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MERE PRESENCE AND NON-PRESENCE EFFECTS UPON THE BEHAVIOR OF FORENSIC AND NON-FORENSIC SCHIZOPHRENIC AND NORMAL MALES

by

Gordon J. Blush

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Claire Irwin November 29, 1976
CLAIRE IRWIN, ADVISER DATE

George D. Barahal
GEORGE D. BARAHAL

J. Frank Campbell
J. FRANK CAMPBELL

Theodore Goldberg
THEODORE GOLDBERG

Irving Paster
IRVING PASTER, MODERATOR

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CHAPTER I

INTRODUCTION

Statement of the Problem

This study is an experimental investigation that seeks to examine and evaluate the effects of the mere presence of an individual upon the performance and task times of another single individual. Previous investigations in social psychology have focused primarily upon studying the effects of the presence of others and the relationship it has to the social facilitation of learning or task performance. The present research utilizes mere presence and non-presence to investigate basic behavioral differences that may exist between clinical and normal groups of individuals. The comparisons to be made between the groups that are under study are unique in that the two clinical groups are comprised of forensic schizophrenic and non-forensic schizophrenic males. These groups previously have not been compared nor evaluated as potentially being different from each other behaviorally even though they bear the same general diagnostic label of schizophrenia. The primary focus then of this research falls upon the basic problem of the measurement of some of the psychological and behavioral

differences that might exist between forensic and non-forensic schizophrenics when compared with each other as well as the comparison of these two clinical groups with normal male subjects.

Analysis of the Problem

The present research problem is compounded by some factors which require preliminary analysis and definition. The controversy which has surrounded the behavioral syndrome of schizophrenia continues within the realms of theoretical literature, clinical studies, and scientific research. Etiological studies and theories abound in the areas of genetics (Gottesman and Shields, 1972; Hurst, 1951; Kallman, 1946, 1953; Meehl, 1962; Slater, 1947), physiology and biochemistry (Freeman, 1958; Frohman et al., 1960, 1962; Gottlieb et al., 1966; Kety, 1959; Selye, 1946), as well as the process of behavior acquisition via social learning and social interaction (Bandura, 1968; Cameron, 1947; Dollard and Miller, 1950; Hull, 1943; Spence, 1956; Sullivan, 1953).

The diversity of the theories and research remains at present and produces a basic dilemma for continuing studies on schizophrenic behavior. In the absence of an adequate theory or sufficient research evidence that consistently can account for schizophrenic syndromes, questions are still raised concerning schizophrenia as a form of disorder that is heterogeneous in its etiology rather than the consequent

of a common pathological process. Indeed, if there are varied etiologies, might there then be some subtle (but perhaps potent) behavioral differences within a population of schizophrenics even though many of the general behaviors within this diagnostic category remain the same?

The answer to this "if-then" question initially appears to be affirmative on a logical deductive basis. However, the absence of any empirical evidence leaves the aforementioned response a very tenuous and debatable one.

Prior research that attempted to demonstrate significant differences and/or similarities in schizophrenic behaviors often failed to specify population variables, thus resulting in a serious question of the validity of how compatible the samples were from study to study. This problem in and of itself could account for some of the apparent conflicting results that have been obtained in various studies. Diagnostic and classification dimensions of many schizophrenic populations previously studied have often included those distinctions suggested by Johannsen et al. (1963). These authors contend that the three classifications of paranoid-nonparanoid, process-reactive, and acute-chronic have clear diagnostic and research utility upon which schizophrenics can be studied and compared. However, the clinical judgments made in the process of assigning an individual to one of these

classifications is often subjective and inconsistent, especially in those instances where large numbers of individuals are being routinely processed as part of an admission procedure in a hospital setting which is, in fact, the source from whence comes most of the research data on schizophrenics.

In the present study, the primary consideration for the selection of schizophrenic groups to be compared has not been made on any of the previously cited diagnostic or research criteria such as the clinical-ideational dimensions of paranoid or non-paranoid thinking, the historical and developmental dynamics of a process or reactive sequence, or the time and intensity dimension of acute or chronic phenomena. Instead, the groups were differentiated by a specific and limited behavioral criterion, that being whether or not the individual had ever acted out anti-socially to such an extent as to be arrested because of the criminal implications of his behavior.

The most basic statement of the present research problem is the question of differences that may exist between two groups of individuals who bear the same general clinical diagnosis of schizophrenia, but whose behavior has differed quite markedly in the sense that one group, the forensic schizophrenics, have lashed out behaviorally at the social environment around them while

the other clinical group, the non-forensic schizophrenics, have behaviorally "pulled back" and avoided the social stimuli that surrounds them.

Purpose and Significance of the Study

The purpose of this study is primarily an exploratory one. With the advent of psychology, psychiatry, and medicine becoming more and more an integral part of society's legal, justice, and correctional systems, exploratory investigations are needed into certain areas of behavioral assumptions which, to ever-increasing degrees, influence society's perceptions and, consequently, some of the decisions made by a criminal justice system. Using the presently existing literature as an index, the problem of whether there are significant differences between forensic schizophrenic and non-forensic schizophrenic individuals appears to be not only an unanswered question, but one that has yet to be investigated.

A second purpose of this study is to explore the effects of the mere presence of one person upon another. Social and clinical psychologists investigating the impact of one human upon another have, in the majority of instances, included either a praise or censure dimension with the presence of the other individual. As a result, an abundance of literature is available concerning the interactive effects of praise and/or censure behavior by one

person upon the behavior of the other. The possibly potent but subtle social stimulus value which the mere presence that one human has upon another can better be evaluated if the more obvious psychological processes of praise and censure are excluded from the experimental strategy. The sparsity of literature concerning mere presence phenomena necessitates further research that excludes praise or censure variables in the experimental situation.

The significance of this study rests then essentially on the fact that comparisons between the clinical populations of forensic and non-forensic schizophrenics have not been made before. Also, the present experimental design utilizes mere presence as an independent variable; this research strategy not having been used to any great degree in previous assessments of differences between groups. If significant differences can be shown to exist between forensic and non-forensic schizophrenics, a necessary beginning will have been made toward raising more refined questions as to the extent and nature of the variabilities between these two populations. These variabilities, if found, may some day be useful in both predictive and diagnostic clinical endeavors.

Definition of Terms

The operational definition of mere presence in this study will be the physical presence of one other person in the same room where the experimental subject will engage in task and rest periods. The other person present will not give any cue effects or social reinforcement effects (Zajonc, 1966) nor will they interact directly with the subject. The other person is simply physically present, sitting, and not doing anything else.

Non-presence is defined simply as the absence of the other person, leaving the subject physically alone in the room where task and rest periods are taking place.

Normal Males are defined as college students, volunteer subjects, who reported no past or present medical, psychiatric, or psychological treatment for any form of emotional or mental disorder and no past history of arrests other than traffic violations.

Forensic Schizophrenic Males are discriminantly defined by the fact that they have been arrested and by virtue of court action they have been referred to the Center for Forensic Psychiatry at Ypsilanti, Michigan. This hospital facility, operated by the State Department of Mental Health, is responsible for making the legal determination of competency of an individual to stand trial as well as determining matters of culpability. The

forensic schizophrenic subjects who volunteered for this study were adjudged by the hospital staff to be overtly psychotic, the psychosis being of a schizophrenic type.

Non-Forensic Schizophrenic Males are those individuals currently hospitalized at Clinton Valley Center, a state hospital at Pontiac, Michigan. Their clinical diagnosis has been established as being an overt psychosis of a schizophrenic type. The data records of the volunteer subjects for the non-forensic schizophrenic group did not have any past significant arrests other than traffic violations.

Assumptions Underlying the Study

There are a number of general assumptions that are made in the formulation of this study. Probably the most basic of these is the assumption that schizophrenics who act out behaviorally (e.g., assault, homicide, armed robbery) are qualitatively different from schizophrenics who do not act out in an antisocial manner. An extension of this assumption is that the qualitative differences between the schizophrenic groups can, in some way, be quantified via experimental measurement. Both clinical groups under study can be assumed to be similar in many of their behavioral symptoms (e.g., hallucinations, delusional thought processes, emotional lability, emotional inappropriateness) which are usually deemed necessary for

an individual to be clinically diagnosed as overtly schizophrenic. However, the assumption that schizophrenia is an underlying cause of the antisocial behavior in the forensic group becomes very questionable since the overwhelming majority of individuals who overtly demonstrate schizophrenic symptoms do not act out antisocially. Perhaps the qualitative differences that this study seeks to discern are not related to the major clinical dynamics of schizophrenia as reflected in overt symptomatology, but rather are related to underlying personality and attitudinal dimensions of the individual and respective perceptions of other people around him. Based upon this social and clinical psychological assumption, a non-censure, non-praise, mere presence experimental paradigm was selected as potentially the best way to try and demonstrate these assumed differences. The subtlety of this design provides an opportunity to measure the impact of a social stimulus (another person) that is a social stimulus by the mere fact that it exists (mere presence) rather than what the stimulus does (praise or censure).

Limitations of the Study

The limitations of this research were generated primarily by problems of logistics. Because the research was conducted at three different institutional settings, it was impossible to duplicate the room used by the

subjects during the experiment. Although the room sizes varied slightly from institution to institution, an effort was made to reproduce the type and amount of furniture present in each situation. At both the Center for Forensic Psychiatry and Clinton Valley Center, the experimental room was visually accessible through a one-way vision screen. This feature was absent in the experimental setting at Macomb County Community College.

More subjects would have enhanced the reliability of the data gathered in this study. The number of subjects included for this study, however, was especially limited by the unavailability of forensic schizophrenics. A sizable number of the forensic schizophrenics that met the necessary subject criteria to be included in the study declined participation when solicited. Their high rate of refusal to participate is probably generated in part by their awareness of the potential loss of their personal freedom via self-disclosure while in the midst of legal proceedings. This reluctance to communicate and participate is not atypical of the individual who is confined and in the process of legal proceedings, the ultimate outcome of which has not yet been determined.

Some of the historical data that could have been utilized for further clinical analysis and hypothesis testing was not available as a result of current mental

health code restrictions that safeguard patients' rights. The acquisition and utilization of sensitive personal data would have presented extensive problems of getting various permissions and releases, occasionally from family members other than the patient himself.

In this study, the related literature will be reviewed; the research design and methodology described; the results reported; and, because of the exploratory nature of the project, there will be an expanded clinical discussion of the experimental results as well as extensive suggestions for further research pursuits in the area of forensic schizophrenic study.

CHAPTER II

REVIEW OF RELATED LITERATURE

The emphasis of this study utilizes a social stimulus factor to produce a demonstrated measure of differential behavioral response patterns between groups of subjects. A decided shift from cognition to motivation is characteristic of the contemporary empirical literature on schizophrenia such as that reviewed by Johannsen (1964), Robin and King (1958), and Winder (1960).

Social Facilitation

Many studies in social psychology have sought to ascertain the dynamics of how and why the behavior of one individual affects the behavior of another. The influences of individuals on each other's behaviors take on very complex forms. Research into this problem has produced divergent and confounding theories and results. The most fundamental forms of interindividual influence are represented by the oldest experimental paradigm of social psychology: social facilitation.

Social facilitation, the enhancing or diminishing of one person's behavior as a result of the presence of another person, evolves on two bases: the audience paradigm and

the co-action paradigm. The audience paradigm involves the observation and measurement of behavior when it occurs in the presence of passive spectators. The co-action paradigm examines behavior when it occurs in the presence of other individuals also engaged in the same activity. It is significant to note that these social facilitation phenomena exist in human and sub-human animals, and, indeed, even in insects.

When the experimenter manipulates the presence of passive spectators as an independent variable (audience paradigm) varied experimental results have been obtained. One of the earliest reports of audience effects upon individual performance was made by Meumann (1904) who conducted extensive studies using a finger ergograph and found (accidentally at first) that the simple presence of a spectator boosts ergographic work significantly beyond the asymptotic level. Travis (1925) found significant improvements in 18 out of 22 subjects performing a pursuit-rotor task when the task was done before an audience than when performed alone. National Guard trainees, in the presence of an observer, performed a vigilance task with approximately a third more accuracy than did their unobserved counterparts (Bergum and Lehr, 1963). Dashiell (1930) found considerable improvement in performance due to audience effects on such tasks as simple

multiplication or word association but performance of more difficult tasks (multiplication of pairs of two digit numbers) was decreased because of audience effects.

Learning lists of nonsense syllables occurs with greater difficulty and more error factors when done in an audience condition than when alone (Pessin, 1933). The presence of spectators was shown by Husband (1931) to interfere with the learning of a finger maze.

When the independent variable is the presence of others who work simultaneously and independently on the same task on which the subject is working, the co-action paradigm of social facilitation is in effect. Here too, just as in the audience paradigm, the research results are often conflicting. The investigation of co-action began with Triplett's experiment (1898) with bicycle racing conducted under simultaneous competition conditions, paced race conditions, and cyclists racing alone against the clock. Simultaneous racing conditions consistently produced the fastest race times.

Social facilitation via co-action situations have produced increased behaviors such as substantial increments in eating when chickens are given food in the presence of others (Bayer, 1929; Tolman, 1969), increased consumption of food in puppies fed together (James, 1953), rats fed in pairs as opposed to isolated feeding (Harlow, 1932), as

well as increased sexual performances in male rats (Larsson, 1956).

Students given several different types of timed performance tests by Allport (1920) demonstrated social facilitation of a positive nature in all of the tasks performed on a co-action basis.

Sometimes, however, the learning of new responses appears to be significantly impeded by co-action conditions.

Birds learning to discriminate sources of palatable and unpalatable food learned to do so much more efficiently when working alone (Klopfer, 1958). Gates and Allee (1933) demonstrated marked decrements in cockroaches' maze running behavior when co-action conditions existed. In later studies Allport (1924) modified his original conclusions concerning co-action and concluded that overt responses, such as writing, were facilitated through the stimulus of co-workers but that intellectual or implicit responses of thought were hampered. Dashiell (1930) demonstrated that co-action effects increased the number of errors made in the multiplication of pairs of two digit numbers in a manner similar to that observed under audience effect conditions.

In spite of the apparent contradictory results found in earlier social facilitation studies, Zajonc (1965) has more recently pointed out a subtle consistency in these

conflicting results. The emission of well-learned responses is facilitated by the presence of spectators while the acquisition of new responses is impaired by audience, i.e., performance is facilitated and learning is impaired. With regard to co-action effects the same generalization can be applied. The presence of others in co-action facilitates the emission of dominant and well-learned responses while co-action paradigms impair the acquisition of new responses. If the dominant response is a correct or an effective response, then performance behavior is improved by virtue of social facilitation. If, on the other hand, the dominant or well-learned response is an incorrect or an ineffective one, then it too will be facilitated and the behavioral performance will suffer because the emission of the correct response will be postponed or prevented.

Censure Deficit

One of the prominent concepts that has been attributed to motivation in schizophrenic disorders is that put forth by Rodnick and Garmezy (1957) who have developed a censure deficit hypothesis based on experimental and clinical evidence. They state,

> ...schizophrenic patients can and do respond adaptively in tasks of considerable complexity and difficulty provided that these tasks have been made sufficiently interesting to insure the cooperation of the patient. This adapta-

> bility, however, is a tenuous one which can be disturbed by the introduction of minimal censure into an experiment.[1]

The censure deficit hypothesis was tested by Garmezy, who used rewards and punishments in a simple auditory discrimination experiment in which schizophrenic and normal subjects were required to differentiate between tones and were reinforced by the lighting of a "Right" or a "Wrong" box in the experimental situation. Under conditions of censure, schizophrenic patients showed a flatter gradient and discriminated less adequately among the stimuli than did the normal individuals. An extension of the analysis of the data in this study indicated that rewards ("Right" responses) may serve as less effective motivators of schizophrenic behavior than do punishments ("Wrong" responses). The sensitivity of schizophrenics to social censure and the subsequent disruption of their behavior posed by Rodnick and Garmezy was initially supported by experimental evidence. Webb's study (1955) on the impact of censure on the conceptual abilities of schizophrenic subjects suggested that censure led to significant behavioral deficits in the subjects' abilities to do similarities tests comparable to that used by Wechsler.

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[1]E. H. Rodnick and N. Garmezy, "An Experimental Approach to the Study on Motivation in Schizophrenia," Nebraska Symposium on Motivation, (1957), p. 116.

Censorious pictorial thema, such as that utilized by Dunn (1954) produced rather remarkable results between the abilities of schizophrenic and normal individuals to discriminate visual stimuli of different social dimensions. Dunn's subjects were given the task of judging between a standard picture and six variations of each standard picture. The standard picture was a silhouetted scene depicting a mother and a young boy in scolding, physically punishing, and feeding relationships, together with a nonhuman control picture of a house and tree. After seeing the standard picture projected on a screen for a brief period, the subjects were then given an even briefer exposure of either the standard picture or one of the variants. They were then asked to indicate whether the stimuli were similar or different. The differences between the standard picture and the variations were minimal and represented a difficult discrimination problem. Despite the difficult discriminations involved, schizophrenic and normal subjects behaved almost identically on the scenes depicting physical punishment, feeding, and the house and tree. However, the behavior of the two groups was significantly different on the scolding scene. The schizophrenic's ability to discriminate variations of the scolding picture was significantly more deficit than that of the normal subjects. However, in a later study

conducted by Cicchetti et al. (1967) utilizing a visual-discrimination task similar to that of Dunn, the experimental results failed to support the Garmezy-Rodnick theory of schizophrenic deficit either attitudinally or behaviorally, regardless of whether the task is psychomotor or judgmental, and irrespective of whether censure is embedded in the stimulus or administered verbally.

Earlier research support for a censure deficit hypothesis is refuted by Fischer and Hoch (1966). They cite experimental results where schizophrenic task performances under praise conditions were consistently poorer than those which occurred under censure. The opposite finding is true for normal subjects. The authors see the evidence supporting a praise decrement for schizophrenic subjects as being consistent with etiological theories that propose that schizophrenia is a maladaptive defensive reaction to a censorious interpersonal environment in the individual's formative past.

> An extension of the theory to the experimental situation would hold that praise is discordant with the schizophrenic subject's unusually low self-esteem. The schizophrenic subject has a negative perception of his self that is dissonant with the experimenter's praise of that self. The hypothesis thus states that schizophrenic subjects are unused to receiving praise, are uncomfortable with it, and not likely to respond favorably to it.[2]

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[2]E. H. Fischer and M. J. Hoch, "Evidence Supporting a Praise Decrement Hypothesis in Schizophrenia," Journal of Social Psychology, 70 (1966), p. 248.

Social censure was found to facilitate performance while social reward had no overall facilitating effect in a problem solving experiment conducted on schizophrenic patients by Befort (1967). The expectancy that process schizophrenics would show a deficit as a result of criticism and no change under praise conditions while reactive schizophrenics would show no change as a result of criticism and improvement after receiving praise was tested by McCreary (1971). The results did not find support for the expected interaction between the premorbid (process vs. reactive) adjustment variable and social reinforcement. The cumulative effects of censure and praise have been investigated by Ciottone and McCarthy (1969). Their findings indicate that a censure-to-censure sequence was not the prepotent experimental condition as much as was the sequence of praise-to-censure.

The research results on the original censure deficit hypothesis lack conclusiveness and leave a number of theoretical questions and experimental dynamics unanswered.

Mere Presence

Thus far the discussion and review of related literature has been focused on the effects of the deliberate manipulation of those variables that form the contingency basis for the presence of others in the experimental conditions, e.g., censure, praise, co-action,

audience, and judgments. Since the present study seeks to limit the presence of another person in the experimental situation to a "mere presence" condition, the experimenter's behavior must be controlled so that the eliciting of any cue effects or social reinforcement effects are minimized.

There has been some question within the presently existing body of literature as to whether or not such "mere presence" effects are sufficient to provide a differential basis of motivation and drive within individuals of different populations. Gelburd and Anker (1970) have demonstrated that the presence or absence of another person has a significant effect upon the psychomotor performance of chronic schizophrenics. By varying experimenter presence and experimenter absence as well as the intensity of social stimulation (the physical proximity of the experimenter to the subject), it was shown that schizophrenic subjects sought to escape from the mere presence of the experimenter by virtue of the significantly different task times taken under the different experimental conditions. The conclusion of this particular research strongly supported the idea that the mere presence of another person has definite reinforcing properties of an aversive stimulus nature for schizophrenic subjects. Similar results are reported by Hnatczuk (1967) who utilized a simple psychomotor task and compared "high

withdrawal" and "low withdrawal" schizophrenics under conditions of experimenter present and experimenter absent. Low withdrawal schizophrenics tended to vary their performance in a manner that prolonged and/or introduced human stimulation. The high withdrawal schizophrenics adjusted their levels of performance so as to minimize and/or postpone human contact. Zajonc (1965) has reviewed experimental physiological literature and points to endocrinological and hormonal shifts in both animals and humans that have been studied alone as opposed to the social stimulus of the mere presence of others. In the presence of others, hormonal levels suggest that there is emotional arousal even though the stimulus situation is not one of a censure or praise condition.

Cottrell (1972) points out:

> Many different social situations include the mere presence of others and that is why Zajonc's hypothesis has great potential importance for social psychology. If experimental tests support the hypothesis, then we have identified one of the many psychological processes that determine individual behavior in many social situations. However, experiments to test the hypothesis should use experimental manipulations in which the others are simply present and not doing anything else, such as providing cues or reinforcement for the subject's responses. Otherwise, the effects produced by the mere presence of others will be entangled with the effects produced by other variables.[3]

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[3]N. B. Cottrell, "Social Facilitation," in Experimental Social Psychology, ed. by C. G. McClintock (New York: Holt, Rinehart and Winston, 1972), pp. 203-204.

Summary

The research studies cited above were selected because of their representativeness of the current problems being encountered in the study of social motivation factors in schizophrenia. Some were selected because of their historical perspective which gives an appreciation of the distances and different directions that experimental and clinical research has traveled.

The present dilemma of research in the area of social motivation in schizophrenic disorders as well as the behavior of other populations seems to be primarily the result of interaction effects within the studies themselves. The divergencies in the results thus far may well be accounted for via methodological problems inherent in research on schizophrenic populations. The composition of the groups, the selection criteria for the subjects, the conditions under which the experiment is conducted, the psychological attributes of the experimenter (not only as an experimenter but as a person as well), the type and nature of task selected, and the experimental paradigm used (audience, co-action) all appear to be significant variables whose interaction effects may form the exceedingly complex foundation upon which present attempts to understand the social motivations of schizophrenic behavior are based.

Because of the various findings within the literature currently available, the very basic exploratory nature of this research study dictates that as a starting point in comparing non-forensic and forensic schizophrenics not only with each other but with normal subjects as well, that the urging of Cottrell, previously quoted, be heeded. If there are differences between the groups under study, in the absence of any presently existing literature that compares these groups, it seems most appropriate to start with the most basic social motivator of all, the mere presence of another being.

CHAPTER III

DESIGN OF THE STUDY

Methodology

The subjects (Ss), 120 Caucasian males between the ages of 18 and 35 years, were divided into three groups, each group comprised of N=40 Ss. The groups were categorized as Normals (NL), Non-Forensic Schizophrenics (NFS), and Forensic Schizophrenics (FS). The mean ages were 24.7 for the NL group, 25.5 for the NFS group, and 25.6 for the FS group. All subjects in both the FS and NFS groups were hospitalized at the time of the experiment. None of the subjects in any of the groups were known to be neurologically or organically impaired via disease or injury. All FS and NFS subjects were on medication at the time of their participation in this study.[1]

Apparatus and Materials

The task stimuli were 5 lists of six-character nonsense syllables, each list containing 100 words arranged

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[1]The only major control for medication in the schizophrenic Ss was not for the type of drug being used, but simply whether the Ss were medicated or not. Mostly forms of chlorpromazine or phenothiazine were being utilized as current chemotherapy for the Ss. There is limited evidence of what the exact effects are of psychotropic drugs upon social motivational and attitudinal systems.

on 8-1/2 x 11 paper in 4 columns of 25 words each. The 5 lists were alternate forms in that they each contained a total of 144 vowels. The training stimuli were 14 nonsense words arranged in two columns and containing a total of 21 vowels.[2] A six question, yes-no type of questionnaire was developed and utilized to assess the Ss' perceptions of the conditions of whether or not the Ss tend to perceive that others usually see them in a censuring, critical, or negative manner; whether or not the Ss perceived the experimenter (E) and/or the experimental situation as having been a judgmental one; and the Ss stated preference for being alone as opposed to having the experimenter present during some phases of the task and rest periods.[3]

Task and rest periods were timed utilizing a Lafayette Electric Stopclock and an Aristo 10 pocket stopwatch. A push button mechanism was assembled and mounted on the desk top where the S was working. Pushing the button activated and stopped the electric stopclock on alternate pushes.

Procedure

Introducing the patient to the experiment. Most hospitalized patients were initially met by the E on their

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[2]Appendix A.

[3]Appendix B.

ward. However, in some cases (especially with the FS group) the S was brought to the experimental situation by an attendant and the initial meeting of the E and S then took place. Upon meeting the E introduced himself by first and last name and the subject was then told the following.

> I am from Wayne State University and I am conducting a study on how people see things. I would like to show you a little more about what is involved in the study. If you would come with me I'll show you now and then you can decide whether or not you would like to be in the study.

At this point, if the subject was on his ward he would then be taken to the experimental room. If the subject had been ushered to the experimental situation, he would be met in an area outside of the experimental room and ushered in if there was an indicated interest to continue. This latter situation was the one utilized with all of the NL group, one office being utilized as a reception area and an adjoining office being used as the task room. Upon entering the room the S would see a small desk (approximately 4' x 3') with the push button affixed to the top at the left hand side of the desk and two chairs, one placed facing the desk, the other facing in the opposite direction 3 feet from the right end of the desk. Both the S and E would be seated and the E would continue:

> As I indicated we are interested in finding out how people see things, especially the letters A, E, I, O, and U.

At this point a cardboard plaque with the vowels printed in capital letters was placed in front of the S and was left at the far edge of the desk throughout the rest of the experiment. The training stimuli list was then placed in front of the S and the E continued:

> Here is a list of words that are, as you can see, words made out of 6 letters just put together and that are not actual words. Wherever you see the letter A, E, I, O, or U (E points to each letter on the plaque as the letters are said) in any of these words (E points to training stimuli list) you draw a line through it like so (E then takes a lead pencil and draws a line through the vowels in the first three words). Now for practice you draw a line through all of the rest of the vowels in the rest of the list. Anywhere that you see the letter A, E, I, O, or U simply draw a line through it.

The S is then handed the pencil and the E waits for the S to complete the list. At this point the E explains the rest of the experiment to the S by saying:

> There are 5 different lists of nonsense words in this study. They are longer than the practice list that you just did. After each list you can take a break--rest as long as you want. There will be a rest period in between each of the lists. Some of the time I will be in the room with you and some of the time I will be out of the room. After all 5 lists are done I would like to ask you some brief questions about <u>how you see</u> things. Do you have any questions? (At this point the E only responds to task related questions to avoid any social feedback or reinforcement cues to the S on a personal basis.) Will you be in the study? (If S indicates in the

> affirmative the E then presents the first list to the S and says:) Wherever you see the letters A, E, I, O, and U cross them out. When you have finished the whole page push this button down (E points to button) and that will indicate that you are done with this list. Then you can take a break and when you are ready for the next list you can tell me. (The issue of how the S will tell the E that he is ready for the next list is not specified until the first rest period occurs. This appears to facilitate a much better understanding, especially on the part of the schizophrenic Ss.) All right, (E waits for S to position paper to begin task) now remember when you have finished this whole page push this button down like this (E pushes button which starts the electrical timer in an adjoining room) to signal me that you are finished.

At this point, if the E is going to remain in the room with the S, the E simply sits down in the chair. If the E is going to leave the S alone during task, the E immediately leaves the room and goes to the room where the electrical timer is monitoring the S's task time. On those occasions where the E is out of the room during task and must reenter during the rest period, timing is not begun until the E enters the room and once again is in the actual presence of the S.

The structuring of introducing the Ss, especially the schizophrenic Ss, was carefully designed to conform to the suggestions of Rodnick and Garmezy (1957). They state,

> Directions for experiments in which both schizophrenic and normal Ss are to be used should be written primarily for the schizophrenic patient. This means that

> the directions should be simple, repetitious, and provide opportunities for S to attempt a simplified version of the task which will insure his success and cooperativeness.[4]

Also,

> Coordinate with the construction of simple directions is the task of having the patient become involved and interested in the experiment. This frequently will necessitate meeting with the patient prior to the experiment. The best place to do this initially is on the ward...in the course in which we have attempted to explain the nature and purpose of the experiment to him. Subsequently the patient has been brought to the experimental room, where we...described the procedures in detail in order to reduce the suspiciousness which frequently characterizes the approach of some patients to new tasks.[5]

The choice of vocabulary in formulating this introduction of the Ss to the E as well as the experiment was made very carefully so as to avoid the use of reinforcing or cue laden words. The choice of informing the Ss that the experiment was about "how people see things" and then presenting them with a visual, psychomotor task of vowel cancellation was a very intentional misrepresentation of the real focus of the study. This was done to mask the critical measurement of the study,

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[4]E. H. Rodnick and N. Garmezy, "An Experimental Approach to the Study on Motivation in Schizophrenia," Nebraska Symposium on Motivation, (1957), p. 167.

[5]Ibid., p. 168.

task and rest times under the different experimental conditions of E present or E absent. The statement of "how people see things" was also chosen as a subtle reminder for the Ss to look for the vowels to be cancelled (without actually admonishing them to do so) since another critical measurement to be made in this study is error factors.

The nature of the experimental task, vowel cancellation, has been utilized in previous studies (Allport, 1920; Gelburd and Anker, 1970; Hnatczuk, 1967) to investigate audience and co-action as well as mere presence effects.

Testing. The experimental task and rest paradigm was structured as follows:

Instructions to S	Practice Trial 14 words			Trial 1 100 words
Rest	Trial 2 100 words	Rest	Trial 3 100 words	Rest
Trial 4 100 words	Rest	Trial 5 100 words		Administration of Questionnaire

Each of the 3 groups (NL, FS, NFS) were divided into two experimental conditions. Under one condition the E was present with the S while the vowel cancellation task was being done. The E then left the S alone by himself

during the rest period between the task trials. Under the other experimental condition, the E was absent during the vowel cancellation task but was present with the S during the rest period. The arrangement of the independent variables is seen in Table 1.

TABLE 1

INDEPENDENT VARIABLES WITHIN AND BETWEEN GROUPS

NL	FS	NFS
20 E present-task E absent-rest	20 E present-task E absent-rest	20 E present-task E absent-rest
20 E absent-task E present-rest	20 E absent-task E present-rest	20 E absent-task E present-rest

Dependent Variables. The dependent variables in this study are:

1) The amount of task time taken by the groups under the experimental condition of E present during task.

2) The amount of task time taken by the groups under the experimental condition of E absent during task.

3) The amount of rest time taken by the groups under the experimental condition of E present during rest.

4) The amount of rest time taken by the groups under the experimental condition of E absent during rest.

5) The number of overinclusion and exclusion errors that were committed by each group.

After the completion of all task and rest times the E administered the yes-no questionnaire by reading each question to the S. On those questions where the S was initially unable to decide on a yes or no response, the E would add the clarifying phrase "most of the time..." and then would repeat the question. This technique was very effective in assisting those Ss who were having some difficulty choosing an absolute yes or no to the questions.

Research and Null Hypotheses

H_{R1} The Non-Forensic Schizophrenic (NFS) group will take significantly longer task times than the Normal (NL) group when the experimenter is absent during task than when the experimenter is present during task.

H_{O1} There will be no significant differences between the NFS and NL groups in task times under either experimenter absent during task or experimenter present during task conditions.

H_{R2} The Non-Forensic Schizophrenic (NFS) group will take significantly longer rest periods than will the Normal (NL) group when the experimenter is absent than when the experimenter is present.

H_{O2} There will be no significant differences between the NFS and NL groups in rest time taken in the absence or

presence of the experimenter.

H_{R3} The Forensic Schizophrenic (FS) groups will take significantly less task time under both experimenter present and experimenter absent conditions than will the NFS and NL groups.

H_{O3} There will be no significant differences in task times between the FS, NFS, and NL groups under either of the experimental conditions.

H_{R4} The Forensic Schizophrenic (FS) groups will take significantly less rest time under both experimenter present and experimenter absent conditions than will the NFS and NL groups.

H_{O4} There will be no significant differences in task times between the FS, NFS, and NL groups under either of the experimental conditions.

H_{R5} The Normal (NL) groups will make fewer task errors than will the Forensic Schizophrenic (FS) group.

H_{O5} There will be no differences in the number of task errors between the NL and FS groups.

H_{R6} The Non-Forensic Schizophrenic (NFS) groups will make fewer task errors than either the Normal (NL) or Forensic Schizophrenic (FS) groups.

H_{O6} There will be no differences in the number of task errors between the NFS, NL, and FS groups.

H_{R7} The Non-Forensic Schizophrenic (NFS) groups and

the Forensic Schizophrenic (FS) groups in contrast to the Normal (NL) groups will show a significant preference to remain by themselves as reflected in questionnaire responses.

H_{O7} There will be no significant differences between the NFS, FS, and NL groups in their expressed preferences to remain alone.

H_{R8} All groups, in questionnaire responses, will consistently perceive the experimenter's behavior as being non-judgmental.

H_{O8} There will be no consistency within or between the groups with regard to their perception of the experimenter's non-judgmental behavior.

H_{R9} The Non-Forensic Schizophrenic (NFS) groups will show a consistently higher sensitivity, via questionnaire response, to negative social judgments on the part of others than will either the Forensic Schizophrenic (FS) or the Normal (NL) groups.

H_{O9} There will be no significant sensitivity differences in questionnaire responses between the NFS, FS, and NL groups.

Statistical Procedures

The hypotheses were tested by means of an analysis of variance computer program, specifically the SPSS

subprograms ANOVA and ONEWAY.[6] The use of these techniques for the analysis of the data allowed independent and appropriate tests of the hypotheses. The statistical tests of interaction afforded by an ANOVA procedure were well suited for testing the hypotheses of differential behavioral responses between the groups under the different experimental conditions. Further statistical analysis of the data was provided by the SPSS discriminant analysis subprogram DISCRIMINANT.[7] This technique provides appropriate assessment of those variables used to measure behavioral response characteristics on which the groups are expected to differ. The stepwise procedure of the DISCRIMINANT subprogram allows the identification and assessment of the relative importance of the different selected variables as discriminators between the groups so that analysis and classification of the groups can be achieved.

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[6]J. Kim and F. Kohout, "Analysis of Variance and Covariance: Subprograms ANOVA and ONEWAY," in Statistical Package for the Social Sciences, ed. by N. Nie, et al. (2nd ed.; New York: McGraw-Hill, Inc., 1975), pp. 398-433.

[7]W. Klecka, "Discriminant Analysis," in Statistical Package for the Social Sciences, ed. by N. Nie, et al. (2nd ed.; New York: McGraw-Hill, Inc., 1975), pp. 434-467.

CHAPTER IV

ANALYSIS OF THE DATA

The primary purpose of this investigation was to determine if significant differences could be found between FS, NFS, and NL groups of males in task response times, rest times, task error factors, and subjective responses to questionnaire items.

The first four research hypotheses of this study were related to the task and rest time differences taken by the different groups under the different experimental conditions. The summary of mean task and rest times for each of the groups under each of the conditions is given in Table 2.

The NL group showed no significant difference in either task or rest times under the two experimental conditions. This lack of a statistically significant difference indicates that apparently the mere presence or the absence of another person is not of sufficient stimulus value to cause any real behavioral shifts in the NL response patterns.

The NFS group showed a highly significant difference in their task and rest times under the two experimental conditions ($t=3.21$, $t=4.14$, $p < .01$). This pronounced

TABLE 2

MEAN TASK AND REST TIMES FOR NL, NFS, AND FS GROUPS

Group and Experimental Condition	Task Time M S	Rest Time M S	t	
NL	T_1	T_4	T_1	T_4
E Present-task	173.55	35.05		
E Absent-rest	25.81	5.92	1.318	0.799
E Absent-task	191.65	33.05		
E Present-rest	54.02	9.16		
NFS	T_2	T_5	T_2	T_5
E Present-task	252.20	65.70		
E Absent-rest	41.83	22.80	3.21**	4.14**
E Absent-task	331.90	37.05		
E Present-rest	99.75	19.75		
FS	T_3	T_6	T_3	T_6
E Present-task	322.55	93.50		
E Absent-rest	64.24	24.55	1.736*	7.743**
E Absent-task	276.20	36.95		
E Present-rest	96.99	20.27		

*$p < .10$

**$p < .01$

behavioral change is in the direction predicted by the clinical hypothesis that schizophrenic individuals may, in fact, be actively avoiding contact with others rather than passively withdrawing from interpersonal stimuli. The fact that the NFS group shows a definite social facilitation effect to complete the task more quickly and

to take less rest time with the E present while taking significantly longer task and rest times in the absence of the E is highly supportive of the concept that schizophrenic persons will go to great lengths behaviorally to not only avoid but to actively eliminate the presence of another person. The utilization of an actual behavioral measurement such as the shifts in task and rest times under the different experimental conditions provides a very adequate means of assessing the clinical phenomenon of active avoidance in schizophrenic behavior.

The FS group showed significant differences in both task and rest times, although the task times were not as significant ($t=1.736$, $p<.10$) as were the rest time differences ($t=7.743$, $p<.01$). It is interesting to note the direction of the difference in the task times of the FS group. The FS group is the only one to take longer task times in the presence of E than in the absence of E. The direction of this particular difference was unpredicted and unexpected and requires some clinical speculation in the discussion section of this research.

H_{R1}

The research hypothesis that the NFS group would take significantly longer task times than the NL group when the E was absent during task than when the E was present during task was supported. The main Group and Treatment effects

were highly significant ($p < .001$) with the two-way interaction between Group and Treatment effects also being statistically significant ($p < .05$). A summary of the main and interaction effects is shown in the ANOVA of Table 3. This particular statistical evidence offers a high degree of support to the clinical proposition that the task time behavior being measured varies between the NFS and NL groups because the NFS is motivated to actively stay away from the social stimuli of the mere presence of the E.

TABLE 3

ANALYSIS OF VARIANCE -- NFS AND NL MEAN TASK TIMES

Source	df	SS	MS	F
Group	1	239586.000	239586.000	62.70*
Treatment (absent-present)	1	47824.199	47824.199	12.52*
G X T	1	18972.797	18972.797	4.96**

*$p < .001$
**$p < .05$

H_{R2}

The research hypothesis that the NFS group would take significantly longer rest periods than the NL group with the E absent than when the E was present was supported. The exceedingly high degree of statistical significance ($p < .001$) is seen in the main Group and Treatment effects

as well as the Group x Treatment interaction in Table 4. This behavioral measurement of the dependent variable of the Ss choosing how long to rest while alone as compared to the length of time chosen to rest while in the presence of the E provides further support for and insight into the motivational differences between the NFS and NL groups.

TABLE 4

ANALYSIS OF VARIANCE -- NFS AND NL MEAN REST TIMES

Source	df	SS	MS	F
Group	1	6003.109	6003.109	23.34*
Treatment (absent-present)	1	4697.109	4697.109	18.26*
G X T	1	3551.112	3551.112	13.81*

*$p < .001$

H_{R3}

There was no support for the research hypothesis that the FS group would take less task time under both the E present and E absent conditions than would either the NFS or the NL group. When the task times for both experimental conditions are combined, it can be seen in Table 5 that the individual group means for the FS and NFS groups are not different even though they are both consistently larger than the NL group mean for task time of the combined experimental conditions.

H_{R4}

There was no support for the research hypothesis that the FS group would take less rest time under both E present and E absent conditions than would either the NFS and NL groups. Instead of statistical support for the predicted direction of the FS rest time group mean, the opposite phenomenon occurred. Table 5 shows the FS group took the longest rest periods of all the groups, even considerably longer group mean time than the NFS group.

The ANOVA for mean task times for all three groups is summarized in Table 6. There are very significant ($p < .001$) Group main effects and Group x Treatment interaction effects ($p < .001$). The lack of significant Treatment main effects ($p < .174$) is explained by the non-significant differences in the NL group task times under the two experimental conditions and the lower significance ($p < .10$) of the FS group task times (Table 2).

The ANOVA for mean rest times for the three groups is summarized in Table 7. Group main effects, Treatment main effects, and Group x Treatment interaction effects are all highly significant ($p < .001$). This high degree of significance supports the basic clinical concept that the groups are qualitatively different from each other by virtue of the measured behavioral responses differences to the mere presence or the absence of another person when there is no

TABLE 5

MEAN TASK TIMES OF COMBINED EXPERIMENTAL CONDITIONS
FOR FS, NFS, AND NL GROUPS

Group	Task Time (in seconds) Grand Mean of Groups	Combined Conditions Task Time (in seconds) M for Individual Group S from Grand Mean	Rest Time (in seconds) Grand Mean of Groups	Combined Conditions Rest Time (in seconds) M for Individual Group S from Grand Mean
FS	258	299 41	50	65 15
NFS	258	292 34	50	51 1
NL	258	182 -76	50	34 -16

TABLE 6

ANALYSIS OF VARIANCE -- NL, NFS, AND FS MEAN TASK TIME

Source	df	SS	MS	F
Group	2	342258.938	171129.438	35.63*
Treatment (present-absent)	1	8823.672	8823.672	1.83
G x T	2	79456.625	39728.313	8.27*

*$p < .001$

behavioral task to be done (rest). The response differences can be seen to be especially true of the NFS and FS groups, particularly under the experimental condition of E absent during rest. The exaggerated rest time (Table 2) taken by the FS group with the E absent was a very opposite behavioral direction from that which had been predicted in the hypothesis (H_{R4}) which stated that the FS group would take less rest time than either the NFS or NL groups.

The fact that the FS group took the longest task time of the three groups under the condition of E present and the fact that the FS group also took the longest rest time of the three groups under the condition of E absent presents a consistently opposite behavioral response from either of the hypotheses (H_{R3}, H_{R4}) concerning the task and rest times of the FS group as compared to the NFS and NL group. The third and fourth research hypotheses were

TABLE 7

ANALYSIS OF VARIANCE -- NL, NFS, AND FS MEAN REST TIME

Source	df	SS	MS	F
Group	2	19518.145	9759.070	28.67*
Treatment (absent-present)	1	25346.133	25346.133	74.46*
G x T	2	14881.191	7440.594	21.86*

*$p < .001$

formulated upon the clinical proposition that "acting out" asocial or antisocial behavior is more often a product of sheer expedience and a general lack of impulse control as learned personality factors rather than any particular product of a "mental illness" such as schizophrenia. The problem then becomes one of why the FS group took the longest times of all three groups under the conditions mentioned when behaviorally the proof of their expedient and impulsive "acting out" potential is offered by the fact that they have been arrested for just such behavior. The amplified preference on the part of the FS group to "hold" the E out of the experimental room via long rest periods, coupled with their lengthened task times when the E was present, strongly suggests the clinical dynamics of a marked need on the part of the FS group to manipulate and control the behavior of the other person in a very

egocentric manner. The personality factors of egocentricity, manipulativeness, and need for control are often seen dynamics in the clinical personality profiles of asocial and antisocial individuals. The data trends in the task and rest times are more supportive of the egocentric, control, and manipulation dynamics in the FS group than they are of the impulsive and expedient dynamics in the FS group.

H_{R5}

The research hypothesis that the NL group would make fewer total errors on the task than would the FS group was supported. A total error mean of 15.72 was obtained by the NL group while the FS group had a total error mean of 26.12 for the 5 task trials.

H_{R6}

The research hypothesis that the NFS group would make fewer task errors than either the NL or FS group was supported. The summary of the data comparing the total error means of the three groups is seen in Table 8.

Further analysis of the data on total errors is shown in Table 9. The main Group and Group x Treatment interaction effects are significant ($p < .001$) while the main Treatment effects are not ($p < .236$). The fact that the main Treatment effects are not significant is consistent

TABLE 8

ONEWAY ANALYSIS OF VARIANCE -- NL, NFS, AND FS TOTAL ERRORS

Group	M	S	95 Per Cent Confidence Interval for Mean
NL	15.72	12.36	11.77 to 19.67
NFS	12.37	11.42	8.62 to 16.12
FS	26.12	21.01	19.40 to 32.85

with the results of other social facilitation research that has utilized a mere presence independent variable design.

TABLE 9

ANALYSIS OF VARIANCE -- NL, NFS, AND FS TOTAL ERRORS

Source	df	SS	MS	F
Group	2	4011.727	2005.863	9.54*
Treatment (present-absent)	1	295.779	295.779	1.41
G x T	2	4162.516	2081.258	9.90*

*$p < .001$

The statistical support of research hypotheses five and six is highly supportive of the clinical hypotheses that the FS and NFS groups are, in fact, behaviorally different in spite of their similar clinical diagnosis of schizophrenia.

The marked difference in the FS group's total errors in comparison to the other two groups can be construed to be behavioral "carelessness" or "recklessness." The fact that the FS group took as long of, or even longer, task times than the other two groups certainly eliminates the proposition that the errors were caused by haste. Instead, the clinical dynamics for the FS group appear to be those of a rather aloof and superficial social attitude of "going along with" the task (I'll do it), but not being particularly motivated to do well (I don't much care how I did).

On the other hand, the significantly fewer task errors committed by the NFS group demonstrates that schizophrenic individuals can utilize great care in performing a task, even more so than "normal" individuals. This data trend of error factors in this study is highly supportive of the clinical concept that schizophrenics are motivated to avoid censure or criticism and that they will go to considerable behavioral lengths to actively avoid such social stimuli.

Further statistical analysis of the error data was made to evaluate the types of errors that were committed. Exclusion errors (a vowel not cancelled by the S) and overinclusion errors (a non-vowel cancelled by the S) were in anticipated directions which were based upon the

clinical concept that there are very real personality and behavioral differences between FS and NFS individuals in spite of the communality of their schizophrenic diagnosis. The exclusion error data in Table 10 and the overinclusion error data in Table 11 is highly supportive of the proposition that the FS "carelessness" stands in marked contrast to the motivated "carefulness" of the NFS subject. Indeed, the fact that the NFS group had an overinclusion error mean slightly higher than the NL group may have been due to their motivation to make sure that all the vowels got cancelled.

TABLE 10

ONEWAY ANALYSIS OF VARIANCE -- NL, NFS, AND FS EXCLUSION ERRORS

Group	M	S	95 Per Cent Confidence Interval for Mean
NL	14.75	11.68	11.01 to 18.49
NFS	9.82	10.79	6.37 to 13.28
FS	22.00	19.66	15.71 to 28.29

The main effects of Group and Treatment and the interaction effects of Group x Treatment for the exclusion and overinclusion errors are presented in Table 12 and Table 13. The fact that the main effect of Treatment is

TABLE 11

ONEWAY ANALYSIS OF VARIANCE--NL, NFS, AND FS OVERINCLUSION ERRORS

Group	M	S	95 Per Cent Confidence Interval for Mean
NL	0.97	1.75	0.42 to 1.53
NFS	1.92	2.87	1.01 to 2.84
FS	4.12	3.43	3.03 to 5.22

insignificant in both analyses of the separate error factors suggests that the main effect of Group is the potent source of variation in error behavior.

TABLE 12

ANALYSIS OF VARIANCE -- NL, NFS, AND FS EXCLUSION ERRORS

Source	df	SS	MS	F
Group	2	2671.959	1335.979	7.28*
Treatment (present-absent)	1	416.846	416.846	2.27
G x T	2	3754.054	1877.027	10.23*

*$p < .001$

Questionnaire Data

The remaining research hypotheses of this study were measured and evaluated by means of the questionnaire which

was administered by the E to the S after completion of all task and rest periods.

TABLE 13

ANALYSIS OF VARIANCE -- NL, NFS, AND FS OVERINCLUSION ERRORS

Source	df	SS	MS	F
Group	2	205.938	102.969	13.23*
Treatment (present-absent)	1	10.359	10.359	1.34
G x T	2	12.314	6.157	.80

*$p < .001$

The questionnaire data was compared via group means. An assigned numerical data of 1 was given to yes responses and a weighted value of 2 was given to no responses. The summary of the group means for each of the six questions asked is shown in Table 14.

H_{R7}

The research hypothesis that the NFS and the FS groups would show a greater preference to remain by themselves as compared to the NL group was supported. The preference for being alone was measured on the questionnaire with question #5 which asks,

> Most of the time would you rather be by yourself than with other people?

TABLE 14

MEAN RESPONSES TO QUESTIONNAIRE
(1=yes, 2=no)

Question #	NL	NFS	FS
1.	1.95	1.45	1.35
2.	1.98	1.76	1.65
3.	1.96	1.30	1.38
4.	1.88	1.30	1.95
5.	1.98	1.05	1.03
6.	1.68	1.00	1.05

The emphaticness with which both of the schizophrenic groups responded to this item in contrast to an almost totally opposite response by the normal individuals is rather remarkable and certainly consistent with the clinical picture of schizophrenia as a behavior that is highly deficit in interpersonal social motivation.

H_{R8}

The research hypothesis that all three groups would consistently perceive the E's behavior as being non-judgmental was supported. This particular perception of the E's behavior was assessed via question #2,

> Did you feel that when the person was in the room with you today that he was judging how you were doing?

and question #4,

> Did you worry that the other person in here might tell you that you were not doing very well on this test?

Question #2 has the most consistent and the highest rating amongst the three groups of any of the questions asked. This seems indicative that the E presented a non-judgmental, non-reinforcing (praise-censure) stimulus value to the Ss.

Question #4 is important in that the NL and the FS groups showed minimal concern over the E's potential verbal assessment of task success or failure and this was in the predicted direction. The comparatively low score given on Question #4 by the NFS group was also in the predicted direction in that these individuals seem to consistently show a vigilance and a sensitivity toward the potential of criticism from their environment.

A relatively low self-esteem in both schizophrenic groups seems to be the basic foundation for their significantly higher frequency of yes responses to question #3,

> Do you feel that other people think you do more things wrong than right?

The tendency to perceive others as critical or potentially censuring is not seen to any great extent on the part of the normal individuals' responses.

Question #6 appears to be an extension of the schizophrenics' desire to stay away from and/or keep in abeyance

any social stimuli. The question,

> Today did you like being by yourself better than when the other person was in here with you?

appears to evoke the very dominant response of avoidance from the FS and NFS groups. The NL individuals did not show a response anywhere nearly as strongly negative as the FS and NFS groups.

The responses to question #1,

> Do you feel that most people watch to see if you are doing something wrong?

are in the behavioral direction that could be predicted from the body of clinical psychological literature on schizophrenia. The general tendency of the schizophrenic individual to feel more scrutinized by others than do "normal" persons is probably further enhanced in this particular study by the fact that all schizophrenic Ss were hospitalized at the time of the study. It is well documented that one <u>does</u> get watched a great deal in an institutional setting, especially a high security setting such as is found at the Center for Forensic Psychiatry where many of the FS group were housed.

The statistical analyses utilized thus far have provided a measure of insight into how the groups differed, on which variables they differed, and the degrees to which there were differences within and between the groups. A discriminate analysis was performed in order to further

measure the success with which the variables actually distinguished the three groups from each other. The assessment of the task, rest, error, and questionnaire variables were evaluated via the stepwise procedure available in subprogram DISCRIMINANT. The largest increase in Rao's V (METHOD=RAO) was the criterion for controlling the stepwise selection. This process provides for each of the available variables to be compared, one at a time, with an initial variable having the highest discriminating value. Rao's V, as a generalized distance measure, selects a variable only if its partial multivariate F ratio is larger than a specified value. Each variable is evaluated and, if selected, contributes to an increase in V when added to the previous variables. The changes of value that are made in Rao's V by each of the variables in this study are presented in summary Table 15.

Summary Table 15 shows that the task, rest, and error variables evolved in the following order of ascending discriminant value in the change of Rao's V: rest times, overinclusion errors, exclusion errors, and task time.

The varying degrees of changes in Rao's V that were associated with the inclusion of the question variables (Table 15) shows questions 5 and 6 to be the most discriminating between the schizophrenic and non-schizophrenic individuals. The expressed preference to be alone and to

TABLE 15

DISCRIMINANT ANALYSIS -- CHANGES IN RAO'S V

Variable	Rao's V	Change in Rao's V	Significance of Change
Task	62.98	62.98	.000
Rest	74.45	11.47	.003
Exclusion errors	101.38	26.93	.000
Overinclusion errors	123.32	21.94	.000
Question 5	804.19	680.87	.0
Question 6	966.69	162.49	.0
Question 3	1066.42	99.73	.000
Question 4	1158.65	92.23	.000
Question 2	1219.62	60.97	.000
Question 1	1231.89	12.27	.002

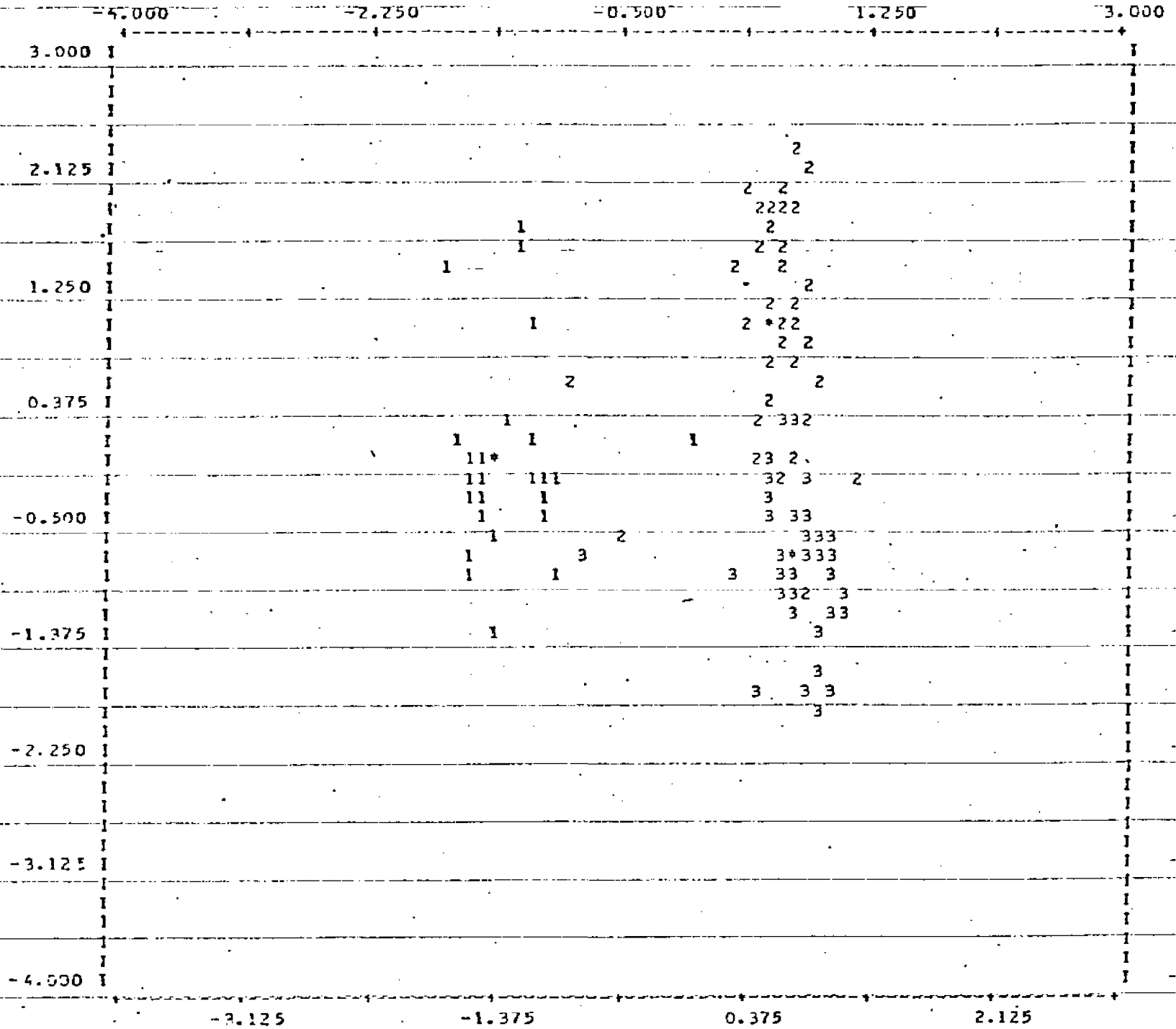
be left alone is very obviously a consistent clinical dynamic of the schizophrenic individual.

Table 16 shows a visual depiction of the three groups of Ss plotted in reduced space based on the two discriminant functions derived from subprogram DISCRIMINANT.

Table 17 summarizes the discriminant analysis prediction results. The total amount of correctly classified cases was based upon the measured variables and the stated hypothesized differential responses of the

TABLE 16

DISCRIMINANT ANALYSIS -- PLOTS OF DISCRIMINANT SCORES
DISCRIMINANT SCORE 1--HORIZONTAL
DISCRIMINANT SCORE 2--VERTICAL
(PLOT GROUP SYMBOLS: NL=1, NFS=2, FS=3)



groups to those variables. Discriminant analysis prediction results showed that of all "grouped" cases (N=120), 89.2 percent were correctly classified.

TABLE 17

PREDICTION RESULTS OF GROUP MEMBERSHIP BASED ON DISCRIMINATE ANALYSIS FUNCTIONS

Actual Group	No. of Cases	Predicted Group Membership Group 1		Group 2		Group 3	
		N	percent	N	percent	N	percent
Group 1 NL	40	39	97.5	1	2.5	0	0
Group 2 NFS	40	2	5.0	31	77.5	7	17.5
Group 3 FS	40	1	2.5	2	5.0	37	92.5

The most significant fact that the prediction results presents us with is the problem of what kinds of variables could better be used to discriminate one group from another. This is an especially critical question in the NFS group where 17.5 percent (N=7) behave more like FS group members. These particular cases appear to be the psychotic individuals who have not yet acted out but, based upon this statistical data, certainly appear to have that potentiality. The data suggests exactly what forensic psychiatrists and psychologists know from

practical clinical experience. There are a number of psychotic individuals who are more prone toward asocial or antisocial "acting out" behavior who have not yet done so but probably will. If they are identified as schizophrenic by mental health professionals prior to any acting out behavior, what are some possible behavioral measurements that can be made to screen out the potentially very dangerous individual? This study suggests that the NFS and FS groups are different qualitatively and quantitatively in some of their behavioral responses to the presently measured variables. Apparently some group differences do exist between NFS and FS groups despite the similar (but somewhat meaningless) clinical label of schizophrenia. Being able to correctly identify the acting out schizophrenic from the avoidance oriented schizophrenic could become an exceedingly crucial contribution to the general wellbeing of society.

Recapitulation

The statistical evidence generated by the present study raises the issues of whether or not the acting out antisocial schizophrenic is different enough in qualitative dimensions that the psychosis he manifests is more of a surface "masking" for underlying unsocialized, aggressive, exploitative motivations while the non-forensic schizophrenic's maladaptive responses are, as the social

facilitation literature suggests, a basic fear of the social stimuli that surround him. Despite the fact that both the forensic and non-forensic schizophrenics demonstrate genotypical behaviors, symptomatic of schizophrenic syndromes in general clinical terms, there also appears to be some phenotypical patterns that warrant acknowledgment.

It does appear, based on the present data, that the non-forensic schizophrenic does actively seek to terminate social contact and will in fact engage in the social facilitation of a task to hasten the probability of insuring the social decrement of isolation. The kinds of differential times that were obtained in this study on the dependent variables of task and rest times under the contrasting mere presence and non-presence experimental conditions strongly support the concept that the non-forensic schizophrenic will go to significant lengths to alter his behavior so as to actively avoid the social contact from which he apparently expects aversive or negative reinforcers. He also seems highly motivated to seek to avoid making mistakes in those tasks that are asked of him in order for him to secure his social isolation. Perhaps this is why in the history of many "process" non-forensic schizophrenics we see an earlier childhood behavior of extreme compliance and passive social behavior with rather good school grades, social quietness,

and conformity. In essence, is it not true that people will leave you alone if you're behaving yourself?

On the other hand, there is the problem of accounting for some of the unexpected lengths of task and rest times of the forensic schizophrenics which were more in the same direction as the non-forensic schizophrenics than they were in the hypothesized direction. The hypotheses that the forensic schizophrenics would behave much differently from the non-forensic schizophrenics by taking much less task and rest time than they actually did was predicated on the clinical concept that the forensic group would be very impulsive and expedient and that this would be reflected in their task and rest times. In light of the much longer times that the forensic schizophrenics took, the most critical indicator that shows up in the data that makes them significantly different from the non-forensic group is their marked propensity toward committing errors. It is as if they are behaviorally stating that they will do the task but not seriously. It also could be construed that their task and rest times are reflective of their controlling the situation in a dominant and egocentric manner, especially in light of the apparent trend to perform in the presence of another while shunning the unresponsive E during rest periods when the E was present. It may well be that the mere presence of social stimuli in

the form of another person activates and disinhibits some of the sociopathic dynamics that are not unusual to see in the premorbid personality of the forensic schizophrenic. As a consequence, the presence of another person stimulates exhibitionistic and reckless behavior, i.e., a positive reinforcer for the forensic schizophrenic that facilitates the dominant response of sociopathy. This would be the antithesis of the way that the non-forensic schizophrenic perceives the presence of the other.

The reality of this research problem is that on a very preliminary basis there appear to be some subtle but potent differences between the social motivational systems of the forensic and non-forensic schizophrenic. Until some of the differences are better understood we may be committing some very serious diagnostic errors, "treatment" and planning errors, as well as even ultimately social and legislative errors.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study, as an exploratory inquiry into the similarities and differences that exist especially between forensic and non-forensic schizophrenic males supports a number of hypotheses.

It is indicated that non-forensic schizophrenics will significantly shift task and rest times to facilitate minimizing the amount of time that they are confronted by the social stimulus of the mere presence of another person. The presence of others then appears to bring out the dominant social and behavioral response of the non-forensic schizophrenic of actively minimizing their contact with stimuli that have potential social and/or emotional impact. This finding is highly consistent with the social facilitation theory put forth by Zajonc (1965) and seems to offer support for that concept.

It is further indicated by this study that the opposite dynamics may be true of the forensic schizophrenic. When in the presence of another person, the mere presence facilitates socially manipulative and controlling behavior, but behavior that has far more carelessness and impulse to it than that of the non-forensic schizophrenic. Both groups

are capable of successfully completing a vowel cancellation task but the forensic schizophrenic appears not to be concerned with errors and to disregard the potential of social censure. The non-forensic schizophrenic seems unduly cautious in his efforts to errorlessly do the task correctly. In the process of so doing, even to a greater extent than normals, the non-forensic schizophrenics seem to offer further support to the social theory that there is a heightened anticipation and apprehension about making incorrect responses in the presence of others. The most parsimonious adjustment then could be simply to actively avoid the potential of such a proposition by working quickly (to eliminate the presence of the other) and errorlessly (to eliminate the possibility of invoking judgmental criticism by the other).

The questionnaire responses of the subjects in this study support the theory that mere presence of another person provides an adequate source of social stimulus and drive arousal so as to produce differential behavioral effects. The fact that most of the subjects did not perceive the experimenter as being judgmental also verifies that a mere presence design such as that suggested by Cottrell (1972) can be established with schizophrenic and normal individuals.

Discriminant analysis verifies that the three groups under study are different from each other based upon the

variables that were measured. The fact that there is a group of non-forensic schizophrenics (N=7 out of 40) who look more like forensic schizophrenics is also a significant finding in that it reinforces the idea that prediction within a population of schizophrenics can be problematic for society if a potential acting out psychotic is missed diagnostically and put into more conventional treatment or care facilities.

The most obvious conclusion of this study is that some very significant behavioral differences have been discerned between the forensic and non-forensic schizophrenic groups. Since comparisons of these two groups appears to be a markedly deficient area in the research literature, the task now becomes one of refinement in terms of future studies to discover the extent, nature, and source of these differences. The possibilities appear boundless, some of the more intriguing propositions being the following.

It would be helpful if a female experimenter could be introduced into a design similar to the one utilized in this study. Other researches such as those by Klein et al. (1967) and Marx (1971) have demonstrated that significantly different response patterns on the part of the subjects were produced by the manipulation of the independent variable of sex of the experimenter.

Another very fertile, although difficult, area to

investigate would be historical and developmental backgrounds of forensic and non-forensic schizophrenics. The research literature is resplendent with family and developmental dynamics that have been gleaned via research on non-forensic schizophrenic populations. However, if a population of forensic schizophrenics were compared to some of the historical and developmental data on non-forensic schizophrenic populations we might see some unexpected critical differences in earlier familial and social dynamics. Especially valuable would be the evaluation of earlier school achievement and adjustment records of known forensic and non-forensic schizophrenic adults. Are there patterns of differences that can be seen in grade school or high school records that would allow earlier detection and diagnostic discrimination by school personnel?

The identification and further study of the non-forensic schizophrenic population that appears more forensic-like would be an exceedingly valuable undertaking for someone so that additional diagnostic and identification tools might be developed.

The non-forensic schizophrenic's motivation to actively avoid and terminate social contact via social facilitation may have some therapeutic application. This also appears as a potentially valuable area of further exploratory clinical research.

Attempts to discern subgroup patterns of social motivation within the population of forensic schizophrenics would be, based on the current literature, exploratory and potentially valuable.

Replication of the present study also appears necessary since the previous research results in the area of social motivation in schizophrenia have already produced divergent findings, and there has been no previous data on forensic and non-forensic schizophrenics by which the reliability of the present study could be ascertained.

APPENDIX A

TRAINING STIMULI NONSENSE WORD LIST

TASK STIMULI WORD LISTS

ELTCOB	CHSRUZ
VRYVLE	KOEILA
PLMIRS	ALKDQD
LTUROL	BTRLYZ
PTRKVE	EPSBCN
TNOWPR	YRISIY
NOGMLT	ERICOD

JWCKAR	RACBZN	EMTLAG	ABORCZ
ZBETUS	VPLADO	UJAXRB	GLOUSH
DYNFOL	SWOMNT	MLIVKX	BDLFTC
MBIQXE	AJCTBL	DERFWN	HAUPBL
ORGTLD	PLACXS	QCZDBV	YAKTOR
VCHKJP	DRAVNO	NABOER	OMCHAL
EWNOST	CLOMUW	ZFGPDR	REOSTY
BULMAR	WXYZBJ	HATCSW	PUNJKD
TDAIGH	LIBRAK	ATBORM	CZLARM
NEWROC	HWISTC	ONBAZQ	LEATBD
CTHAZY	YELDOR	SPOLDG	JWRCLY
HJOGRS	UTVCWZ	TAMENG	DZNAIB
DLQTBD	EDOQMA	LYKDNT	EGDRTY
YARMVH	BRAGLY	BALKSW	KWZLEN
UFOQCZ	CKLWDT	KMQEXL	ZAKOPD
IDNRST	MAZRIG	GLOMPA	QULGNT
CRMLAU	FTALOE	YDOSPI	FKRWTO
EGLDOP	ZNGALU	IRZUWK	RDPAIM
HDBMDR	YMRDAJ	CREWTJ	VXDLBM
TUFKRZ	GLUDEN	FLARYT	SPUCHA
PNHGYA	BRBWJL	JYRUMI	NEHDUZ
KBUWVY	VACHIM	THDGAE	REKLAC
AQMDEL	RAZGLO	MABOLR	AYXWUT
GLVAUE	EJLKUE	QVARST	DMEAVB
FAWNYA	TYSYABD	DLMZNY	WROCNG

OLMPHT	DGSPOL	MKLPEA	ZJUCRF
KRKSGZ	CAREMP	OIMURE	THMPRC
NEAMKP	LOIZMF	WALKZI	SLIDOM
QGRLEH	TRAKLB	BOSATS	ARCDFT
ARRPLD	EFRQRT	CHARZI	ZLMQRJ
CVZZIS	KOTTUT	WPFTIL	WILYES
INMRST	PGEQSM	ELEZCA	VEMONR
VJCBEA	ACCLDO	URAINM	UASFLK
WYSTZB	DHRACE	DZSSTL	LMNATP
RYBEDI	OMNITL	QIGELA	ROSCID
FKARIN	ZVRCKT	MNOPRU	KRWPTS
MOCHWY	DZKHCR	RSFZTI	BEZLBY
PRYTOL	ILDOCT	AMKTYO	DINCTC
LEVNCH	QUARHK	JRPQFC	FURLZA
ZINZJS	MNEPYC	BILERZ	CHKIMP
TUBSMF	YAZTHL	VKTOUP	HSTOLV
GARDOP	BICUOH	CALIMR	TWSJRI
OKSCRA	ESKCTD	URESTR	ORUTLN
XOPHNC	VLAPHE	OPCBCI	PNMVIT
SWMIIK	JRMSZT	HETLEA	RODFLS
GMAWMC	KAESSL	WANBRD	LAGSDN
BTHOST	URGROM	RITARP	MAENIC
EJDPLI	LATTPL	COLEAS	PHOMLN
KFLMCZ	CIPHZY	ZRIBTF	SCHILT
UVULDT	POGNAZ	KBCHJZ	ARCHZL

ZRACTL	GSDLOP	GMENAT	ZWCVTU
PKMEAN	TUWCYA	RBYDEA	REBDJK
WOCZIB	BANZDI	CSARXL	MSOCWA
ADGTVH	SLPOER	TNMOWB	DNATSO
KLFXST	ENDJGH	MEGANT	BJLMPV
JRIUMY	DBMRTA	KAZDOP	WXEKOQ
ALMVCO	QLGPDZ	LCAKER	CALOMU
ZPIAEG	WHALGM	DMAGWY	UGLANT
DTWNEI	OPARIN	BLONRZ	LIYBRS
BRRTEO	HYQODE	RCHJMV	DWXGHL
XQEKMI	MZBAON	PKTKDQ	NZQRAE
CTFLDB	LEJKWZ	ONCGRE	MAPOLG
TVAMED	KLJQSZ	FTYARL	VWMEPS
JFOHUL	CMLPSA	ZUDHEN	CHRZAN
VLDACQ	NWFRDE	SALUOR	WDKIAB
EZRGHY	SCEDRA	MROBTA	REOBAN
XSJKLM	YAREDM	XKVILM	JILRDA
FDLTOA	TMOIEN	VALDSQ	BLORWS
BTCOJA	JUDKRW	JTWERC	RHUTDY
YNWTRE	HDFBTR	WXBHML	ARCHMO
HZQRNA	RCASEJ	NGUDTA	ORDGNY
DPIRAM	WSCTAH	IPSDYO	SHBLUG
JBOZNG	CTISWH	BRXAJU	TKVBJC
GZUYKL	ZAGNLU	GALTME	KRFINE
NZBCRA	KWUZRI	PQISCW	VALPRZ

CRWJFL	OFFLRA	PANAIW	KCERUW
IUDFCS	VCKITL	HFLSTI	PNLATV
PELUMD	LCHTVL	CREDNT	UEVSTR
HOVNIE	QPMZNM	KAZLVR	CZSOML
TWLUME	ELEMZR	BIOLGC	BLIEVU
KORNYN	PICUKN	TWLITP	HTATSC
QUIZVR	NDASTO	FRONCL	JIVTNE
BRLMTE	KERNHP	JRWZYT	RESATR
DIVVYA	ARSTUM	CTRUPL	VKDTLI
FLYMVC	PHOCSU	ALMNRO	LYLZDT
RCHAWQ	MSICSD	DTRNEV	TGORVF
TOPORF	JUKLVZ	ILYUSK	MKDRFT
ACCNTP	CRULST	XAMSLU	BLEPAK
VOLLRU	ZELDRT	HSTIOM	GHNURT
JRUSTI	CFWYMT	KTRVZE	KJHFAL
WELMLP	IONUSP	LAMNTP	LAPFIW
LCAMNT	FRATNL	ROCTYX	JPHSMU
INUGAR	HFPMIO	SHRIEP	PSLEON
GLRZVT	KEMPTE	PYPLZM	EFWSMD
PCMORV	QJIKLM	UROCAN	ZYLBRP
BRTVET	MLOVRA	GHATNI	IWUFAB
HOCCYP	NSTREZ	JIEZZL	VCABEM
MOANVB	IJKLAT	KFJCRD	FATBYC
KRIKLT	GERNIM	OMUICK	CIBAEF
HFOSTE	KRMINA	SLATUZ	WROFNR

RAJPKZ	TRSZEM	NOGMLT	PSZTYF
BOCTLE	CLNRYP	SPLAEN	CTROFD
SMUEFB	ATACNI	IRSULK	ALLDYD
JLYMTO	JEBNYZ	PTRKVE	BELZEB
VRYVLF	UROLTL	WNOTNO	WTLINJ
AMECIA	WXAENP	CHSRUZ	NINCPH
PLMIRS	QIPFEN	ALIEOK	TZZLME
OVLRED	BLSHFE	TRHLZR	HLOLRK
TRIMPH	NEILNS	ROTVLE	ZARRNI
CRREAW	IJYCKL	YRIZZY	KELPOB
BJIDIL	DIENWH	DWYXPM	EANIZL
YARDKZ	CHRZNO	BACRAV	RCUPRO
OCCURL	BTRLYZ	LIMPTH	TILNME
MANOVA	ARSTIV	KROSHD	JRUIST
KUNGLK	POMCKJ	QDRIVZ	FPSBCN
IPSRDY	KLTTLI	CHOURM	OKCIND
DRISTH	ACUFKH	VLEMNP	YSPUSL
ERICOD	EJRMLV	PORTVK	ILADTU
FUPZYM	GRUABE	WHSTLM	HOMPSE
LCIKYP	JUNPBR	EIFCNT	NSTBWJ
PLANZJ	OLLIPE	JLMINC	KRISTJ
YODSPH	NONSKT	BACTPP	ANUMLQ
JNTLMR	CIBUPK	CIOENT	COTVRK
KEREAC	TREKTY	DLVPRA	PLRUIE
OLIPHW	VXKZYJ	AUXERZ	HERANM

APPENDIX B

SUBJECT QUESTIONNAIRE

Y	N	1.	Do you feel that most people watch to see if you are doing something wrong?
Y	N	2.	Did you feel that when the person was in the room with you today he was judging how you were doing?
Y	N	3.	Do you feel that other people think you do more things wrong than right?
Y	N	4.	Did you worry that the other person in here might tell you that you were not doing very well with the test?
Y	N	5.	Most of the time would you rather be by yourself than with other people?
Y	N	6.	Today, did you like being by yourself better than when the other person was in here with you?

APPENDIX C

OFFICIAL REQUESTS, SUBJECT AUTHORIZATION FORMS, AND MENTAL HEALTH DEPARTMENT AUTHORIZATION FOR UTILIZATION OF HUMAN SUBJECTS

WILLIAM G. MILLIKEN, Governor

DONALD C. SMITH, M.D., Director

STATE OF MICHIGAN
DEPARTMENT OF MENTAL HEALTH
LEWIS CASS BUILDING, LANSING, MICHIGAN 48926

March 25, 1976

Gordon J. Blush
Madison Clinic
1200 East Twelve Mile Road
Madison Heights, MI 48071

Dear Mr. Blush:

I have reviewed your research proposal, "Mere Presence and Non-Presence Effects Upon the Behavior of Forensic and Non-Forensic Schizophrenic and Normal Males," which I understand you wish to conduct with patients at Clinton Valley Center and the Center for Forensic Psychiatry. You have the approval of the Department to proceed with this research provided, of course, that subjects are voluntary and that you have the approval of the Directors and/or Research Committees at the facilities involved. The Directors will be so notified.

Please be advised that Departmental Research Procedures require that a researcher using DMH clients as subjects must submit a terminal report to the Department, describing the project's activities and accomplishments.

You have our wishes for success in completing your dissertation study. I hope that the results are illuminating.

Sincerely,

Donald C. Smith, M.D.

GORDON J. BLUSH, M.A.
CERTIFIED PSYCHOLOGICAL EXAMINER
MADISON CLINIC
1200 EAST TWELVE MILE ROAD
MADISON HEIGHTS, MICHIGAN 48071

PHONE 398-4198

May 6, 1976

Selwyn N. Fidelman, Ph.D.
Clinton Valley Center
140 Elizabeth Lake Road
Pontiac, Michigan 48053

Dear Dr. Fidelman:

I appreciate the opportunity to have met with you on Wednesday and appreciate very much the assistance and information that you gave me. Enclosed please find an additional copy of the full dissertation proposal, several copies of the brief summary that you had requested, along with several copies of the complete data packets that I would be obtaining from the patients themselves.

Looking forward to hearing from you in the near future, I remain

Yours truly,

GORDON J. BLUSH, M.A.

/ef

Enclosures

The present research design is intended to investigate mere presence and non-presence effects of another person upon the behavior of schizophrenic males. The population of subjects to be utilized in this study will include white males between the ages of 18 and 35 years of age who are presently hospitalized and who have been clinically diagnosed as any type of schizophrenic reaction save for acute schizophrenia due to toxicity. Equal samples (minimum N=40; maximum N=56) will be chosen from those schizophrenics having been involved with the legal system and diagnosed at the Forensic Center as well as those admitted to Clinton Valley Center on a voluntary or commitment basis. Thusly, a population of forensic schizophrenics and non-forensic schizophrenics will constitute the two major experimental groups.

The task to be done by the subjects is a simple vowel cancelation task amongst lists of nonsense syllables. The experimental design calls for five separate task periods with four rest periods interspersed between the task periods. For one-half of the subjects in each group, the experimenter will be present while the subject completes the vowel cancelation task and then will leave the subject alone during the rest period. For the other half of each group the experimenter will be absent during task and present during rest. A statistical analysis of time differentials with the experimenter absent and experimenter present will be undertaken in an attempt to further investigate the censure deficit hypothesis of Rodnick and Garmezy as well as a further investigation of the social facilitation theory of Zajonc. A brief six-question questionnaire will be administered at the end of the vowel cancelation tasks, the questionnaire being included in the mimeographed data packet on the next to the last page.

In obtaining permission to use subjects at Clinton Valley Center, I understand that only those who wish to participate on a voluntary basis will be included. I am acutely aware of logistical and "busy work" problems that an outsider such as myself can create in doing a project such as this. I am not totally unfamiliar with Clinton Valley Center, having spent approximately six months of my master's degree internship at this institution. I have been regularly involved with professional clinical psychology for about twelve years now and would be willing to take the initiative

in reviewing case records to isolate potential candidates for my subjects as well as assist in any other way in the logistics of bringing the subjects to and from the room where the experiment would be conducted. I would also be willing to accommodate the hours of maximum convenience for the staff and the patients in running this data, even if that included odd times of the day, weekends, etc. The only physical facility required for my data gathering would be a small room, a small work table, and two chairs. It would be exceedingly advantageous if the room where the subject was working was joined by another small room in which timing apparatus could be set up and data recording could be facilitated.

Gordon J. Blush, M.A.

GORDON J. BLUSH, M.A.
CERTIFIED PSYCHOLOGICAL EXAMINER
MADISON CLINIC
1200 EAST TWELVE MILE ROAD
MADISON HEIGHTS, MICHIGAN 48071

PHONE 398-4198

March 19, 1976

Dr. Carol Mowbry
Planning and Evaluation System
Department of Mental Health
6th Floor, Lewis Cass Building
Lansing, Michigan 48926

Dear Dr. Mowbry:

Enclosed please find the authorization form that I intend to use for each of my subjects in my dissertation research project. I am hopeful that this meets the necessary criteria of your department in protecting the rights of the individuals involved.

I want to thank you again for the opportunity to have met with you on Wednesday, March 10th. I very much appreciate your consideration in this matter.

Yours truly,

GORDON J. BLUSH, M.A.

/ef

Enclosure

Authorization for Participation in Research

Consent is hereby given for individual participation in the research project being conducted by Gordon J. Blush. I understand that the only personal information to be utilized by the researcher is the individual's age, diagnostic status, and the measured amount of time used by the individual to complete a paper and pencil problem-solving task. The individual's name or any other identifying information will not be used in any way whatsoever.

_____ _____

Witness Subject

_____

Legal Guardian
(where applicable)

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AUTOBIOGRAPHY

November 14, 1940 - Born - Kent City, Michigan

EDUCATION

1962 - B.S., Psychology, Western Michigan University, Kalamazoo, Michigan

1964 - M.A., Clinical Psychology, Wayne State University, Detroit, Michigan

PROFESSIONAL AFFILIATIONS

Associate Member: American Psychological Association
Certified Psychological Examiner: State of Michigan
Certified Instructor: Michigan Law Enforcement Officers Training Council
Member: Phi Delta Kappa

PROFESSIONAL POSITIONS

1964-68 - Staff Psychologist, Recorder's Court Psychiatric Clinic, Detroit, Michigan
1968- Professor of Psychology, Macomb County Community College, Warren, Michigan
1968- Consultant to Macomb County Juvenile Court, Michigan District Courts 37 and 41
1971- Consultant and Instructor, Criminal Justice Training Center, Macomb County Community College
1972- Co-founder and Staff Psychologist, Macomb County Circuit Court Psychodiagnostic Clinic, Mount Clemens, Michigan
1972- Private practice, Madison Professional Counseling Clinic, Inc., Madison Heights, Michigan
1974- Professional Training Seminar Instructor, Center for the Administration of Justice, Wayne State University, Detroit, Michigan
1975- Professional Training Seminar Instructor, Greater St. Louis Police Academy, St. Louis, Missouri