline to determine the veracity of the code and set the baseline for the comparative power. The performance of the five tests under all levels of shifts in location and changes in scales was used to compare with that under the remaining distributions.

The first 6 tables in each of the 12 distributions contain the Type I error rates of the five tests which assess the robustness of the tests. Then, the shifts in location effects for scale 1:1 was assessed and compiled in the following 30 tables. Then, the impact of a slight change in scale of

1:1.1 was examined and compiled in the next 30 tables for each distribution. Finally, the comparative power of the five tests was examined under the condition of heteroscedasticity and treatment effects, and compiled in the remaining 60 tables for the change in scale of 1:4 and 1:16.

Type I Error Rates Under The Normal Distribution

The first 6 tables under the normal distribution, Table 1-1 to Table 1-6, contained the type I error rates of the Student t , Welch-Aspin's t, Yuen, Tukey's Quick and Haga tests under the normal distribution when the effect size was 0.0 and the scale was 1:1. The tests were supposed to have rejection rates close or equal to the nominal alpha under the normal distribution when there were no treatment or variances effects. The rejection rates of the five tests under the normal distribution can be used as the baseline against which the following data output under various effect sizes and scale conditions as well as other distributions can be compared with or contrast to.

The output of the distribution indicates that Student's t test had rejection rates the closest or equal to the nominal alpha for almost all the sample sizes. The largest difference between the Student t test rejection rate and the nominal alpha occurred for $n_1=n_2=15$, and $n_1=15, n_2=25$, at $\alpha=0.05$. The Student t rejection rates were 0.0497 and 0.0496 respectively which are only 0.0003 and 0.0004 different from the nominal alpha. When $n_1=15, n_2=25$, at $\alpha=0.01$, the rejection rate of Student's t test was 0.0238 which was 0.0138 more than the nominal alpha. When the two sample sizes were more unbalanced, the rejection rates of Student's t test were closer to nominal alpha than Welch-Aspin's t test.

Welch-Aspin's t test and Yuen's test yielded similar results, which were the second closest to the nominal alpha levels when the sample sizes were equal under the normal distribution. When sample sizes were unequal, the output of Yuen's test were more departed from the nominal alpha

with the degree of the unbalanced sample sizes became larger. The rejection rates of Yuen's test became more distorted when the difference between sample sizes was larger.

Tukey's Quick test and Haga's test had similar rejection rates which were conservative when sample sizes were equal under the normal distribution. The rejection rates of Tukey's Quick test were not computable when sample sizes were 5, 5 at $\alpha=0.001$. According to Tukey (1959), the critical value was 13 for sample sizes of 5,5 at $\alpha=0.001$, but the maximum statistic for sample sizes of 5, 5 could produce was only 10, so it was impossible for Tukey's Quick test to reject anything in this situation. The reason might due to the fact that Tukey's critical values were calculated based on discrete distributions and were intended to be conservative (Tukey, 1959).

The critical value table for Haga's test was provided by Hojek (1976). It only provided one-sided test k values and their corresponding p values. For equal sample sizes 5, 5, k equals 6 at 0.03175 level, and k equals 7 at 0.01587 level. Because two-sided tests were used, the p values should be doubled for the same k values. When k equals 6, the corresponding p value is $2 \times 0.03175 = 0.0635$. When k equals 7, the corresponding p value is $2 \times 0.01587 = 0.03174$. The actual critical value for sample size of 5, 5 at $\alpha=0.05$ level should be between 6 and 7. Haga's table used 7 as the critical value for $n_1=n_2=5$ at $\alpha=0.05$. In Haga's table, when $n_1=5$, $n_2=15$ the critical value is 10. According to Hojek, this value should be between 11 and 12. Haga's table did not provide a critical value for $n_1=5$, $n_2=25$. The closest value in Hojek's table was 17 at 0.03024 level for a one-sided test. The critical value of 17 was used for the two-sided test at $\alpha=0.05$ level, and the interpolated values of 18 and 19 as the critical values for $\alpha=0.01$ and 0.001 levels. The rejection rate of Haga's test for sample sizes of 5, 25 was 0.0153 at 0.05 level, 0.0102 at 0.01 level, and 0.0067 at 0.001 level. Although they departed from nominal alpha at $\alpha=0.05$ level, they were close at both 0.01 and 0.001 levels.

For the normal distribution, the rejection rates of Haga's test tended to be more conservatively departed from nominal alpha levels when sample sizes became more unbalanced, especially at 0.05 level. When sample sizes equaled $n_1 = n_2 = 15$ and $n_1 = n_2 = 25$, the rejection rates at 0.01 and 0.001 levels were 0.0066, 0.0009 and 0.0077, 0.001 respectively, the closest to the nominal alpha. When sample sizes equaled 5, 15, the rejection rate of Haga's test was 0.0021, the second closest to nominal alpha at 0.001 level with Student's t test being the closet. When sample sizes equaled 5, 25, the rejection rate of Haga's test was 0.0102, almost equaled that of Student's t test and nominal alpha.

For almost all sample sizes and alpha levels, the Tukey and Haga's test had the most conservative values among the five tests. Yuen's test tended to have the most liberal values. Student's t and Welch-Aspin's t test had stable values in the middle.

Robustness of the Tests

For the uniform distribution, the rejection rates of Student's t test had similar results as normal distribution, which were close to nominal alpha. When sample sizes were $n_1 = n_2 = 5$, Welch-Aspin's t test and Yuen's test yielded values a little closer to nominal alpha at 0.05, 0.01 and 0.001 levels than Student's t test. Tukey's Quick test and Haga's test yielded the closest values to nominal alpha at 0.01 level. Haga's test yielded the closest value at 0.001 level but both Tukey's Quick and Haga tests yielded the most conservative values at 0.05 level. For sample sizes $n_1 = n_2 = 15$ and $n_1 = n_2 = 25$, all tests yielded similar results close to nominal alpha except Haga's test. For $n_1 = n_2 = 25$ at $\alpha = 0.05$, Haga's test had a rejection rate of 0.0286 which was much less than that of other tests. For sample sizes $n_1 = 5, n_2 = 15$, Tukey's Quick test had the closest rejection rate to nominal alpha at $\alpha = 0.05$.

Student's t test was not robust under all other theoretical nonnormal distributions and some of the real data sets for sample sizes $n_1 = n_2 = 5$ at all alpha levels. The exceptions were under the smooth symmetric, multimodal lumpy and digit preference data sets where Student's t test was robust. Student's t test had rejection rates closer to alpha than the other tests under the exponential ($\mu = \alpha = 3$) and t ($v=3$) distributions, and extreme asymmetry and extreme bimodal data sets, though the rejection rates departed from nominal alpha. When sample sizes were larger, or the difference between unequal sample sizes was smaller, the rejection rates of Student's t test were closer to nominal alpha especially at $\alpha=0.05$ level.

The Tukey and Haga tests had similar and consistent conservative rejection rates in many cases. Their rejection rates were closest to nominal alpha among the five tests under most nonparametric theoretical distributions, especially at $\alpha=0.01$ and $\alpha=0.001$ levels. Their rejection rates were more conservative than that of Student's t test and Yuen's test under exponential ($\mu = \alpha = 3$) distribution at $\alpha=0.05$, and more conservative than that of Student's t, Yuen and Welch-Aspin's t tests under t ($v = 3$) distribution at $\alpha=0.05$. When sample sizes became larger, Tukey's test improved at all alpha levels, and Haga's test improved at $\alpha=0.01$ and $\alpha=0.001$ levels under nonparametric theoretical distributions. When sample sizes were not equal and the difference was large, Tukey's test outperformed the other tests under theoretical distributions. The rejection rates of Tukey's Quick and Haga tests were not computable at $\alpha=0.01$ and $\alpha=0.001$ levels the real data sets.

The rejection rates of Yuen's test were consistent and conservative under nonparametric theoretical distributions which were equal or close to nominal alpha = 0.01 and $\alpha=0.001$ but they were liberal under real data sets. Yuen's test ranked the last under Cauchy distribution at $\alpha=0.05$ but ranked next to the Tukey and Haga test at $\alpha=0.01$, and Haga's test at $\alpha=0.001$ though the

rejection rates were not near the nominal alpha. Yuen's test was often more robust than Student's t test and Welch-Aspin's t test but less robust than the Tukey and Haga test under theoretical distributions. It was more robust than the Tukey and Haga test but less robust than Student's t and Welch-Aspin's t test under real data sets. The rejection rates of Yuen's test were closer to nominal alpha levels when sample sizes became larger but they were distorted when the sample sizes were unequal and the difference was large.

Welch-Aspin's t test did not have consistent rejection rates. They were the worst under the exponential ($\mu = \alpha = 3$), Cauchy, Chi-Squared ($v = 1$) distributions at all alpha levels, and t ($v = 3$) distribution at $\alpha = 0.01$ and $\alpha = 0.001$, but better than the Tukey and Haga tests under the exponential ($\mu = \alpha = 3$) and t ($v = 3$) distributions at $\alpha = 0.05$ and real data sets at all levels. The rejection rates of Welch-Aspin's t test were closer to $\alpha = 0.05$ when sample sizes were equal, but they were distorted when sample sizes were unequal and the difference was large.

Comparative Power, Scale 1:1

Table 1528 to Table 1539 contains the most powerful tests of all sample sizes, scale 1:1 with all the effect sizes at all the alpha levels under the twelve distributions or data sets.

Table 1528

The Most Powerful Tests, Scale 1:1, Normal Distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	Y	H
25, 25	0.05	T	T	T	T	H
	0.01	T	T	T	T	H
	0.001	T	T	T	T	H
5, 15	0.05	Y	T	T	K	Y
	0.01	Y	Y	T	T	Y
	0.001	Y	Y	Y	T	H
5, 25	0.05	Y	T	T	K	Y
	0.01	Y	Y	H	T	T
	0.001	Y	H	H	H	H
15, 25	0.05	T	T	K	H	T
	0.01	T	T	H	H	H
	0.001	Y	T	H	Y	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1529

The Most Powerful Tests, Scale 1:1, Uniform Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	H	K	H	H	K/H
	0.01	T	K/H	K/H	K/H	K/H
	0.001	T	K/H	K/H	K/H	K/H
25, 25	0.05	K	K	K	K	T/W/K/H
	0.01	H	H	H	K/H	T/W/K/H
	0.001	H	H	H	H	K/H
5, 15	0.05	Y	K	K	K	K
	0.01	Y	Y	T	T	T
	0.001	Y	W	H	H	T
5, 25	0.05	Y	K	K	K	K
	0.01	Y	Y	T	T	T
	0.001	Y	W	H	H	T
15, 25	0.05	K	K	K	K	T/W/K/H
	0.01	K	K	K	K	K/H
	0.001	W/Y	T	K/H	K/H	K/H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1530

The Most Powerful Tests, Scale 1:1, Exponential Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	K/H	H	H	H	H
	0.001	K/H	K/H	K/H	K/H	K/H
25, 25	0.05	K	K	K	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	Y	T	T	K	K
	0.01	Y	T	T	T	T
	0.001	Y	T	T	T	T
5, 25	0.05	Y	T	T	K	T
	0.01	W	T	T	T	T
	0.001	Y	H	H	H	H
15, 25	0.05	K	K	K	H	H
	0.01	K	K	K	K	H
	0.001	T	H	H	H	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1531

The Most Powerful Tests, Scale 1:1, Cauchy Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	K/H	Y	Y	Y	Y
	0.01	K/H	K/H	Y	Y	Y
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	W	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	H	H
5, 25	0.05	Y	H	Y	Y	Y
	0.01	H	H	H	Y	Y
	0.001	H	H	H	H	H
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1532

The Most Powerful Tests, Scale 1:1, T Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	T	T
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	Y	H	H	H	H
5, 25	0.05	Y	Y	T	T	T
	0.01	Y	Y	H	T	T
	0.001	H	H	H	H	H
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1533

The Most Powerful Tests, Scale 1:1, Chi-Squared Distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	K/H	K/H	T	T	T
	0.01	K/H	K/H	K/H	K/H	T
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
25, 25	0.05	H	H	H	H	Y/H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	K	K	K	T	W
	0.01	T	K	K	T	T
	0.001	T	H	H	H	T
5, 25	0.05	K	H	H	H	H
	0.01	T	H	H	H	H
	0.001	H	H	H	H	H
15, 25	0.05	H	H	H	H	Y/H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1534

The Most Powerful Tests, Scale 1:1, Smooth Symmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T/W	T/W/Y
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T/W/Y	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1535

The Most Powerful Tests, Scale 1:1, Extreme Asymmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	T	T	T	T
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T
5, 15	0.05	W	W	W	T	T
	0.01	W	W	W	W	T
	0.001	W	W	W	W	T
5, 25	0.05	W	Y	W	T	T
	0.01	W	W	Y	T	T
	0.001	W	W	W	W	T
15, 25	0.05	W	Y	T	T	T
	0.01	W	W	T	T	T
	0.001	W	W	W	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1536

The Most Powerful Tests, Scale 1:1, Extreme Bimodal Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 15	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T/W	T/W	T	T/W	T/W
	0.01	T/W	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	W	Y	W	T	T
5, 25	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	W	W	Y	Y	T
15, 25	0.05	W	T	T	T	T/W
	0.01	Y	T	T	T	T
	0.001	Y	W	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1537

The Most Powerful Tests, Scale 1:1, Multimodality Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T/W
	0.001	T/W	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	T	T	T	W	T/W
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1538

The Most Powerful Tests, Scale 1:1, Discrete Mess At Zero With Gap Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
15, 15	0.05	Y	Y	Y	T	T/W
	0.01	Y	Y	Y	T	T
	0.001	Y	Y	Y	Y	T
25, 25	0.05	Y	Y	T	T	T/W
	0.01	Y	Y	T	T	T/W
	0.001	Y	Y	Y	T	T
5, 15	0.05	Y	Y	Y	T	W
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	Y
5, 25	0.05	Y	Y	Y	Y	W
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	Y
15, 25	0.05	T	T	W	W	T/W
	0.01	Y	Y	Y	W	W
	0.001	Y	Y	Y	T	W

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1539

The Most Powerful Tests, Scale 1:1, Digit Preference Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	W	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T/W	T/W/Y
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	W	Y	T	T	T/W
	0.01	W	T	T	T	T
	0.001	W	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test; Y=Yuen's test.

For each distribution or data set, there were 6 sample sizes, 5 effect sizes and three alpha levels, at least $6 \times 5 \times 3 = 90$ greatest powers. Because Tukey's Quick test and Haga test were not computable under real data sets, the comparative power of the tests under the theoretical distributions and real data sets were analyzed separately to better depict their power positions.

Under normal distribution, for scale 1:1, all effect sizes and alpha levels, Student's t test held 50, or 17.8% greatest powers, ranking the most powerful test; Haga's test held 21, or 23.3% greatest powers, ranking the second powerful test; Yuen's test held 16, or 17.8% greatest powers, ranking the third powerful test; Tukey's Quick test held 3, or 3.3% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the uniform distribution, for scale 1:1, all effect sizes and alpha levels, both Haga's test and Tukey's Quick test displayed 39, or 43.3% most powerful tests, ranking the first; Student's t test displayed 23, or 25.6% greatest powers, ranking the second; Yuen test exhibited 9, or 10% greatest powers, ranking the third; Welch-Aspin's t test displayed 4, or 4.4% greatest powers, ranking the least powerful test.

Under the exponential ($\mu = \alpha = 3$) distribution, for scale 1:1, all effect sizes and alpha levels, Haga's test displayed 48, or 53.3% most powerful tests, ranking the first; Tukey's Quick test exhibited 23, or 25.6% greatest powers, ranking the second; Student's t test exhibited 22, or 24.4% greatest powers, ranking the third; Yuen's test exhibited 6, or 6.7% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test had 1, or 1.1% greatest power, ranking the least powerful test.

Under the Cauchy distribution, for scale 1:1, all effect sizes and alpha levels, Yuen's test held 70, or 77.8% greatest powers, ranking the first; Haga's test had 19, or 21.1% greatest powers,

ranking the second; Tukey's Quick test exhibited 3, or 3.3% greatest powers, ranking the third; Welch-Aspin's t test held 1, or 1.1% greatest powers, ranking the least powerful test.

Under the t ($v=3$) distribution, for scale 1:1, all effect sizes and alpha levels, Yuen's test displayed 55, or 61.1% most powerful tests, ranking the most powerful test; Haga's test held 18, or 20% greatest powers, ranking the second; Student's t test exhibited 17, or 18.9% greatest powers, ranking the third; Tukey's Quick test displayed 3, or 3.3% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the Chi-Squared ($\mu = \alpha = 3$) distribution, for scale 1:1, all effect sizes and alpha levels, Haga's test displayed 71, or 78.9% most powerful tests, ranking the most powerful test; Tukey's Quick test held 13, or 14.4% greatest powers, ranking the second powerful test; Student's t test exhibited 11, or 12.2% greatest powers, ranking the third powerful test; Yuen's test displayed 3, or 3.3% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test held 1 greatest power, ranking the least powerful test.

For all the theoretical distributions, scale 1:1, all effect sizes and alpha levels, among the 540 tests, Haga's test held 216, or 40% greatest powers, ranking the most powerful test; Yuen's test held 159, or 29.4% most powerful tests, ranking the second powerful test; Student's t test held 123, or 22.8% most powerful tests, ranking the third powerful test; Tukey's Quick test held 81, or 15% most powerful tests, ranking the fourth powerful test; Welch-Aspin's t test held 7 greatest power, ranking the least powerful test.

For all real data sets, scale 1:1, all effect sizes and alpha levels, among the 540 tests, Student's t test held 360, or 66.7% greatest powers, ranking the most powerful test; Yuen test held 129, or 23.9% greatest powers, ranking the second powerful test; Welch-Aspin's t test held 76, or

14.1% greatest powers, ranking the third powerful test; Haga's test held 11, or 2% greatest powers, ranking the fourth powerful test.

Impact of a Slight Variance Increment

Generally speaking, the slight variance increment increased or decreased the rejection rates. The change in rejection rates was negligible for small sample sizes and effect sizes levels. The change also decreased at lower alpha levels. When sample sizes and/or effect sizes increased, so did the change on the rejection rates. For unequal sample sizes, the change was increased as the difference between the sample sizes increased.

Table 1540 to Table 1551 depicts the most powerful testes of scale 1:1.1, all effect sizes and alpha levels, under the twelve distributions or data sets.

Table 1540

The Most Powerful Tests, Scale 1:1.1, Normal Distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	H	T	T	T
25, 25	0.05	T	T	T	T	T/W/Y
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	H	H	H
5, 25	0.05	Y	W	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	H	H	H	H
15, 25	0.05	T	T	T	T	T
	0.01	T	K	T	T	T
	0.001	T	H	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1541

The Most Powerful Tests, Scale 1:1.1, Uniform Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H/K
	0.01	T/Y	T	K/H	K/H	T/W/K/H
	0.001	H	H	H	H	K/H
25, 25	0.05	K	T	K	K	T/W/K/H
	0.01	H	H	H	K/H	T/W/K/H
	0.001	H	H	H	H	K/H
5, 15	0.05	Y	K	K	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	H	T	T
5, 25	0.05	Y	K	K	T	K
	0.01	Y	Y	T	T	T
	0.001	Y	H	H	H	H
15, 25	0.05	K	K	K	K	T/W/K/H
	0.01	T	K	K	K	K
	0.001	T	T	T	K/H	K/H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1542

The Most Powerful Tests, Scale 1:1.1, Exponential Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	Y	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	T	H	K	H	H
	0.001	K/H	K/H	K/H	K/H	H
25, 25	0.05	Y	K	K	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	T	T	T	K	K
	0.01	T	Y	T	T	T
	0.001	Y	T	T	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	H	H	H	H	H
15, 25	0.05	T	K	K	H	H
	0.01	T	K	K	K	H
	0.001	T	T	H	H	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1543

The Most Powerful Tests, Scale 1:1.1, Cauchy Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	K/H	K/H	K/H	Y	Y
	0.001	H	H	H	H	H
15, 15	0.05	Y	H	H	H	Y
	0.01	Y	Y	H	H	Y
	0.001	Y	Y	Y	H	Y
25, 25	0.05	T	H	H	H	Y
	0.01	H	H	H	H	Y
	0.001	Y	H	H	H	Y
5, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	T	Y	Y
	0.001	Y	H	H	H	H
5, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	H	H	Y
	0.001	H	H	H	T	H
15, 25	0.05	Y	H	H	H	H
	0.01	Y	Y	H	H	H
	0.001	Y	Y	H	H	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1544

The Most Powerful Tests, Scale 1:1.1, T Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	H	K/H	T	T
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	T
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	H	H	H	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	T/H	H	T	T
	0.001	H	H	H	H	H
15, 25	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1545

The Most Powerful Tests, Scale 1:1.1, Chi-Squared Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	K/H	K/H	T	T	T
	0.01	Y/H	K/H	K/H	K/H	T
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	K/H	H	H	H	Y
25, 25	0.05	H	H	H	H	Y/H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	K	K	K	T	W
	0.01	T	K	K	T	T
	0.001	T	H	H	H	T
5, 25	0.05	K	H	H	H	H
	0.01	T	H	H	H	H
	0.001	H	H	H	H	H
15, 25	0.05	H	H	H	H	Y/H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1546

The Most Powerful Tests, Scale 1:1.1, Smooth Symmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W/Y
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1547

The Most Powerful Tests, Scale 1:1.1, Extreme Asymmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	T	T	T	T
15, 15	0.05	T	Y	T	W	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	Y	Y	T	T	T/W
	0.01	Y	Y	Y	T	T/W
	0.001	T	Y	Y	T	T
5, 15	0.05	W	Y	Y	T	T
	0.01	W	W	W	T	T
	0.001	W	W	W	W	T
5, 25	0.05	W	Y	T	T	T
	0.01	W	Y	Y	T	T
	0.001	W	W	W	Y	T
15, 25	0.05	Y	Y	T	T	T
	0.01	W	Y	T	T	T
	0.001	W	W	Y	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1548

The Most Powerful Tests, Scale 1:1.1, Extreme Bimodal Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	Y	W	T	T
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	W	W	Y	T	T
5, 25	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	W	W	Y	T	T
15, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	Y	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1549

The Most Powerful Tests, Scale 1:1.1, Multimodality Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T/W
	0.001	T	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1550

The Most Powerful Tests, Scale 1:1.1, Discrete Mess At Zero With Gap Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
15, 15	0.05	Y	Y	Y	T	T
	0.01	Y	Y	Y	T	T
	0.001	Y	Y	Y	Y	T
25, 25	0.05	Y	Y	T	T	T/W
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 15	0.05	Y	Y	Y	T	W
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	Y
5, 25	0.05	Y	Y	Y	Y	W
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	Y
15, 25	0.05	Y	Y	T	W	W
	0.01	Y	Y	Y	W	W
	0.001	Y	Y	Y	Y	W

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1551

The Most Powerful Tests, Scale 1:1.1, Digit Preference Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T/W
	0.01	T	T	T	T	T/W
	0.001	T/W	T	T	T	T/W
5, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
5, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

As reflected in the tables, the slight variance increment changed many greatest powers in the tests. There were 28, or 31% changes under the normal distribution; 16, or 17.8% changes under the uniform distribution; 15, or 16.7% changes under exponential ($\mu = \alpha = 3$) distribution; 34, or 37.8% changes under the Cauchy distribution; 13, or 14.4% changes under t ($v=3$) distribution; 5, or 5.6% changes under the Chi-Squared ($v=1$) distribution. There was a total of 111, or 20.6% changes in the greatest powers under all theoretical distributions after the slight variance application.

There were 5, or 5.6% changes under the smooth symmetric data set; 17 or 18.9% changes under the extreme asymmetry data set; 10, or 11.1% changes under the extreme bimodal data set; 7, or 7.8% changes under the multimodality data set; 6, or 6.7% changes under discrete mess at zero with gap data set; 8, or 8.9% changes under the digit preference data set. There was a total of 53, or 9.8% changes in greatest powers under the real datasets after the slight variance increment.

Under the normal distribution, scale 1:1.1, all effect sizes and alpha levels, Student's t test held 66, or 73.3% greatest powers, ranking the most powerful test; Haga's test held 14, or 15.6% greatest powers, ranking the second powerful test; Yuen's test held 9, or 10% greatest powers, ranking the third powerful test; Welch-Aspin's t test held 5, or 5.6% greatest powers, ranking the fourth powerful test; Tukey's Quick test held 1, or 1.1% greatest power, ranking the least powerful test.

Under the uniform distribution, scale 1:1.1, all effect sizes and alpha levels, Haga's test displayed 36, or 40% most powerful tests, ranking the most powerful test; Student's t test held 32, or 35.6% greatest powers, ranking the second powerful test; Tukey's Quick test exhibited 30, or 33.3% greatest powers, ranking the third powerful test; Yuen's test held 10, or 11.1% greatest

powers, ranking the fourth powerful test; Welch-Aspin's t test had 3, or 3.3% most powerful tests powerful test, ranking the least powerful test.

Under the exponential ($\mu = \alpha = 3$) distribution, scale 1:1.1, all effect sizes and alpha levels, Haga's test displayed 45, or 50% most powerful tests, ranking the most powerful test; Student's t test had 29, or 32.2% greatest powers, ranking the second powerful test; Tukey's Quick test exhibited 19, or 21.1% greatest powers, ranking the third powerful test; Yuen's test held 6, or 6.7% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the Cauchy distribution, scale 1:1.1, all effect sizes and alpha levels, Haga's test displayed 44, or 48.9% most powerful tests, ranking the most powerful test; Yuen's test held 32, or 35.6% greatest powers, ranking the second powerful test; both Tukey's Quick test and Student's t test exhibited 3, or 3.3% greatest powers, ranking the third powerful tests; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the t ($v=3$) distribution, scale 1:1.1, all effect sizes and alpha levels, Yuen's test displayed 47, or 52.2% most powerful tests, ranking the most powerful test; Student's t test had 26, or 28.9% greatest powers, ranking the second powerful test; Haga test exhibited 18, or 20% greatest powers, ranking the third powerful test; Tukey's Quick test held 2, or 2.2% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the Chi-Squared ($v=1$) distribution, scale 1:1.1, all effect sizes and alpha levels, Haga's test displayed 71, or 78.9% most powerful tests, ranking the most powerful test; Tukey's Quick test held 12, or 13.3% greatest powers, ranking the second powerful test; Student's t test exhibited 7, or 7.8% greatest powers, ranking the third powerful test; Yuen's test held 4, or 4.4%

greatest powers, ranking the fourth powerful test; Welch-Aspin's t test held 1, or 1.1% greatest power, ranking the least powerful test.

For all the theoretical distributions, scale 1:1.1, all effect sizes and alpha levels, among the 540 tests, Haga's test held 228, or 42.2% greatest powers, ranking the most powerful test; Student's t test held 163, or 30% most powerful tests, ranking the second powerful test; Yuen's test held 119, or 22% most powerful tests, ranking the third powerful test; Tukey's Quick test held 67, or 74% most powerful tests, ranking the fourth powerful test; Welch-Aspin's t test had 9, or 1% greatest powers, ranking the least powerful test.

For all real data sets, scale 1:1.1, all effect sizes and alpha levels, among the 540 tests, Student's t test held 349, or 64.6% greatest powers, ranking the most powerful test; Yuen's test held 138, or 25.6% greatest powers, ranking the second powerful test; Welch-Aspin's t test held 50, or 9.3% greatest powers, ranking the third powerful test; Haga's test held 50, or 55.6% greatest powers, ranking the fourth powerful test; Tukey's Quick test held 9, or 1% greatest powers, ranking the least powerful test.

Comparative Power, Scale 1:4

Table 1552 to Table 1563 depicts the most powerful testes for scale 1:4, all effect sizes and alpha levels, under the twelve distributions or data sets.

Table 1552

The Most Powerful Tests, Scale 1:4, Normal Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	W	T	T
	0.001	T	T	T	T	T
25, 25	0.05	H	T	H	T	T
	0.01	H	T	H	H	T
	0.001	T	T	H	H	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	H	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1553

The Most Powerful Tests, Scale 1:4, Uniform Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T/Y	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	T/Y	T	T	T
25, 25	0.05	H	H	T	T	T
	0.01	H	H	T	T	T
	0.001	H	H	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1554

The Most Powerful Tests, Scale 1:4, Exponential Distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	K	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1555

The Most Powerful Tests, Scale 1:4, Cauchy Distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	K/H	K/H	Y	Y	Y
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	H	Y
	0.01	Y	Y	Y	H	Y
	0.001	Y	Y	Y	H	Y
5, 15	0.05	T	T	T	Y	Y
	0.01	T	K	T	T	T
	0.001	H	H	H	H	H
5, 25	0.05	T	T	T	T	Y
	0.01	T	T	H	H	H
	0.001	H	H	H	H	H
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1556

The Most Powerful Tests, Scale 1:4, T Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	H	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	T
25, 25	0.05	H	H	H	Y	Y
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1557

The Most Powerful Tests, Scale 1:4, Chi-Squared Distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	K/H
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	T
	0.01	H	H	Y	H	T
	0.001	Y	Y	Y	Y	K/H
25, 25	0.05	H	H	H	H	T
	0.01	H	H	H	H	T
	0.001	H	H	H	H	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	Y	Y	H	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	H	H	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	Y	Y	Y	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1558

The Most Powerful Tests, Scale 1:4, Smooth Symmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	Y	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1559

The Most Powerful Tests, Scale 1:4, Extreme Asymmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1560

The Most Powerful Tests, Scale 1:4, Extreme Bimodal Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	Y	Y	Y	Y	T
25, 25	0.05	Y	T	T	T	T
	0.01	Y	Y	Y	T	T
	0.001	Y	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	Y	Y	Y	T
5, 25	0.05	T	Y	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	Y	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	Y	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1561

The Most Powerful Tests, Scale 1:4, Multimodality Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	Y	T	T	T	T
	0.01	Y	Y	T	T	T
	0.001	Y	Y	Y	T	T
25, 25	0.05	Y	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	T	Y	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	Y	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1562

The Most Powerful Tests, Scale 1:4, Discrete Mess At Zero With Gap Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
15, 15	0.05	Y	T	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	T	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	T
	0.001	Y	Y	Y	Y	Y
5, 25	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1563

The Most Powerful Tests, Scale 1:4, Digit Preference Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Under the normal distribution, scale1: 4, all effect sizes and alpha levels, Student's t test held 72, or 80% greatest powers, ranking the most powerful test; Haga's test held 18, or 20% greatest powers, ranking the second powerful test; Tukey's Quick test held 5, or 5.6% greatest powers, ranking the third powerful test; Welch-Aspin's t test held 1, or 1.1% greatest powers, ranking the fourth powerful test; Yuen's test did not hold any greatest power, ranking the least powerful test.

Under the uniform distribution, scale1: 4, all effect sizes and alpha levels, Student's t test displayed 73, or 81% most powerful tests, ranking the most powerful test; Haga's test held 13, or 14.4% greatest powers, ranking the second powerful test; Yuen's test exhibited 5, or 5.6% greatest powers, ranking the third powerful test; Welch-Aspin's t test and Tukey's Quick test did not hold any greatest powers, both ranking the least powerful tests.

Under the exponential ($\mu = \alpha = 3$) distribution, scale1: 4, all effect sizes and alpha levels, Student's t test displayed 79, or 87.8% most powerful tests, ranking the most powerful test; Haga's test had 10, or 11.1% greatest powers, ranking the second; Yuen test exhibited 6, or 6.7% greatest powers, ranking the third. Welch-Aspin's t test and Tukey's Quick test did not have any greatest powers, both ranking the last.

Under the Cauchy distribution, for scale1: 4, all effect sizes and alpha levels, Yuen's test held 48, or 53.3% greatest powers, ranking the first; Haga's test had 28, or 31.1% greatest powers, ranking the second; Student's t test exhibited 13, or 14.4% greatest powers, ranking the third; Tukey's Quick test displayed 8, or 8.9% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

Under the t ($v = 3$) distribution, scale1: 4, all effect sizes and alpha levels, Student's t test displayed 52, or 40% most powerful tests, ranking the most powerful test; Haga's test had 24, or

26.7% greatest powers, ranking the second powerful test; Yuen's test exhibited 14, or 15.6% greatest powers, ranking the third powerful test; Tukey's Quick test displayed 5, or 5.6% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not have any greatest powers, ranking the least powerful test.

Under the Chi-squared ($v = 1$) distribution, scale1: 4, all effect sizes and alpha levels, Student's t test displayed 38, or 42.2% most powerful tests, ranking the first powerful test; Haga's test had 35, or 38.9% greatest powers, ranking the second powerful test; Yuen's test exhibited 17, or 18.1% greatest powers, ranking the third powerful test; Tukey's Quick test displayed 7, or 7.8% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

For all the theoretical distributions, scale1: 4, all effect sizes and alpha levels, among the 540 tests, Student's t test held 327, or 60.6% greatest powers, ranking the most powerful test; Haga's test held 128, or 23.7% most powerful tests, ranking the second powerful test; Yuen's test held 84, or 15.6% most powerful tests, ranking the third powerful test; Tukey's Quick test held 31, or 5.7% most powerful tests, ranking the fourth powerful test; Welch-Aspin's t test held 1 greatest power, ranking the least powerful test.

For all real data sets, scale1: 4, all effect sizes and alpha levels, among the 540 tests, Student's t test held 356, or 65.9% greatest powers, ranking the most powerful test; Yuen's test held 170, or 31.5% greatest powers, ranking the second powerful test; Haga's test held 14, or 2.6% greatest powers, ranking the third powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

Comparative Power, Scale 1:16

Table 1564 to Table 1575 depicts the most powerful testes of scale 1:16, all effect sizes and alpha levels, under the twelve distributions or data sets.

Table 1564

The Most Powerful Tests, Scale 1:16, Normal distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	K/H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1565

The Most Powerful Tests, Scale 1:16, Uniform distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	Y	Y	Y	T	T
	0.001	T	T	T	T	T
25, 25	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1566

The Most Powerful Tests, Scale 1:16, Exponential distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1567

The Most Powerful Tests, Scale 1:16, Cauchy distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	K/H	K/H	K/H	K/H	K/H
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	H	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	H	Y	Y	Y	Y
5, 15	0.05	T	Y	K	T	T
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	T	Y	Y	Y	Y
	0.001	T	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1568

The Most Powerful Tests, Scale 1:16, T distribution

		0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
α						
5, 5	0.05	T	T	T	T	T
	0.01	K/H	K/H	K/H	K/H	K/H
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	T/Y	H	H	H	H
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1569

The Most Powerful Tests, Scale 1:16, Chi-Squared distribution

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	H	H	H	H	H
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	H	H	H	H	H
	0.01	H	H	H	H	H
	0.001	H	H	H	H	H
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1570

The Most Powerful Tests, Scale 1:16, Smooth Symmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	H	H	T	T	H
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1571

The Most Powerful Tests, Scale 1:16, Extreme Asymmetric Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	Y	Y	Y	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	Y
25, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	Y
5, 15	0.05	T	T	Y	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	Y	T
	0.001	T	T	T	T	T
15, 25	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	T	Y
	0.001	Y	Y	Y	Y	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1572

The Most Powerful Tests, Scale 1:16, Extreme Bimodal Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	Y
15, 15	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	T	Y
25, 25	0.05	Y	Y	T	T	T
	0.01	Y	Y	Y	Y	T
	0.001	Y	T	Y	Y	Y
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	Y	Y	Y	Y
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	Y	Y	Y	Y	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1573

The Most Powerful Tests, Scale 1:16, Multimodality Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	T	T	T	T	T
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	Y	Y	Y	T	T
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1574

The Most Powerful Tests, Scale 1:16, Discrete Mess At Zero With Gap Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	H	H	H	H	H
15, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
25, 25	0.05	T	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 15	0.05	Y	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
5, 25	0.05	T	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y
15, 25	0.05	T	Y	Y	Y	Y
	0.01	Y	Y	Y	Y	Y
	0.001	Y	Y	Y	Y	Y

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Table 1575

The Most Powerful Tests, Scale 1:16, Digit Preference Data Set

	α	0.2 σ	0.5 σ	0.8 σ	1.2 σ	2.0 σ
5, 5	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
25, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 15	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
5, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T
15, 25	0.05	T	T	T	T	T
	0.01	T	T	T	T	T
	0.001	T	T	T	T	T

Note. T = Student's t test; K = Tukey's Quick test; H = Haga's test; W = Welch-Aspin's t test;

Y=Yuen's test.

Under the normal distribution, scale 1:16, all effect sizes and alpha levels, Student's t test held 61, or 67.8% greatest powers, ranking the most powerful test; Haga's test held 30, or 33.3% greatest powers, ranking the second powerful test; Tukey's Quick test held 6, or 6.7% greatest powers, ranking the third powerful test; Welch-Aspin's t test and Yuen's test did not hold any greatest power, both ranking the least powerful test.

Under the uniform distribution, scale 1:16, all effect sizes and alpha levels, Student's t test displayed 57, or 63.3% most powerful tests, ranking the first; Haga's test held 30, or 33.3% greatest powers, ranking the second powerful test; Tukey's Quick test exhibited 5, or 5.6% greatest powers, ranking the third powerful test; Yuen's test held 3, or 3.3% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

Under the exponential ($\mu = \alpha = 3$) distribution, scale 1:16, all effect sizes and alpha levels, Student's t test displayed 80, or 88.9% most powerful tests, ranking the most powerful test; Haga's test held 10, or 11.1% greatest powers, ranking the second powerful test; Tukey's Quick test exhibited 5, or 5.6% greatest powers, ranking the third powerful test; Welch-Aspin's t test and Yuen's test did not hold any greatest powers, both ranking the least powerful test.

Under the Cauchy distribution, scale 1:16, all effect sizes and alpha levels, Yuen's test held 41, or 45.6% greatest powers, ranking the most powerful test; Student's t test held 25, or 27.8% greatest powers, ranking the second powerful test; Haga's test exhibited 23, or 25.6% greatest powers, ranking the third powerful test. Tukey's Quick test displayed 11, or 12.2% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

Under the t ($v = 3$) distribution, scale 1:16, all effect sizes and alpha levels, Student's t test displayed 60, or 66.7% most powerful tests, ranking the most powerful test; Haga's test held 29, or 32.2% greatest powers, ranking the second powerful test; Tukey's Quick test exhibited 5, or 5.6% greatest powers, ranking the third powerful test; Yuen's test displayed 1, or 1.1% greatest powers, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

Under the Chi-Squared ($v = 1$) distribution, scale 1:16, all effect sizes and alpha levels, Student's t test displayed 36, or 40% most powerful tests, ranking the most powerful test; Yuen's test had 29, or 32.2% greatest powers, ranking the second powerful test; Haga's test exhibited 25, or 27.8% greatest powers, ranking the third powerful test; Tukey's Quick test and Welch-Aspin's t test did not have any greatest powers, both ranking the least powerful tests.

For all the theoretical distributions, scale 1:16, all effect sizes and alpha levels, among the 540 tests, Student's t test held 319, or 59% greatest powers, ranking the most powerful test; Haga's test held 147, or 27.2% most powerful tests, ranking the second powerful test; Yuen's test held 74, or 13.7% most powerful tests, ranking the third powerful test; Tukey's Quick test held 32, or 5.9% most powerful tests, ranking the fourth powerful test; Welch-Aspin's t test did not hold any greatest power, ranking the least powerful test.

For all real data sets, scale 1:16, all effect sizes and alpha levels, among all the 540 tests, Student's t test held 313, or 58% greatest powers, ranking the most powerful test; Yuen's test held 214, or 39.6% greatest powers, ranking the second powerful test; Haga's test held 13, or 2.4% greatest powers, ranking the third powerful test; Welch-Aspin's t test did not hold any greatest powers, ranking the least powerful test.

Closing Statement

Under the conditions of nonnormality and heteroscedasticity, robustness and power of Student's t test, Welch-Aspin's t test, Yuen's test, Tukey's Quick test and Haga's test depended heavily on the underlying sample sizes, variance levels, alpha levels and distributions.

Under the theoretical nonnormal distributions, the nonparametric methods of Tukey's Quick test and Haga's test were more robust than Student's t test, Welch-Aspin's t test and Yuen's test at all alpha levels. Tukey's Quick and Haga's tests had conservative and consistent rejection rates under all distributions. Student's t test, Welch-Aspin's t test and Yuen's test had inflated or deflated rejection rates which varied for different distributions, sample sizes and alpha levels.

For scale 1:1, all effect sizes and alpha levels, Student's t test was the most powerful test under the normal distribution; both Haga's test and Tukey's Quick test were the most powerful tests under the uniform distribution; Haga's test was the most powerful test under the exponential ($\mu = \alpha = 3$) distributions and Chi-squared ($v = 1$) distributions; Yuen's test was the most powerful test under Cauchy and t ($v = 3$) distributions.

For scale 1:1.1, all effect sizes and alpha levels, Student's t test was the most powerful test under the normal distribution; Haga's test was the most powerful test under the uniform, exponential ($\mu = \alpha = 3$), Cauchy and Chi-Squared distributions; Yuen's test was the most powerful under t ($v = 3$) distribution.

For scale 1:4, Student's t test held the most powers under the normal distribution except for sample size 5, 5; uniform distribution except for sample size 25, 25; exponential ($\mu = \alpha = 3$) distribution except sample size 5, 5; t ($v = 3$) distribution except all equal sample sizes; Chi-Squared ($v = 1$) distribution for sample sizes 5, 15 and 5, 25. Yuen's test held the most powers under the Cauchy distribution for sample sizes 15, 15 and 25, 25 and 15, 25; Haga's test held the most powerful tests for sample sizes 5, 5 under the normal, exponential ($\mu = \alpha = 3$), Cauchy, t ($v =$

3) and Chi-Squared ($v = 1$) distributions; for sample sizes 25, 25 under the uniform, t ($v = 3$) and the Chi-Squared ($v = 1$) distributions; for sample sizes 15, 15 under the Chi-Squared ($v = 1$) distribution. Yuen's test was the most powerful for sample sizes 15, 15 under the Cauchy and t ($v = 3$) distributions.

For scale 1:16, Student's t test was the most powerful test under the normal distribution except sample sizes 5, 5 and 25, 25; uniform distributions except sample sizes 5, 5 and 25, 25; exponential ($\mu = \alpha = 3$) distribution except sample size 5, 5; t ($v = 3$) distribution except sample sizes 5, 5 and 25, 25; Chi-Squared ($v = 1$) distribution except sample sizes 15, 15 and 25, 25, and 15, 25. Haga's test was the most powerful test for sample sizes 5, 5 under the normal, uniform, exponential ($\mu = \alpha = 3$), and t distributions; for sample sizes 25, 25 under the normal, uniform, t ($v = 3$) and Chi-Squared ($v = 1$) distributions. Yuen's test was the most powerful test under the Chi-Squared ($v = 1$) distribution for sample sizes 15, 15 and 15, 25; under the Cauchy distribution for sample sizes 15, 15 and 25, 25 and 15, 25.

Generally speaking, for theoretical distributions, when there was no variance effects (scale1:1) or a slight variance increment (scale1:1.1), Haga's test was the most powerful test. When there was medium (scale1:4) or large (scale1:16) variance effects, Haga's test was the most powerful test for equal sample sizes and Student's t test was the most powerful test for unequal sample sizes.

For the real data sets, Student's t test was the most powerful test under the smooth symmetric, extreme asymmetry, extreme bimodality, multimodal lumpy and digit preference data sets. Yuen's test was the most powerful test under the discrete mess at zero with gap data set. As mentioned before, this result might not reflect the real power rank because Tukey's Quick test and Haga's test were not computable for most of the sample sizes under the real data sets.

Recommendation for Further Study

It was remarkable that Yuen's test did not always win. Haga's test outperformed Yuen's test under the theoretical distributions except Cauchy and t ($v=3$) for scale 1:1, Cauchy for scale 1:1.1, Cauchy for scale 1:4, and Cauchy and Chi-Squared ($v=1$) for scale 1:16. Wilcox (1994, 1996, 1998, 2001) asserted that Yuen's approach is desirable if 20 percent of the data are trimmed under non-normal distributions, and recommended it for general use "because it is the only procedure that has both high power and good probability coverage when computing confidence intervals" (Wilcox, 1996, p.153). Yuen's method is based upon the Winsor's principle: "All observed distributions are Gaussian in the middle." Mallows and Tukey (1982) argued against the Winsor's principle, stating that this approach is highly misleading because it pays too much attention to the very center of the distribution. Keselman and Zumo (1997) also found that the nonparametric approach has more power than the trimmed-mean approach. The simulation results supported this point.

As noted, certain tests could not be computed a small sample sizes due to the lack of critical values. Haidous and Sawilowksy (2013) discussed this as the problem in the context of the t test in a different context as follows:

Another explanation for the power results favoring the t -test is that it is being conducted at precisely the 0.05 and 0.01 alpha levels, whereas both of the non-parametric tests are conducted at slightly reduced alpha levels. As explained by Gibbons & Chakraborti, critical values for rank-based nonparametric tests are obtained from the sampling distribution of discrete variables, thus constraining the possible significance levels. For example, a two tailed test with $\alpha = 0.05$ for sample size $n_1 = n_2 = 5$ and $n_1 = n_2 = 6$ both have critical values of zero. Hence, the Wilcoxon Signed-Ranks test and the rank difference test, due to their discrete sampling distributions, have a disadvantage when samples are very small.

Gibbons & Chakraborti recommended setting the alpha level of the t -test to match the limitations of the nonparametric tests to obtain a fair comparison. An argument could be raised against their approach, because in practice if a worker has selected $\alpha = 0.05$ or 0.01 that standard should not be modified by this limitation of the statistical test. Whereas that argument was reasonable during the time period when statistical tests were conducted via

obtaining critical values from tabled values, currently available statistical software makes it easy to compute statistical tests at any given nominal alpha level. (p. 101-102)

The same advice could be invoked in the current context for further study.

REFERENCES

- Abramowitz, M., & Stegun, I. A. (1972). Handbook of Mathematical Functions (Natl. Bur. Stand. Appl. Math. Ser. 55). (Washington, DC: US GPO).
- Aspin, A. A., & Welch, B. L. (1949). Tables for use in comparisons whose accuracy involves two variances, separately estimated. *Biometrika*, 36(3/4), 290-296.
- Barlow, R. E., Bartholomew, D. J., Bremner, J. M., & Brunk, H. D. (1972). *Statistical inference under order restrictions: The theory and application of isotonic regression*. New York: Wiley.
- Bergh, Donald D.; Ketchen, David J. (2009). *Research Methodology in Strategy and Management*, 5. Retrieved from <http://www.ebilib.com>
- Blair, R. C., & Higgins, J. J. (1980). A comparison of the power of wilcoxon's rank-sum statistic to that of student's t statistic under various nonnormal distributions. *Journal of Educational and Behavioral Statistics*, 5(4), 309-335.
- Blair, R. C., & Higgins, J. J. (1980). The Power of t and wilcoxon statistics a comparison. *Evaluation Review*, 4(5), 645-656.
- Blair, R. C. (1985). Some comments on the statistical treatment of rank data. In Paper presented.
- Bradley, J. V. (1968). *Distribution-free statistical tests*.
- Bradley, J. V. (1978). Robustness? *British Journal of Mathematical and Statistical Psychology*, 31(2), 144-152.
- Capon, J. A. (1988). *Elementary statistics for the social sciences*. Wadsworth.
- Christensen, H. B. (1977). *Statistics step by step*. Geneva, Illinois: Houghton Mifflin.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. 2nd edn. Hillsdale, New Jersey: L.

- Cohen, J. (1992). Statistical power analysis. *Current directions in psychological science*, 1(3), 98-101.
- Couch, J. V. (1987). *Fundamentals of statistics for the behavioral sciences*. West Publishing Company.
- Cumming, G., Fidler, F., Leonard, M., Kalinowski, P., Christiansen, A., Kleinig, A., ... & Wilson, S. (2007). Statistical reform in psychology is anything changing?. *Psychological science*, 18(3), 230-232.
- Dixon, W. J., & Massey Jr, F. J. (1969). *Introduction to statistical methods*. McGraw-Hill Book Co, 637, 164-166.
- Dong, L. B. (2004). The Behrens-Fisher problem: an empirical likelihood approach. Victoria, BC: Econometrics Working Paper, 1-29.
- Downie, N. M., & Heath, R. W. (1970). *Distribution-free statistical tests*. Basic statistical methods, 3rd edn. Harper and Row Publishers, New York, 264-278.
- Erceg-Hurn, D. M., & Mirosevich, V. M. (2008). Modern robust statistical methods: an easy way to maximize the accuracy and power of your research. *American Psychologist*, 63(7), 591.
- Fahoome, G. (1999). A Monte Carlo study of twenty-one nonparametric statistics with normal and nonnormal data.
- Fisher, R. A. (1956). *Statistical methods and scientific inference*. Edinburgh: Oliver and Boyd.
- Friedman, M. (1937). The use of ranks to avoid the assumption of normality implicit in the analysis of variance. *Journal of the American Statistical Association*, 32(200), 675-701.
- Gibbons, J. D. (1993). *Nonparametric statistics: An introduction*. Newbury Park: Sage Publications

- Grissom, R. J. (2000). Heterogeneity of variance in clinical data. *Journal of consulting and clinical psychology*, 68(1), 155.
- Haga, T. (1959). A two-sample rank test on location. *Annals of the Institute of Statistical Mathematics*, 11(2), 211-219.
- Haidous, Norman N., and Shlomo S. Sawilowsky. "Robustness and Power of the Kornbrot Rank Difference, Signed Ranks, and Dependent Samples T-test." *American Journal of Applied Mathematics and Statistics* 1.5 (2013): 99-102.
- Harwell, M. R., Rubinstein, E. N., Hayes, W. S., & Olds, C. C. (1992). Summarizing Monte Carlo results in methodological research: The one-and two-factor fixed effects ANOVA cases. *Journal of Educational and Behavioral Statistics*, 17(4), 315-339.
- Headrick, T. C., & Sawilowsky, S. S. (2000). Properties of the rank transformation in factorial analysis of covariance. *Communications in Statistics-Simulation and Computation*, 29(4), 1059-1087.
- Hill, T., Lewicki, P., & Lewicki, P. (2006). *Statistics: methods and applications: a comprehensive reference for science, industry, and data mining*. StatSoft, Inc..
- Hojek, S. (1978). Tables for the two-sample Haga test of location. *Aplikace matematiky*, 23(4), 237-247.
- Hunter, M. A., & May, R. B. (1993). Some myths concerning parametric and nonparametric tests. *Canadian Psychology/Psychologie Canadienne*, 34(4), 384.
- Kamat, A. R. (1956). A two-sample distribution-free test. *Biometrika*, 43(3/4), 377-387.
- Kariya, T., & Sinha, B. K. (2014). *Robustness of statistical tests*. Academic Press.

- Keselman, H. J., Huberty, C. J., Lix, L. M., Olejnik, S., Cribbie, R. A., Donahue, B., ... & Levin, J. R. (1998). Statistical practices of educational researchers: An analysis of their ANOVA, MANOVA, and ANCOVA analyses. *Review of Educational Research*, 68(3), 350-386.
- Keselman, H. J., Othman, A. R., Wilcox, R. R., & Fradette, K. (2004). The new and improved two-sample t test. *Psychological Science*, 15(1), 47-51.
- Keselman, R. C., & Zumbo, B. (1997). Specialized tests for detecting treatment effects in the two-sample problem. *Journal of Experimental Education*, 65, 355-366.
- Ketchen, D. J., Ketchen Jr, D. J., & Bergh, D. D. (Eds.). (2006). *Research methodology in strategy and management*. Emerald Group Publishing.
- Lowenstein, L. C. (2015). Robustness And Power Comparison Of The Mood-Westenberg And Siegel-Tukey Tests.
- Luh, W. M., & Guo, J. H. (2007). Approximate sample size formulas for the two-sample trimmed mean test with unequal variances. *British Journal of Mathematical and Statistical Psychology*, 60(1), 137-146.
- Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. *The annals of mathematical statistics*, 50-60.
- Mendenhall and Schaeffer, 1973; W. Mendenhall, RL Schaeffer; *Mathematical Statistics with Applications* Duxbury Press, North Scituate, MA (1973).
- Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin*, 105(1), 156.
- Neave, H. R., & Worthington, P. L. (1988). *Distribution-free tests* (p. 430). London: Unwin Hyman.

- Noether, G. E. (1984). Nonparametrics: The early years—impressions and recollections. *The American Statistician*, 38(3), 173-178.
- Olson, D. A. (2013). The Efficacy Of Select Nonparametric And Distribution-Free Research Methods: Examining The Case Of Concomitant Heteroscedasticity And Effect Of Treatment.
- Rosenbaum, S. (1953). Tables for a nonparametric test of dispersion. *The Annals of Mathematical Statistics*, 24(4), 663-668.
- Rosenbaum, S. (1954). Tables for a nonparametric test of location. *The Annals of Mathematical Statistics*, 25(1), 146-150.
- Sawilowsky, S. S., & Blair, R. C. (1992). A more realistic look at the robustness and Type II error properties of the t test to departures from population normality. *Psychological bulletin*, 111(2), 352.
- Sawilowsky, S. S. (1993). Comments on using alternatives to normal theory statistics in social and behavioural science. *Canadian Psychology/Psychologie canadienne*, 34(4), 432.
- Sawilowsky, S. S. (1998). Comment. *British Journal of Mathematical and Statistical Psychology*, 51(1), 49-52.
- Sawilowsky, S. S. (2009). New effect size rules of thumb. *Journal of Modern Applied Statistical Methods*, 8(2), 597 – 599.
- Sawilowsky, S. S., & Brown, M. T. (1991). On using the t test on ranks as an alternative to the Wilcoxon test. *Perceptual and motor skills*, 72(3), 860-862.
- Sawilowsky, S. S., & Fahoome, G. C. (2003). *Statistics via Monte Carlo simulation with Fortran*. Rochester Hills, MI, JMASM.

- Sawilowsky, S. S. Fermat, Schubert, Einstein, and Behrens-Fisher: The Probable Difference Between Two Means When $F_1 \geq F_2$. *Invited Articles*, 461.
- Scales, A. Y., & Petlick, J. H. (2004). Selecting an appropriate statistical test for research conducted in engineering/graphics education: A process. *age*, 9, 1.
- Stevens, S. S. (1946). On the Theory of Scales of Measurement, *Science*, vol. 103.
- Sullivan, M. (2010). *Statistics: informed decisions using data* 3rd ed. Pearson Education, Inc..
- Tukey, J. W. (1959). A quick compact two sample test to Duckworth's specifications. *Technometrics*, 1(1), 31-48.
- Wampold, B. E., & Drew, C. J. (1990). *Theory and application of statistics*. McGraw-Hill College.
- Welch, B. L. (1938). The significance of the difference between two means when the population variances are unequal. *Biometrika*, 29(3/4), 350-362.
- Welch, B. L. (1947). The generalization of student's' problem when several different population variances are involved. *Biometrika*, 34(1/2), 28-35.
- Wilcox, R. R. (1994). Some Results on the Tukey- Mclaughlin and Yuen Methods for Trimmed Means when Distributions are Skewed. *Biometrical Journal*, 36(3), 259-273.
- Wilcox, R. R. (1996). *Statistics for the social sciences*. Academic Press.
- Wilcox, R. R. (1997). *Introduction to robust estimation and hypothesis testing*. San Diego, CA: Academic Press.
- Wilcox, R. (1998). Can tests for treatment group equality be improved?: The bootstrap and trimmed means conjecture. *British Journal of Mathematical and Statistical Psychology*, 51, 123-134.
- Wilcox, R. (2001). *Fundamentals of modern statistical methods: Substantially improving power and accuracy*. New York: Springer Verlag .

- Wilcox, R. R., Charlin, V. L., & Thompson, K. L. (1986). New Monte Carlo results on the robustness of the ANOVA F, W and F statistics. *Communications in Statistics-Simulation and Computation*, 15(4), 933-943.
- Wilks, S. S. (1942). Statistical prediction with special reference to the problem of tolerance limits. *The annals of mathematical statistics*, 13(4), 400-409.
- Yuen, K. K. (1974). The two-sample trimmed t for unequal population variances. *Biometrika*, 61(1), 165-170.
- Zimmerman, D. W. (1996). A note on homogeneity of variance of scores and ranks. *The Journal of experimental education*, 64(4), 351-362.
- Zimmerman, D. W. (1998). Invalidation of parametric and nonparametric statistical tests by concurrent violation of two assumptions. *The Journal of experimental education*, 67(1), 55-68.
- Zimmerman, D. W. (2000). Statistical significance levels of nonparametric tests biased by heterogeneous variances of treatment groups. *The Journal of general psychology*, 127(4), 354-364.
- Zumbo, B. D., & Coulombe, D. (1997). Investigation of the robust rank-order test for non-normal populations with unequal variances: The case of reaction time. *Canadian Journal of Experimental Psychology/Revue canadienne de psychologie expérimentale*, 51(2), 139.
- Zumbo, B. D., & Zimmerman, D. W. (1993). Alternatives to classical statistical procedures: Introduction to the symposium. *Canadian Psychology/Psychologie canadienne*, 34(4), 381.

ABSTRACT**ROBUSTNESS AND POWER OF THE STUDENT t , WELCH-ASPIN, YUEN, TUKEY QUICK, AND HAGA TESTS**

by

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Classical parametric statistical procedures are widely used in the research community. However, for classical tests to produce accurate results, the assumptions underlying them must be sufficiently satisfied. When the assumptions are not met, the results of the analysis may be due to the violation of the assumptions, instead of the true pattern of the data. The assumptions are rarely met when analyzing real data. The use of classic parametric methods with violated assumptions may lead to substantive errors in the interpretation of data. As an alternative to normal theory statistics, nonparametric statistical procedures do not make assumptions about the underlying distribution of the data, nor do they require large sample sizes to produce a normal distribution of errors. Nonparametric statistics also have an advantage of preserving Type I error rates to nominal alpha and having more power under the conditions of concomitant heteroscedasticity and treatment effects under nonnormal distributions.

Haga's test is a nonparametric method to examine locations of ranks of two independent samples. It is an improved version of Rosenbaum test. This study examines and compares the robustness and power of the nonparametric Haga test with that of the Tukey's Quick test, Welch-

Aspin t test, Yuen's test and Student's t test under the condition of concomitant heteroscedasticity and treatment effect via the method of Monte Carlo simulations.

The result of the simulations indicated that under the theoretical nonnormal distributions, Haga's test and Tukey's Quick test were more robust than Student's t test, Welch-Aspin's t test and Yuen's test at all alpha levels. When there was no variance effects (scale1:1) or a slight variance increment (scale1:1.1), Haga's test was the most powerful test for nonnormal theoretical distributions. When there was medium (scale1:4) or large (scale1:16) variance effects, Haga's test was the most powerful test for equal sample sizes; Student's t test was the most powerful test for unequal sample sizes.

Key words: nonparametric statistics, Monte Carlo simulation, Haga test, robustness, power

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