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Relationships among personality types, job satisfaction and job specialties of medical record administrators and medical record technicians

Reynolds, Bette Leach, Ph.D.

Wayne State University, 1988

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RELATIONSHIPS AMONG PERSONALITY TYPES, JOB SATISFACTION AND
JOB SPECIALTIES OF MEDICAL RECORD ADMINISTRATORS AND MEDICAL
RECORD TECHNICIANS

by

BETTE LEACH REYNOLDS

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of Wayne State University,
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Dedication

For my husband, Eliot Williams Reynolds,
without whom this could not have been.
He would have been so proud.

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Chapter 1

Introduction

A brief review of the historical development of medical records and the roles and functions of its practitioners will serve as a basis for the focus of the present study.

Historical Development of Medical Records

Documentation of health care is an essential function in the provision of that care. It not only provides a current record of what is done for an individual patient, but also serves as a reference for those who will treat the patient in the future. As a focus for planning and research, individual or collective medical records provide selected information that is not available from any other source.

In the Nineteenth and early Twentieth Centuries, hospitals were places where people went to die. Very little patient information was recorded; therefore, data were not available to determine public health needs and disease trends, to plan health care facilities, or to study the causes of disease and promotion of health. As hospitals became more active in the provision of care, physicians became more cognizant of the need for documenting patient care.

In 1913 the American College of Surgeons was formed, with the primary objective of improving standards for surgery. As one basis for training surgeons, the College determined that their work be evaluated and required that candidates for fellowship submit 50 complete copies and 50

abstracts of case records of patients on whom they had performed major surgical procedures. However, it was soon discovered that the records kept by surgeons in their offices and those maintained by the hospitals did not contain adequate information to fulfill the College's case record requirement.

During the first on-site inspections in 1918, it was found that only 89 of a total of 700 hospitals met the minimum standards established by the College. Recognizing a need for improvement in such areas as adequate patient care, proof of care, and medical research, a minimum requirement for hospital standardization was determined to be "that accurate and complete case records be written for all patients and filed in an accessible manner in the hospital" (Waters and Murphy, 1979).

These two objectives--improved documentation of surgical care as a measure of the quality of that care and standardization of hospitals for the purpose of establishing a baseline guide to minimum performance--were two of the most significant indicators of what was to come in health care in this country for the remainder of the Twentieth Century. They were forerunners of certification, utilization review, medical audit, health care review, professional standards review, reimbursement, continuing education, and accreditation, to name a few.

In 1928 the Association of Record Librarians of North America (the precursor to the present-day American Medical

Record Association) was formed, in a concerted effort to keep abreast of appropriate developments in such fields as medical science, office management, information handling and retrieval, and medical ethics and law. One of the primary goals of this group was to advance the quality and scope of medical record education and, by 1934, standards and a curriculum had been established for the training of medical record librarians (now known as medical record administrators).

From these basic beginnings has evolved the modern and diverse field of health information administration. With this evolution has come a marked change in professional responsibilities, from the medical record librarians who were under the strict authority of the physician and hospital administrator to the contemporary health information specialists, who serve as quality assurance experts, health data analysts, quality control researchers, personnel managers, and middle-level institutional administrators (Weber, 1986).

In the 1950's a second tier of practice, at the technical level, was established to serve as adjunct or support to the medical record administrator, much as the licensed practical nurse supports the registered nurse. The basic difference between the two levels, the medical record administrator and the medical record technician, is in the length and focus of their professional education. The former complete a baccalaureate program with an emphasis on

management, while the latter is the product of an associate degree program where technical skills are the focus. Because of the burgeoning needs and changing characteristics of health agencies, there is a decreasing distinction between the functions and responsibilities of the two levels of practitioner in some work settings. Whereas hospitals were once the primary employers of medical record professionals, today they are in demand in any institution that deals with health related information. They are employed in governmental health regulating agencies; they administer health maintenance organizations and other types of innovative health care facilities; they work in a wide variety of health cost control positions; and they work as researchers in a wide range of epidemiological or administrative studies.

Purpose of the Study

The purpose of this study is to examine personality characteristics among medical record practitioners and the relationships among these traits, type of position held, and job satisfaction. Such knowledge could be expected to contribute to development of basic descriptive data for use in selecting students, in improving teaching, in providing career guidance to students and professionals, and in understanding manpower trends.

People choose occupations for a variety of reasons including challenge, money, location, family encouragement, influence of teachers, and desire to serve others. While

these are significant factors, they should not outweigh the importance of finding a career that will fit one's interests and make use of one's greatest strengths.

No occupation provides a perfect match between personality characteristics and work tasks, but good occupational choices can prevent major mismatches. Mismatch between personality type and occupation can be the cause of dissatisfaction, resulting in a lesser quality of work than would be developed if preferred behavioral processes were utilized. Tasks that call on preferred and developed processes require less effort for better performance and, therefore, give more satisfaction.

Statement of the Problem

In 1986 the American Medical Record Association conducted a survey of all accredited medical record administration and medical record technology programs to identify major issues and problems confronting medical record education. One of the concerns expressed was a decline in the quality of students. A recommendation was made that an investigation be made regarding specific qualifications of students who are applying to medical record programs, as well as the criteria being used by programs to screen applicants (Osborn, 1986). These results emphasize the need for admission standards and processes that will provide equitable and efficient means of identifying those applicants who are most likely to succeed, not only in school, but also in practice. Success in this

context is defined as "those students who graduate, achieve national standards of competence, and meet the clinical and professional standards established by the profession"

(Maynard, Larimore and Seaton, 1974).

The study will attempt to answer these questions:

1. Is there a relationship between personality type and job satisfaction?
2. Is there a relationship between personality type and job specialty?
3. Is there a relationship between job specialty and job satisfaction?
4. Are there any relationships among personality types, job satisfaction and job specialties?

Importance of the Problem

Despite the variety of preferred characteristics of applicants, most educational programs limit screening to measures of cognitive abilities. Emphasis is primarily on prior academic achievement and entrance test scores. Yet, the personality traits of applicants are as relevant to success as demographic characteristics and grade point average. A number of studies have found that predictors of outcomes are enhanced by the inclusion of personality variables as part of the selection processes for allied health programs (Schimpfhauser and Broski, 1976). Other research has shown that personality characteristics are strongly involved in vocational choice, professional specialization, and job satisfaction. Programs without a

comprehensive screening procedure often accept potentially unproductive, unhappy students whose chances of success may be quite poor. This is a situation which is unfair both to the program and to the student. The introduction of personality testing into the procedures for selection, guidance, and counseling of incoming students may provide at least a partial solution to a complex problem.

Although the present study focuses on the medical record profession, the need for improved procedures for screening and counseling students exists in other health professions as well. The dropout and failure rate among students in all allied health educational programs is widely known. It is not unusual for one-third of the students to drop out before the program is completed. This attrition represents considerable losses in time and expense for both the program and the students. In addition, the number of practitioners who leave the health field each year is excessively high. Much of this waste could be avoided if there were a better understanding of the characteristics and behaviors for both satisfaction and success in the occupation being considered.

Even though there is a relationship between personality type and job satisfaction, students should not be discouraged from entering an occupation that is seldom chosen by people of their "type". They should, however, be counseled to investigate the proposed occupation carefully, to be aware of aspects of the work that might make it less

appealing. They are more likely to be satisfied with their choice of occupation if they know at the outset that their personality type may differ from many of their co-workers.

Chapter 2

Review of Literature

A review of the literature was made to determine the findings of studies of:

1. job satisfaction;
2. personality assessment;
3. the relationship between job satisfaction and personality;
4. job satisfaction and/or personality types of health care professionals, and;
5. job satisfaction and/or personality types of medical record practitioners.

Job Satisfaction

The subject of job satisfaction has been widely researched and studied. Emphases have focused, at various times, on the physical conditions of work (including fatigue); social factors, such as supervision and the work group; and the effects of the work itself on workers' attitudes. Locke (1976) describes job satisfaction as "the attainment of values which are compatible with one's needs."

While systematic attempts to study the nature and causes of job satisfaction did not begin until the 1930's, the importance of a worker's "attitudes" in determining his actions in the job situation was recognized long before. In writing about scientific management in 1912, Taylor (1970) described "attitude" as meaning much more than just

feelings; he meant the workers' philosophy concerning cooperation with management and their view of their own self-interest. He assumed that a worker who accepted the scientific management philosophy and who received the highest possible earnings with the least amount of fatigue would be satisfied and productive.

The problem of fatigue reduction, which had been a primary concern of Taylor (1970), continued to be investigated during World War I and into the 1930's. The Industrial Health and Fatigue Research Boards in Great Britain carried out extensive investigations of the effects of hours of work and rest pauses on fatigue and performance. Other researchers in Great Britain, Germany and the United States made extensive studies of the effects of such environmental factors as illumination, ventilation, and noise on fatigue. The British researchers were also responsible for some of the earliest studies of industrial boredom and monotony. Some of their suggestions to counteract boredom were: piece rate incentives; smaller lot or batch sizes; rest pauses; increased work variety; and social interaction (Locke, 1976).

The Hawthorne studies, initiated in the late 1920's (Mayo, 1970), involved a textile mill in which excessive fatigue due to lack of adequate rest pauses appeared to be the cause of workers' dissatisfaction. Although there was a dramatic reduction in turnover and improvement in attitudes following the introduction of such factors as rest pauses,

Mayo believed the changes were a result of the fact that the men had been talked to and listened to by management. His interpretations of the Hawthorne studies (Mayo, 1960) emphasized the human relations element, that is, the role of the informal work group and supervisory practices in shaping employee attitudes and performance.

The first intensive research on job satisfaction was done by Robert Hoppock in 1935 (Locke, 1976). His samples included most employed adults in one small town and 500 teachers from several dozen communities. Hoppock's orientation was not toward any particular management philosophy; rather, his results and interpretations emphasized the multiplicity of factors that could affect job satisfaction, including both factors that had been studied previously (fatigue, monotony, working conditions, supervision) and those which were to be emphasized by later researchers (e.g., achievement). Statistical analyses of surveys he conducted showed the following areas of satisfaction appeared most often:

- Satisfaction with company and management

- Satisfaction with supervision

- Satisfaction with coworkers

- Satisfaction with financial rewards

- Satisfaction with working conditions

- Satisfaction with job content

- Satisfaction with promotional opportunities and status

More than 1000 surveys were conducted using Hoppock's original questions. Only 13-21 percent of workers expressed dissatisfaction with their jobs. The questions obviously did not measure discontent, since large numbers said they would prefer a different job, or would select a different job if they were to start over.

While early research on job satisfaction was based on the theory that any job related factor could be a source of satisfaction and/or dissatisfaction, the two-factor theory (Herzberg, Mausner and Snyderman, 1959) proposed that job satisfaction and dissatisfaction result from different causes. Work satisfaction is the result of intrinsic or content factors: achievement, recognition, the work itself, growth, and responsibility. Job dissatisfaction, on the other hand, results from totally different extrinsic or context factors: company policy, supervision, job security, social climate, salary, and working conditions. In one respect Herzberg made a major contribution to the study and understanding of job satisfaction in that his work served to focus attention on the importance of psychological growth and its relation to work and has been a major impetus to applied research. However, there has been a great deal of criticism and controversy surrounding the two-factor theory due to the inconsistency of its use and the methodological weaknesses of many of the studies supporting the theory (Locke, 1976).

The Job Descriptive Index

Of the many factor analytic studies which have been performed on the various job satisfaction inventories, a consistent pattern of factors developed. The factors which seemed to emerge most consistently were: a general factor, a pay and material-reward factor, a factor dealing with the work itself, a supervision factor, and a factor related to the other workers on the job. It was on the basis of these findings that the Job Descriptive Index (JDI) was developed in the late 1960's by Smith, Kendall, and Hulin.

Smith and her colleagues originally planned to investigate four areas of satisfaction. These were work, pay and promotion (as a combined area), supervision, and coworkers. Preliminary analyses, however, indicated quite clearly that the pay and promotion factor was breaking down into two discriminable, although correlated factors, one dealing specifically with pay, and one dealing with promotional opportunities. Therefore, their final scales were designed around five areas of job satisfaction: work, pay, promotions, supervision, and coworkers.

The initial format of the JDI was a list of adjectives used to describe the five aspects of job satisfaction. Preliminary studies were done using employees and undergraduate students at Cornell. Workers were instructed to describe their jobs by indicating by means of a "yes", "?", or "no", which of the words applied to their job. Thus, the emphasis was on describing rather than evaluating their

jobs. Additionally, each worker was asked to describe three jobs: his present job, the job he would most like to have (his best job), and the job he would least like to have (his worst job). If an adjective described his best job but not his worst job, it was considered a source of satisfaction if used to describe his present job. If only the present job and the best job responses were considered, those adjectives appearing in both were given a score indicating satisfaction. If the present job and the worst job were used, the adjectives appearing in both were given a score indicating dissatisfaction. An item was scored positively for all workers if it was endorsed more frequently for the best job than for the worst job, and it was scored negatively for all workers if endorsed otherwise.

After completing the JDI, each subject was interviewed using the Critical Incident Technique. As an example, the subject was asked to give a specific example of something which actually happened on the present (or most recent) job which made them satisfied or dissatisfied with the supervision. At least two satisfying and two dissatisfying incidents were obtained for each of the five aspects of job satisfaction. Then the subjects were asked which of the two types of incidents were more characteristic of the supervision. This procedure was followed for each of the aspects of job satisfaction. The scoring procedure that eventually developed weights the items as follows:

Yes to a positive item	3
No to a negative item	3
? to any item	1
Yes to a negative item	0
No to a positive item	0

The JDI has several advantages as a measure of job satisfaction. First of all, it is directed toward specific areas of satisfaction rather than global or general satisfaction. Second, the verbal level required to answer the JDI is quite low and does not require that the respondent be able to make abstractions or understand long, vague sentences with several qualifications, but only that he understand the general meaning of single words or short phrases. Third, the JDI does not ask the respondent directly how satisfied he is with his work, but rather it asks him to describe his work. In describing his job, the respondent provides information which may be used to infer his satisfaction. In addition, the JDI is a very short questionnaire that can be completed in five to ten minutes and is easy to score manually.

The JDI is reported as having good content validity, excellent construct validity, and adequate reliability, based on a variety of samples selected from widely differing occupations. Concurrent validity seems well supported by studies that show consistent high correlations of the JDI with independent variables.

With respect to reliability, the JDI has not obtained extraordinarily high internal consistency coefficients; however, it has performed adequately given the brevity of the test and the sensitivity of the test to short-term changes in the work environment. Test-retest reliability over brief periods (two and six weeks) has been shown to be fairly high. Longer term tests of reliability have shown low to moderate reliability coefficients.

Recent Research Using the Job Descriptive Index

In a study of role variables and employee satisfaction in hospital medical record departments, Lynch (1984) used 36 items from the Job Descriptive Index to measure employee satisfaction in two areas--the job and the department head. The results reported only moderate levels of satisfaction and indicated that employees were consistently more satisfied with their department heads than with their jobs. Of interest is the fact that higher satisfaction values were recorded by employees in the smaller hospitals (under 100 beds).

Baird's study (1985), which focused on a small sample (24) of Black medical record clerks, reported a significant difference from the JDI norms, mostly due to dissatisfaction in the pay category. He compared his findings with previous research which had shown minority group workers to be less satisfied with their jobs overall, and concluded that this may be due to the traditionally lower level of jobs held by minorities.

Several studies have been done in the area of job satisfaction of professional librarians using the Job Descriptive Index. One of these studies (Miniter, 1975) collected data from 190 librarians, both male and female, representing three types of libraries-public, university, and special. The results indicated that: 1) job satisfaction varies with type of library; 2) women are more satisfied as librarians than men; 3) librarians are generally more satisfied than other workers; and 4) job satisfaction is lower when promotional opportunities are restricted.

In other research, Bridges (1979) studied the relationship between worker absenteeism and job satisfaction in education. Although research in the private sector had shown that job satisfaction is not a major factor in absenteeism, Bridges' findings suggest that the opposite is true in educational organizations. These findings support the theory that, among higher trained professionals, intrinsic rewards, especially social rewards, are especially important in influencing job satisfaction.

Personality Assessment

"The variations in thought and behavior that differentiate one person from another constitute a key facet of what is meant by the concept of personality" (Gough, 1976). Allport (1937) further defined personality as "the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment."

Volumes of research have been generated and numerous theories postulated to explain why people behave as they do. Of interest to the present study are those theories that relate to vocational choice and job satisfaction.

Maslow (1970) posited a motivational hierarchy that has implications for managerial and personnel issues (e.g., the design of incentive systems). Maslow's theory asserts that man has five basic categories of needs: physiological, security and safety, love and belongingness, self-esteem, and self-actualization. Man as a social organism and at work is motivated largely by the higher level needs and hence, rewards, such as approval and recognition, are of great importance. On the basis of this theory, the optimal job environment for a given employee would be the one which corresponds most closely to his position on the need hierarchy.

Holland's (1973) schema of vocational choices sets forth six modes of response to cultural demands and opportunities: realistic, investigative, artistic, social, enterprising, and conventional. Personality and vocational types are defined on the basis of these factors, taken alone or in combination. Job choice, job performance, and even life circumstances can then be forecast from the typological classification.

Type psychology involves grouping together and labeling prominent and recurring dispositions. Thus, an "introvert"--viewed as a kind of person--may be

characterized by traits of persistence, rigidity, and innumerable typifying habitual responses (Gough, 1976). Jung was a major advocate of type theory, and he developed one of the most comprehensive theories to explain human personality. Jung's theory of psychological types postulates that there are four basic mental processes (sensing, intuition, thinking, and feeling) used by everyone, but not equally preferred and developed. Every type uses all four processes, but persons of each type are distinguished by their relative preferences for each of the four, and by the attitudes in which they use them. His concepts are embodied in several personality inventories, including the Myers-Briggs Type Indicator, the instrument used in the present study.

The Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) is one of a number of psychological instruments concerned primarily with variations in normal attitudes and behavior, rather than with psychopathology. The MBTI is widely used as a counseling tool for self-understanding and in career planning; for improving educational practice through an understanding of type differences in teaching and learning styles; and for working with families and groups to improve communications, teamwork, and leadership.

The MBTI was selected for use in the present study because 1) of its proven reliability and validity and 2) it has been used previously with medical record practitioners,

therefore comparisons can be made with results of other studies. In addition, the MBTI is being used by nursing and other allied health professions in research efforts directed at an aim similar to that of the present study--namely, to gather personality data on practitioners to determine selection or counseling indicators for those interested in the health care professions.

The history of the MBTI began when Katharine C. Briggs became interested in personality differences and developed her own typology from biographies. When Jung's ([1921] 1971) book, *Psychological Types*, was published Briggs, realizing that Jung's typology was congruent with her own effort but much more complete, studied the system thoroughly and taught it to her daughter, Isabel Briggs Myers. For over twenty years they used Jung's theory as the basis for an informal kind of "type watching" (McCaulley, 1981). In the 1940's Myers began to consider the possibility of an instrument that would reliably indicate the Jungian type to which an individual belongs. Over the next fifteen years she developed a series of scales of increasing sophistication and tested them on increasingly larger samples of subjects. One of her most important studies was a longitudinal study of 5355 medical students from 45 medical schools to see if specialty choices could be predicted. Her data showed that the students did move in the direction predicted by Jung's theory. A follow-up done 12 years later, confirmed Myers' findings. Not only did she show that types differed in

specialty choices, but that physicians who changed specialties were more likely to move into specialties more compatible with their respective types.

The MBTI is a self-report, forced-choice personality inventory. The data describe the way in which an individual prefers to perceive situations and to make decisions. The MBTI contains four separate indexes. Each index reflects one of the four basic preferences which direct the use of perception and judgment.

1. **Extraversion-Introversion (EI).** The EI index is designed to reflect whether a person is an extravert or an introvert. Extraverts are oriented primarily toward the outer world; thus they tend to focus their perception and judgment on people and objects. Introverts are oriented primarily toward the inner world; thus they tend to focus their judgment and perception upon concepts and ideas.
2. **Sensing-Intuition (SN).** The SN index is designed to reflect a person's preference between the two opposite ways of perceiving; sensing (S), which reports observable facts or happenings through one or more of the five senses; intuition (N), which reports meanings, relationships, and/or possibilities that have been arrived at without conscious attention or reasoning.
3. **Thinking-Feeling (TF).** The TF index is designed to reflect a person's preference between two

contrasting ways of judging. A person may rely primarily on thinking (T) to decide impersonally on the basis of logical consequences, or a person may rely primarily on feeling (F) to decide on the basis of personal or social values.

4. **Judgment-Perception (JP).** The JP index is designed to describe the process a person uses primarily in dealing with the outer world, that is, with the extraverted part of life. A person who prefers judgment (J) has reported a preference for using a judgment process (either thinking or feeling) for dealing with the outer world. A person who prefers perception (P) has reported a preference for using a perceptive process (either sensing or intuition) for dealing with the outer world.

According to theory, one pole of each of the four preferences is preferred over the other pole for each index. The preference on each index is independent of preferences for the other three indexes, so that the four indexes yield sixteen possible combinations, called "types" (e.g., ESTJ, INFP).

Validity data are presented in the manual (Myers and McCaulley, 1985) showing that self-ratings of type and the assignment made by the MBTI have closer correspondence than would be expected by chance. Data are also presented to show that the MBTI is related to variables such as personality measures, SAT performance, selected Strong Vocational

Interest Blank scales, and the Edwards Personal Preference Schedule. The type distribution tables in the manual provide evidence for construct validity of the instrument, in that the type table for a given occupation has significantly more of the types predicted by theory to have interest in, and therefore more likely to be members of, that occupation. In addition, numerous studies, in both theoretical and applied areas, have supported the construct validity of the MBTI.

Reliability of the MBTI is presented from two perspectives in the manual: 1) the consistency of remaining in the same "type" category upon readministratation of the instrument; 2) the stability of the continuous scores.

The chance probability of choosing all four preferences on retest (i.e., coming out the same type) is 6.25 percent. Data reported in the MBTI manual for eleven different samples show significantly higher results (24-61 percent). When subjects report a change in type, it is most likely to occur in only one preference, and in scales where the original preference score was low. The manual further explains the phenomenon of remaining in the same type as follows:

An assumption, derived from observations made during the construction of the MBTI, is that persons with a good command of perception or judgment (i.e., with good type development) are more likely to be clear about their own preferences. They therefore will report their preferences more consistently. If these assumptions are correct, samples of older persons should have higher reliability estimates than samples of younger persons. Since the quality of perception and judgment is often evidenced by an individual's level of achievement, it is expected that in samples of persons of comparable age levels,

those with higher achievement levels will also report their preferences more consistently and thus these samples will evidence higher reliabilities than samples of their lower-achieving peers. Since the acquisition of good judgment is postulated to be the most difficult to develop, the TF index is expected to be particularly vulnerable to deficiencies in type development. Therefore, the lowest reliabilities in less effective samples is expected to occur in the TF index.

The stability of the continuous scores is demonstrated in the manual by data from several statistical measures of internal consistency. Split-half correlations on each of the dimensions (EI, SN, TF, JP) ranged from .73 to .92. Test-retest product moment correlations in samples from seventh grade to medical school reported continuous scores on the EI, SN, and JP dimensions ranging from .51 to .93. The correlations on the TF scale were slightly lower, ranging from .45 to .91.

Recent Research Using the Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator is one of a number of personality inventories that have been used in studies of predictors of outcomes. In a study to examine the effectiveness of various instruments in predicting academic success for high-risk college students (Nisbet, Rubel and Schurr, 1982), the inclusion of such tests as a study skills inventory and a personality type inventory (MBTI) increased the predictability of those students who were likely to have academic difficulty. An increase of approximately 11 percent was obtained in the predictable GPA variance. This increase accounted for approximately 67 percent of the total predictable variance.

In an earlier study by Goldschmid (1967) five personality tests, including the MBTI, were used to predict college majors of entering freshmen. The findings indicated that students in a particular major share certain personality traits which are significantly different from those in other majors.

Eichenwald (1981) examined the relationship between personality factors and personal interests of medical record administrators, using the MBTI and the Strong-Campbell Interest Inventory (SCII). The intent of her study was to gain some insight into the types of people who seek to become medical record administrators and who find satisfaction in the profession. She sampled 64 practitioners and 128 students. The sample was biased, however, in that a very large component of the subjects were either graduates or students of the same medical record administration program.

The analysis of the data from the SCII indicated a significantly large number of practitioners who demonstrated a high level of interest associated only with the Business Management scale and the Conventional theme. The Conventional person is described in the *Manual for the Strong-Campbell Interest Inventory* as one who:

...prefers well-ordered environments and likes systematic verbal and numerical activities; is usually conforming and prefers subordinate roles; is effective at well-structured tasks, but avoids ambiguous situations and problems involving interpersonal relationships or physical skills; describes him/herself as conscientious, efficient, obedient, calm, orderly and practical. ...

Vocational preferences include bank examiner, bookkeeper, clerical worker, financial analyst, quality control expert, statistician, and traffic-manager.

This description coincides with the MBTI types who have been found to choose medical records as an occupation.

In the analysis of the distribution of the 16 MBTI types, 14 were represented among the practitioners and all 16 types showed up in the student group. Of special interest is the fact that the two types that appeared in greatest frequency among the practitioners, ISTJ (19 percent) and ENFP (19 percent), describe exact opposites on each of the four indices of the MBTI scale. Eichenwald offered the following explanation:

Perhaps this is beginning to reflect the different functional levels within the profession which have been emerging over the past 10-20 years; with one type being most appropriately suited to a particular level of practice. For example, it is likely that the ISTJ type might be more closely associated with the more technically oriented professional positions involving activities such as coding, statistics, medical audit, computer and systems work while the ENFP types might be associated with the primarily administrative/supervisory and/or teaching positions within the profession.

Among students the most frequent type was INFJ (14.8 percent), compared to only 6.9 percent of practitioners. The explanation given was that "With the scope of medical record administration being changed... perhaps the type of student being attracted to the profession is changing too."

In a study to explore characteristics that identify the successful student and the potential dropout in a medical record technician program, Plevak (1984) used three standardized tests to measure interest, abilities and

personality types: the Test of Adult Basic Education (TABE), the Strong-Campbell Interest Inventory (SCII), and the Myers-Briggs Type Indicator (MBTI). Subjects of the study were 58 freshmen enrolled in an introductory medical record science course at four midwestern colleges. Twenty-one students (36.2 percent) withdrew from the programs during the first year.

Test scores of the students who continued were compared with those who withdrew from the programs. While the interest scale (SCII) showed a shift toward very high in the successful students, the TABE test scores indicated that there may be little difference in the abilities of the groups (34 percent of the dropouts earned a final grade of C or better in the introductory course).

The study revealed a variety of personality types, with 13 of the possible 16 types being represented. Contrary to Eichenwald's study (where the ENFP type was one of the two that appeared in greatest frequency) the ENFP type was represented in the group that withdrew, but not in the group that continued. Perhaps this indicates a difference in the orientation of the medical record technician versus the medical record administrator. However, due to the small number of dropouts (29 percent) who returned the Myers-Briggs Inventory, these findings may not be totally reliable. Plevak concluded that "...it appears that the potentially successful medical record technician would most likely have either an extravert or introvert sensing-feeling

personality with a judging component (ESFJ or ISFJ)."

McCaulley (1983) reported on a study of personality types in various health professions, conducted in the early 1970's. A sample of medical record students and practitioners was made up of 98 people, 45 of whom gave their occupation as workers in medical records, and 53 students in medical record administration. One type, ISFJ, accounted for 19 percent of students and 24 percent of medical record personnel. ISFJ and ISTJ together accounted for 30 percent of the entire sample, 28 percent of the students and 31 percent of the medical record personnel. Two types were significantly attracted to medical records, ISFJ and ESFJ. There were significantly more sensing types, feeling types and judging types; more I--J types, more patient-oriented -SF- types, more thoughtful and realistic IS-- types, and more detail-minded and organized -S-J types.

Research on the Relationships Between Personality Type and Job Satisfaction

No studies were found dealing with personality type and job satisfaction in medical records, but research has been reported in this area for other allied health professions.

Williams (1975) reported on a study of job satisfaction and personality types of a small sample of 53 medical technologists. Using the Myers-Briggs Type Indicator and a job satisfaction questionnaire developed by the researcher, the findings showed the introverts to be much less satisfied than the extraverts.

In a more extensive study, Williams (1976) collected data on 306 medical technologists in seven large hospitals, using the MBTI and the JDI. She reported on the relationship between personality type and job satisfaction within specialty areas. The only significant relationship between the MBTI preferences and job satisfaction was that a stronger preference for feeling was associated with higher scores on satisfaction with co-workers. Within specialties, there were no significant relationships between strength of MBTI preference and job satisfaction. The results, however, did support Williams' earlier study (1975); that is, that introverts appear to be less satisfied than extraverts.

In yet another study of medical technologists, French and Rezler (1976) tested a sample of 154 female medical technologists, also using the Myers-Briggs Type Indicator and the Job Descriptive Index. The respondents were about equally divided among clinical practitioners, educators, and administrators. All groups had a majority of introverts, of thinking types, and of judging types. In relation to job satisfaction, all groups reported most satisfaction with the work they were doing and with their co-workers, and less satisfaction with pay and promotion.

Relationships between career satisfaction and MBTI preferences of employed dietitians was studied by Fellers (1975). In addition to the MBTI, participants responded to a brief questionnaire which requested information about their specialty and satisfaction with the specialty. This health

field attracted the types of individuals who preferred a detailed, analytical, organized style of working.

There were no significant type differences when dietitians were asked if they were satisfied with their career in general, but there were differences when asked if they were satisfied with their specialty at present. Of the total sample of 243, thirty-seven (15 percent) reported dissatisfaction with their career. The findings were not able to predict satisfaction or dissatisfaction on the basis of personality type.

Chapter 3

Conceptual Framework

The framework for this study consists of three concepts: job satisfaction, personality type, and job specialty within medical records. The focus of this investigation is the relationship of personality type to job satisfaction, as modified by job specialty and certain institutional and personal characteristics.

The Job Descriptive Index (JDI) was used to measure five factors that contribute to job satisfaction or dissatisfaction. These factors are: work, pay, promotion, supervision, and co-workers.

The Myers-Briggs Type Indicator (MBTI) was used to determine personality type. MBTI scoring assigns persons to one of 16 types, which are generated by the four preferences: EI (extraversion or introversion), SN (sensing perception or intuitive perception), TF (thinking judgment or feeling judgment), and JP (judging attitude or perceptive attitude). Each type is defined by letters (e.g., ENFP, ISFJ) representing the four preferences. Each type has its own unique properties, and shares other properties with other types having letters in common (e.g., all extraverted types share an active orientation toward the environment, but the way this appears will differ depending on the other preferences). Williams (1975) developed the following condensed descriptions of the 16 types:

ISTJ--Superdependable, patient with detail and routine. Emphasizes analysis, logic, and decisiveness. Likely to dismiss as nonessential needs that differ from his. Will do jobs beyond his duties rather than let them go undone.

ISTP--Great capacity for facts and details. Quiet, reserved. Interested in principles underlying things. Prefers to organize ideas and facts rather than people. May have too little regard for people around him.

ESTP--Adaptable realist. Unprejudiced, open-minded, easygoing, tolerant of everyone including himself. Apt to be interested in machinery. If his judgment is not sufficiently developed to give him character and stick-to-itiveness, he may be lazy and unstable.

ESTJ--Matter of fact, practical, realistic. May neglect perception. Needs to listen to other people's points of view. When he does not make an effort to find out how his associates think and feel he may misjudge and antagonize. An executive-administrative type who likes to organize and run the world.

ISFJ--Another of the superdependables. Emphasizes loyalty, consideration. Has more tact and sympathy, more interest in people and concern for their feelings than ISTJ. Likes work that benefits people in practical, visible ways.

ISFP--Sees the needs of the moment and adapts to them, especially to the personal needs of others. Consistently underestimates and understates himself. Loves nature and animals.

ESFP--Interested in people and has sympathy and tact in dealing with them. Possibly too easy in matters of discipline. Good naturedly aware of all that goes on, including conflicts of interest, and can often help to smooth things out.

ESFJ--Interested almost exclusively in doing things with and for people. Cares a great deal about fellowship and harmony, and is unhappy with friction or indifference. Practical, realistic. Usually adapts well to routine.

INFJ--Wins cooperation rather than demanding it. Wants his ideas to be worked out in practice, applied and accepted. May wish to work on problems of human welfare. Can be a good executive, especially when dealing with people.

INFP--Likes to concentrate on a project involving new possibilities for people. Has deep insight and long-range vision. Curious about new ideas, interested in books and language. May be gifted in writing.

ENFP--Always sees new ways of doing things. Enthusiastic. Skillful in handling people and has remarkable insight into their possibilities. Likes a succession of new problems to be solved, with other people taking over as soon as the solution has been found.

ENFJ--Has insight, vision, and concern for future possibilities, especially where people are involved. May jump to conclusions, acting on assumptions. Likes face-to-face communication with individuals, groups, or audiences.

INTJ--Most individualistic and independent. May ignore others' feelings and views. Needs to make a real effort to understand and appreciate. Likely to be an effective and relentless organizer.

INTP--Good at pure science, research, math, etc. Likely to have insight, ingenuity, quick understanding, intellectual curiosity. More interested in reaching solutions than in putting them into practice. If a teacher, may care more about the subject than about students.

ENTP--Enthusiastic innovator, but hates uninspired routine. Projects may appear routine as soon as he has solved the problems. Likes to go from one project to another, someone else taking over when things are well in hand.

ENTJ--Intellectual curiosity for new ideas, able to see possibilities. Has tendency to team up with like-minded intuitives. May need someone with well developed "S" to look after details. Innovative executive.

Job satisfaction is the dependent variable of the study. The independent variables are personality type and job specialty. Modifying variables are size/type of institution, professional credential, age, and sex.

Size/Type of Institution. If the facility is a hospital, it is categorized by number of beds as follows: under 100; 100-199; 200-299; 300-399; 400-499; 500-699; and over 700. Information regarding bed size was taken from the 1986 edition of the *American Hospital Association Guide to*

the Health Care Field.

Credential. Professional credential held, categorized as: Registered Record Administrator (RRA) or Accredited Record Technician (ART).

Age. Chronological age of the individual, categorized as follows: 20-25; 26-30; 31-35; 36-40; 41-45; 46-50; 51-55; 56-60; and over 60.

Research Questions and Hypotheses

Within the framework, null hypotheses were developed for analytic purposes under the research questions:

1. Is there a relationship between personality type and job satisfaction?

H1 There is a significant relationship between personality type and job satisfaction.

2. Is there a relationship between personality type and job specialty?

H2 There is a significant relationship between personality type and job specialty.

3. Is there a relationship between job specialty and job satisfaction?

H3 There is a significant relationship between job specialty and job satisfaction.

4. Are there any relationships among personality types, job satisfaction and job specialties?

H4 There are significant relationships among personality types, job satisfaction and job specialties.

Assumptions and Limitations

Response rate is always a limiting factor in using survey data. While the response rate for this study may be considered statistically valid (57.1 percent), it is disappointing in terms of the intent of the study. The distribution of respondents by credential, however, indicates that the sample is representative of the population as evidenced by membership in the Michigan Medical Record Association.

One source of bias may result from the fact that responses are voluntary and certain individuals who chose not to participate may represent specific personality types or levels of job satisfaction that will therefore be underrepresented in the study.

Because of the importance of accuracy and completeness of medical records, it was predicted that this field would attract the IS-J types. That is, those who are attracted to specialties requiring sustained attention and solitary work (I); who have a special interest in practical details of events, consistency in following established practices, and skill in action rather than skill in words or symbols (S); and where schedules, system, and order are important (S-J).

Chapter 4

Methodology

This study was designed to analyze the relationships among personality types, job satisfaction, and type of position held by medical record professionals.

Population of the Study

The population consists of all credentialed medical record practitioners (Registered Record Administrators and Accredited Record Technicians) employed in the State of Michigan.

There is no way of knowing exactly how many Registered Record Administrators (RRAs) and Accredited Record Technicians (ARTs) are employed in the State. Membership figures are available from professional organizations (i.e., American Medical Record Association and Michigan Medical Record Association), but these figures account for only those individuals who choose to belong to these associations. Therefore, it was determined that the most effective method of locating the subjects for the study was to contact the institutions that employ medical record practitioners.

Data Collection

An initial contact letter was mailed to the Director of Medical Records in every hospital in Michigan (233). Names and addresses of the hospitals were obtained from the 1986 edition of the *American Hospital Association Guide to the Health Care Field*. Letters were also sent to 18

institutions, other than hospitals, where it was known that RRAs or ARTs were employed. The letter briefly explained the purpose of the study and requested the directors' participation by acting as coordinator for their facility. They were also asked to complete and return an information sheet that would indicate the number of credentialed medical record practitioners employed at that institution. Copies of the letter and the information sheet are included in the Appendix.

Of the 251 contacts made, 198 (78.9 percent) responded, identifying 792 potential participants. As the responses were received from the coordinators, packets were sent to them for distribution to participants. Each packet contained: a letter describing the study and the instruments to be used and assurance of anonymity; the Myers-Briggs Type Indicator and Job Descriptive Index questionnaires and answer sheets; and a stamped, self-addressed envelope for reply. As an inducement to complete and return the questionnaires, each participant was offered a report of their scores on the MBTI and a description of their "type". Copies of the letter and test instruments are included in the Appendix.

The Job Descriptive Index was modified slightly, with the author's approval, to procure the following data: credential (RRA or ART) and primary job function. A code number was added to the answer sheet for the Myers-Briggs Type Indicator to identify the institutions in which the

respondents worked. In this way the number of responses received could be matched against the number of survey packets sent out. This also enabled a follow-up to be done later.

Institutional Characteristics

Since hospitals are the largest employers of medical record practitioners, the greatest number of responses (90.5 percent) were from hospitals. Within this category, the largest group of respondents (30.3 percent) were from mid-sized hospitals (300-399 beds). Other types of organizations from which responses were received were nursing homes, outpatient facilities, a veterinary medical center, a peer review organization, and colleges which offer medical record programs. Tables 1 and 2 present the distribution of respondents by type of institution and hospital size (number of beds).

Table 1

Distribution of Respondents by Type of Institution

Type	Number	Percent
Hospital	409	90.5
College	16	3.5
Other Specified	19	4.2
Unspecified	8	1.8
Total	452	100.0

Table 2
Distribution of Respondents by Hospital Size

Size	Number	Percent
Under 100 Beds	56	13.7
100-199 Beds	58	14.2
200-299 Beds	67	16.4
300-399 Beds	124	30.3
400-499 Beds	31	7.6
500-699 Beds	47	11.5
700+ Beds	26	6.3
Total	409	100.0

Personal Characteristics

Credential. Respondents for this study were 452 Registered Record Administrators and Accredited Record Technicians working in the State of Michigan. This represents a response rate of 57.1 percent. Table 3 represents the distribution of respondents by credential. It is interesting to note that the percentage distribution of RRAs and ARTs in this study (34.3 and 65.5) is similar to the distribution of RRAs and ARTs holding membership in the Michigan Medical Record Association (31.6 and 68.4).

Sex. As is true with most allied health professions, medical records is primarily a female-oriented occupation. There were too few male respondents (8) to provide enough

Table 3
Distribution of Respondents by Credential

Credential	Number	Percent
RRA	155	34.3
ART	296	65.5
Unspecified	1	0.2
Total	452	100.0

data for stratification sampling. In addition, males were excluded from any analyses where responses are scored differently for males and females. Distribution of respondents by sex is presented in Table 4.

Table 4
Distribution of Respondents by Sex

Sex	Number	Percent
Female	412	91.2
Male	8	1.8
Unspecified	32	7.0
Total	452	100.0

Age. The median age of participants was within the range of 31-35 years. Table 5 shows the distribution of respondents by age, within increments of five years.

Table 5
Distribution of Respondents by Age

Age	Number	Percent
20-25	58	12.8
26-30	67	14.8
31-35	77	17.0
36-40	48	10.6
41-45	49	10.8
46-50	33	7.3
51-55	23	5.1
56-60	14	3.1
Over 60	9	2.0
Unspecified	74	16.4
<hr/>		
Total	452	100.0

Job Specialty

Responses to the question, "What is your primary job function", were grouped into five categories:

Administrator/Department Head; Supervisor/Manager; Quality Assurance/Utilization Review; Coding/DRGs; and Educator.

Specialty areas with few responses were categorized as "other specified." These included: transcription, correspondence, statistics, and medical record technician, among others. Although there were only 15 educators among the respondents, this group was maintained as a separate

category because it was of interest to see if they differed significantly from those RRAs and ARTs who remained in practice. The distribution of respondents by job specialty is shown in Table 6.

Table 6
Distribution of Respondents by Job Specialty

Job Specialty	Number	Percent
Adm./Dept. Head	110	24.3
Supervisor/Mgr.	112	24.8
QA/UR	60	13.3
Coding/DRGs	106	23.5
Educator	15	3.3
Other Specified	34	7.5
Unspecified	15	3.3
Total	452	100.0

Chapter 5

Analysis of Data

Type Distribution

All 16 types appear in every career for which sizable samples exist. In no career study, however, are all types represented in equal proportions (McCaulley, 1981). Table 7 displays the type distribution for this study. The one type occurring in greatest frequency is ISTJ (21.5 percent). ISTJ and ISFJ together account for 38.6 percent of the entire sample. These results are consistent with those reported by McCaulley (1983). The breakdown by preference pairs (EI, SN, TF, JP) shows that there are more introverts (57.6 percent) than extraverts (42.4 percent); more sensing (73.8 percent) than intuitive types (26.2 percent); more thinking (51.8 percent) than feeling (48.2 percent); and more judging (72.4 percent) than perceptive types (27.6 percent). There are no published type tables regarding the percentage of each type to be found in the general population, since data gathered on personality types is usually related to specialized groups. It has been estimated, however, that there are approximately three times as many E's as I's, three times as many S's as N's, more F's than T's, and more J's than P's (McCaulley, 1985).

ISTJ also occurred in greatest frequency within each job specialty, except for those working in quality assurance/utilization review (QA/UR) and the educators. Type distribution by job specialty is shown in Table 8.

Table 7
Type Distribution for Total Sample

SENSING TYPES		INTUITIVE TYPES		N = 446	
with THINKING	with FEELING	with FEELING	with THINKING	N	%
ISTJ N = 96 % = 21.5	ISFJ N = 76 % = 17.0	INFJ N = 14 % = 3.1	INTJ N = 17 % = 3.8	JUDGING INTROVERTS	E 189 42.4
ISTP N = 17 % = 3.8	ISFP N = 12 % = 2.7	INFP N = 19 % = 4.3	INTP N = 6 % = 1.3		I 257 57.6
ESTP N = 11 % = 2.5	ESFP N = 19 % = 4.3	ENFP N = 21 % = 4.7	ENTP N = 18 % = 4.0		S 329 73.8
ESTJ N = 54 % = 12.1	ESFJ N = 44 % = 9.9	ENFJ N = 10 % = 2.2	ENTJ N = 12 % = 2.7		N 117 26.2
				PERCEPTIVE	T 231 51.8
				EXTRAVERTS	F 215 48.2
				JUDGING	J 323 72.4
					P 123 27.6
					IJ 203 45.5
					IP 54 12.1
					EP 69 15.5
					EJ 120 26.9
					ST 178 39.9
					SF 151 33.9
					NF 64 14.3
					NT 53 11.9
					SJ 270 60.5
					SP 59 13.2
					NP 64 14.3
					NJ 53 11.9
					TJ 179 40.1
					TP 52 11.7
					FP 71 15.9
					FJ 144 32.3
					IN 56 12.6
					EN 61 13.7
					IS 201 45.1
					ES 128 28.7

Table 8

Type Distribution by Job Specialty

Type	Adm/ Dept Hd		Supervisor/ Mgr		QA/UR		Coding/ DRGs		Educator		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
ISTJ	25	22.9	33	30.3	6	10.0	24	22.9			8	16.3	96	21.5
ISFJ	15	13.8	19	17.4	8	13.3	21	20.0	4	28.6	9	18.4	76	17.0
INFJ	2	1.8			4	6.7	4	3.8	3	21.4	1	2.0	14	3.1
INTJ	6	5.5	4	3.7	2	3.3	1	1.0	1	7.1	3	6.1	17	3.8
ISTP	3	2.8	2	1.8	4	6.7	8	7.6					17	3.8
ISFP	6	5.5	1	0.9	1	1.7	2	1.9			2	4.1	12	2.7
INFP	8	7.3	1	0.9	3	5.0	3	2.9	2	14.3	2	4.1	19	4.3
INTP			2	1.8	1	1.7	2	1.9	1	7.1			6	1.3
ESTP	2	1.8	3	2.8	3	5.0	2	1.9			1	2.0	11	2.5
ESFP	3	2.8	3	2.8	8	13.3	3	2.9			2	4.1	19	4.3
ENFP	5	4.6	2	1.8	5	8.3	3	2.9	1	7.1	5	10.2	21	4.7
ENTP	9	8.3	6	5.5			1	1.0			2	4.1	18	4.0
ESTJ	15	13.8	16	14.7	8	13.3	12	11.4			3	6.1	54	12.1
ESFJ	4	3.7	11	10.1	5	8.3	15	14.3	1	7.1	8	16.3	44	9.9
ENFJ	1	0.9	2	1.8	1	1.7	3	2.9	1	7.1	2	4.1	10	2.2
ENTJ	5	4.6	4	3.7	1	1.7	1	1.0			1	2.0	12	2.7
TOTAL	109	24.4	109	24.4	60	13.5	105	23.5	14	3.1	49	11.0	446	100.0

Among those who reported their primary function as QA/UR, ESFP and ESTJ accounted for 26.6 percent of the responses. This is the only specialty area in which more extraverted (51.7 percent) than introverted types (48.3 percent) appeared. This group also reported a higher percentage of perceptive types (41.7 percent) than did other groups (18.3-33.0 percent). Work in QA/UR involves a great deal of interpersonal contact with physicians and other health care professionals. Therefore, this specialty should attract the extraverted types, those who like working with other people and are usually good at communicating.

The other group that differed from the total sample were the educators. Although ISTJ accounted for 21.5 percent of the total sample, there were no ISTJs among the educators. The greatest frequency (28.6 percent) for this group occurred in the ISFJ category and 64.3 percent were N's. This was the only specialty that reported more N's (intuitive types) than S's (sensing types).

According to data collected by the Center for Applications of Psychological Type, the SN preference appears to be the most important in choice of occupation; that is, there are more statistically significant relationships relevant to occupations on the SN preference. This preference is most important because it points to those aspects of work most likely to be motivating and to require the most attention (Myers & McCaulley, 1985).

The NF types (those most prevalent in the educator group) have an interest in patterns underlying facts, symbolic meanings, and theoretical relationships. They have a gift for the spoken and written word and can communicate both the possibilities they see and the values they attach to those possibilities. One of the areas in which NFs find success and satisfaction is in teaching (particularly in the upper grades and college).

Job Satisfaction

Job satisfaction scores were derived from the five factors described by the Job Descriptive Index: work on present job; present pay; opportunities for promotion; supervision on present job; and people on present job (co-workers). Summary statistics for job satisfaction for the total sample are shown in Table 9.

Table 9

JDI Means and Standard Deviations for Total Sample

Factor	Mean	S.D.	Range*
Work	34.60	9.44	1-52
Pay	27.91	13.51	0-54
Promotion	16.57	13.33	0-54
Supervision	40.53	12.17	3-54
Co-Workers	39.55	11.64	0-54

*Maximum = 54

The highest group means for the total sample were in the areas of supervision (40.53) and co-workers (39.60), while the lowest group mean (16.57) was reported for promotional opportunities. The latter can be at least partially explained by the fact that many jobs in medical records are self-limiting. Because of the specialized nature of the work, there is limited mobility to other areas in a hospital. Most opportunities to advance occur only through attrition within the medical record department, and then only if one has the appropriate academic degree and professional credential.

Means and standard deviations for the subscales of the Job Descriptive Index for each job specialty are displayed in Table 10.

Job Satisfaction and Institutional Characteristics

Institutional characteristics were examined to see if there was any relationship between type and size of the workplace and job satisfaction. Examination of the means for the subscales of the Job Descriptive Index showed that respondents working in colleges reported the highest group means for satisfaction with work (40.50), supervision (43.88) and co-workers (45.13); while respondents employed in hospitals of over 700 beds showed the highest group mean for promotion (26.08). The latter is probably attributable to the fact that in large hospitals there is more stratification within departments, with more supervisory and management positions and, therefore, more opportunities for

Table 10

JDI Means & Standard Deviations by Job Specialty

Subscale	Adm/ Dept. Hd.	Spvr/ Mgr	QA/UR	Coding/ DRGs	Educator	Other
Work						
Mean	38.09	35.08	31.68	32.50	40.36	33.85
SD	8.06	8.55	10.79	9.36	5.75	9.41
Pay						
Mean	30.37	31.12	27.53	22.76	28.86	29.18
SD	12.00	12.26	14.12	13.91	14.59	13.40
Promotion						
Mean	17.04	20.07	12.88	15.42	12.00	18.00
SD	12.47	14.28	11.85	13.52	5.38	14.89
Supervision						
Mean	40.01	42.16	38.82	38.79	45.33	42.55
SD	11.92	11.54	13.31	13.25	10.31	10.67
Co-Workers						
Mean	41.64	38.55	39.45	37.73	44.93	38.91
SD	11.82	11.44	11.97	12.14	8.59	10.32

promotion.

Results of a one-way analysis of variance indicated significant relationships between size and type of institution and job satisfaction in the areas of work ($F=2.87$, $df=8/428$, $p<.01$), promotion ($F=3.18$, $df=8/423$, $p<.01$) and supervision ($F=2.00$, $df=8/425$, $p<.05$).

Job Satisfaction and Personal Characteristics

The relationships between job satisfaction and each of the personal characteristics of professional credential, sex and age were tested by doing three separate one-way analyses of variance.

Results of the first one-way analysis showed significant relationships between credential and the JDI subscales of pay ($F=16.33$, $df=1/443$, $p<.01$) and promotion ($F=4.87$, $df=1/438$, $p<.05$). The group means for RRAs showed slightly higher levels of satisfaction than ARTs with work (35.18 vs 34.30), pay (31.40 vs 26.06), opportunities for promotion (18.48 vs 15.55), and supervision (40.70 vs 40.44).

There were no significant relationships demonstrated among any of the five subscales of the JDI and sex. However, the group means indicated that females were somewhat more satisfied than males in the areas of work (34.97 vs 29.63), pay (28.19 vs 24.25), promotion (16.90 vs 12.75), and co-workers (39.79 vs 38.63).

The results of the one-way analysis of variance for the subscales of the JDI by age showed a significant

relationship in the category of promotional opportunities ($F=2.73$, $df=8/360$, $p<.01$), with the highest group mean (19.97) appearing in the 26-30 year olds.

Personality Type and Job Satisfaction

Personality, as reported by the Myers-Briggs Type Indicator, was examined in its relationships to job satisfaction and job specialty.

The relationship between personality type and job satisfaction was determined by testing hypothesis 1: There is a significant relationship between personality type and job satisfaction. A one-way analysis of variance was used to analyze the five dependent variables of job satisfaction by personality type. Males were excluded from this analysis because (1) the MBTI inventory is scored differently for males and females and (2) the comparative norm scales for the JDI are reported separately for males and females.

Table 11 presents the findings of the one-way analysis of variance for each of the subscales of the Job Descriptive Index by personality type. The F-test was used to determine if there was a significant difference between the dependent and independent variables.

There was a statistically significant relationship between personality type and job satisfaction in the areas of promotion and supervision. Therefore, the null hypothesis of no significant relationship was rejected.

In addition, a multiple regression analysis was done to determine whether job satisfaction is influenced by

Table 11
ANOVA for Job Satisfaction by Personality Type

Subscale	Source	df	Sum of Squares	Mean Squares	Ratio	Sig. of F
Work	Between Groups	15	1858.50	123.90	1.41	.1362
	Within Groups	423	37049.77	87.59		
	Total	438	38908.27			
Pay	Between Groups	15	2722.63	181.51	.99	.4634
	Within Groups	423	77464.42	183.13		
	Total	438	80187.05			
Promotion	Between Groups	15	7791.80	519.45	3.12	.0001**
	Within Groups	418	69608.04	166.53		
	Total	433	77399.85			
Supervision	Between Groups	15	4113.06	274.20	1.91	.0210*
	Within Groups	420	60399.56	143.81		
	Total	435	64512.61			
Co-Workers	Between Groups	15	1770.74	118.05	.87	.5929
	Within Groups	418	56398.26	134.92		
	Total	433	58169.00			

*p < .05

**p < .01

personality type. Stepwise regression was used as a means of estimating the influence of the four preferences of the Myers-Briggs Type Indicator (EI, SN, TF, JP) on the five subscales of the Job Descriptive Index (work, pay, promotion, supervision, and co-workers). The results showed that the EI dimension (extraversion/introversion) was significantly related to satisfaction in the areas of work ($r=.13$, $p<.01$), promotion ($r=.20$, $p<.01$), supervision ($r=.13$, $p<.01$), and co-workers ($r=.18$, $p<.01$); whereas, the TF dimension (thinking/feeling) showed a significant influence in the pay category ($r=.12$, $p<.05$).

Personality Type and Job Specialty

The relationship between personality type and job specialty was examined by testing hypothesis 2: There is a significant relationship between personality type and job specialty. A crosstabulation was used to analyze the distribution of personality types within job specialties. Since the results of the crosstabulation revealed a number of empty cells when using 7 categories for the variable job specialty and 16 categories for the variable type, the categories were compressed to a 4 x 8 table (4 job specialties and 8 types). A Chi Square statistic was then computed to test the independence of the variables.

The resulting Chi Square (54.55, $p<.01$) showed a statistically significant relationship between personality type and job specialty. The Chi Square contingency table is presented in Table 12.

Table 12
Contingency Table
Personality Type by Job Specialty

Type	Adm/ Dept Hd	Supervisor	Coding/ DRGs	Other	Total
STJ					
Observed	40	49	36	24	149
Expected	37.7	37.7	36.3	37.3	
SFJ					
Observed	19	30	36	28	113
Expected	28.6	28.6	27.5	28.3	
NFJ					
Observed	3	2	7	10	22
Expected	5.6	5.6	5.4	5.5	
NTJ					
Observed	11	8	2	6	27
Expected	6.8	6.8	6.6	6.8	
STP					
Observed	5	5	10	7	27
Expected	6.8	6.8	6.6	6.8	
SFP					
Observed	9	4	5	13	31
Expected	7.8	7.8	7.6	7.8	
NFP					
Observed	13	3	6	17	39
Expected	9.9	9.9	9.5	9.8	
NTP					
Observed	9	8	3	3	23
Expected	5.8	5.8	5.6	5.8	
TOTAL	109	109	105	108	431

<u>Chi-square</u>	<u>df</u>	<u>Sig.</u>
54.55	21	.000

Lambda

Symmetric	.08
With Type Dependent	.01
With Position Dependent	.14
Cramer's V	.21
Contingency Coefficient	.34

To determine the magnitude of the relationship between personality type and job specialty, two measures of association (the coefficient of contingency and Cramer's V) were calculated. The values for the contingency coefficient (.34) and the Cramer's V (.21) both indicated a moderate degree of association.

A Lambda statistic was also calculated to measure the relationship of the two variables. Lambda is a proportional reduction in error (PRE) coefficient that measures how much the error rate decreases when predicting one variable from knowledge of the value of a second variable. (Norusis, 1986). The results (0.143) indicated that personality type is of some value in predicting job specialty.

On the basis of the foregoing analyses, the null hypothesis of no significant relationship between personality type and job specialty was rejected.

Job Satisfaction and Job Specialty

The relationship between job specialty and job satisfaction was analyzed by testing hypothesis 3: There is a significant relationship between job specialty and job satisfaction. A one-way analysis of variance was used to determine the significance of the relationship between job satisfaction and job specialty.

The results of the F-test indicated a significant relationship between job specialty and job satisfaction in the areas of work, pay, and promotional opportunities. The null hypothesis of no significant relationship between job

specialty and job satisfaction was rejected. The findings of the one-way analysis of variance for each of the subscales of the Job Descriptive Index by job specialty are presented in Table 13.

Personality Type, Job Satisfaction and Job Specialty

The effects of personality type and job specialty on job satisfaction were examined by testing hypothesis 4: There are significant relationships among job satisfaction, personality types and job specialties. A full-factorial analysis of variance (ANOVA) was used to test the effects of personality type and job specialty for the five aspects of job satisfaction (work, pay, promotion, supervision and co-workers).

The results of the ANOVA showed that, in combination, the main effects of personality type and job specialty had a significant effect on job satisfaction in the areas of work, pay and promotion. In addition, there were no significant interactions demonstrated between the independent variables, type and job specialty. The null hypothesis of no significant relationships among job satisfaction, personality types and job specialties was rejected.

Table 14 displays the results of the analysis of variance for the subscales of the Job Descriptive Index by personality type and job specialty.

Table 13
ANOVA for Job Satisfaction by Job Specialty

Subscale	Source	df	Sum of Squares	Mean Squares	F	Sig. of F
Work	Between Groups	6	3490.59	581.76	7.07	.0000**
	Within Groups	437	35968.05	82.31		
	Total	443	39458.64			
Pay	Between Groups	6	5836.60	972.77	5.67	.0000**
	Within Groups	438	75161.44	171.60		
	Total	444	80998.04			
Promotion	Between Groups	6	3274.27	545.71	3.16	.0048**
	Within Groups	433	74675.82	172.46		
	Total	439	77950.09			
Supervision	Between Groups	6	1343.12	223.85	1.52	.1691
	Within Groups	435	63968.93	147.06		
	Total	441	65312.05			
Co-Workers	Between Groups	6	1425.67	237.63	1.77	.1033
	Within Groups	433	58077.14	134.13		
	Total	439	59502.90			

**p < .01

Table 14

ANOVA for Job Satisfaction by Personality Type and Job Specialty

Subscale	Source	df	Sum of Squares	Mean Squares	F	Sig. of F	r ²
Work	Main Effects	20	4413.20	220.66	2.69	.000**	.128
	Type	15	1554.70	103.65	1.27	.223	
	Specialty	5	2895.15	579.03	7.07	.000**	
	2-Way Interactions						
	Type/Specialty	56	3507.13	62.63	0.76	.889	
	Explained	76	7920.33	104.22	1.27	.080	
	Residual	324	26542.74	81.92			
Total	400	34463.06	86.16				
Pay	Main Effects	20	7617.03	380.85	2.25	.002**	.106
	Type	15	2992.73	199.52	1.18	.287	
	Specialty	5	4413.18	882.64	5.21	.000**	
	2-Way Interactions						
	Type/Specialty	56	9111.09	162.70	0.96	.559	
	Explained	76	16728.12	220.11	1.30	.063	
	Residual	324	54885.66	169.40			
Total	400	71613.78	179.03				
Promotion	Main Effects	20	11024.35	551.22	3.38	.000**	.153
	Type	15	8409.36	560.62	3.44	.000**	
	Specialty	5	2544.64	508.93	3.12	.009**	
	2-Way Interactions						
	Type/Specialty	56	8183.66	146.14	0.90	.683	
	Explained	76	19209.01	252.74	1.55	.005**	
	Residual	324	52786.72	162.92			
Total	400	71994.73	179.99				

**p < .01

Table 14

ANOVA for Job Satisfaction by Personality Type and Job Specialty
(Cont'd)

Subscale	Source	df	Sum of Squares	Mean Squares	F	Sig. of F	r ²
Supervision	Main Effects	20	4675.71	233.79	1.57	.057	.077
	Type	15	3757.32	250.49	1.69	.052	
	Specialty	5	805.03	161.01	1.08	.369	
	2-Way Interactions						
	Type/Specialty	56	8197.13	146.38	0.99	.509	
	Explained	76	12872.84	169.38	1.14	.219	
	Residual	324	48125.51	148.54			
Total	400	60998.34	152.50				
Co-Workers	Main Effects	20	3123.01	156.15	1.14	.305	.057
	Type	15	1812.87	120.86	0.88	.583	
	Specialty	5	1476.16	295.23	2.16	.058	
	2-Way Interactions						
	Type/Specialty	56	7119.11	127.13	0.93	.620	
	Explained	76	10242.12	134.77	0.99	.518	
	Residual	324	44314.97	136.78			
Total	400	54557.09	136.39				

**p < .01

Chapter 6

Summary of Findings

The study examined the relationships among personality types, job satisfaction, and job specialties of medical record professionals employed in the State of Michigan. Relatively little research has been done on job satisfaction or personality types in medical records. No studies were found relating these factors to specialty areas within the profession. The study was designed to answer these questions:

1. Is there a relationship between personality type and job satisfaction?
2. Is there a relationship between personality type and job specialty?
3. Is there a relationship between job specialty and job satisfaction?
4. Are there any relationships among personality types, job satisfaction and job specialties?

The Myers-Briggs Type Indicator was selected as the instrument to identify personality types. The MBTI contains four separate indices, each reflecting one of the four basic preferences directing the use of perception and judgment (extraversion/introversion, sensing/intuition, thinking/feeling, and judgment/perception). The four indices yield sixteen possible combinations called "types", denoted by the four letters of the preferences (e.g., ESTJ, INFP).

The instrument used to measure job satisfaction was the Job Descriptive Index. The JDI is a short questionnaire that uses lists of adjectives or short phrases to describe five aspects of job satisfaction. The results are used to measure satisfaction in each of the five areas--work, pay, promotion, supervision, and co-workers.

Four hundred fifty-two credentialed medical record administrators and medical record technicians employed in the State of Michigan participated in the study. This number represents a response rate of 57.1 percent of potential participants identified. The majority of the respondents (90.5 percent) were employed by hospitals. The remainder worked in a variety of settings including nursing homes, outpatient facilities, a peer review organization, and colleges offering medical record programs.

From the research questions, four hypotheses were developed and tested.

H1 There is a significant relationship between personality type and job satisfaction.

The hypothesis was accepted on the basis of statistically significant relationships between personality type and job satisfaction in the areas of promotion and supervision. It was also found that the EI (extraversion/introversion) dimension of the MBTI was significantly related to satisfaction in the areas of work, promotion, supervision, and co-workers and that the TF (thinking/feeling) dimension showed a significant influence

in the pay category.

The results of the analysis also indicated that INFJs were the least satisfied of all types in three categories--work, pay, and promotion. Of the types that indicated the highest levels of satisfaction in all categories, all were P's, perceptive types. This may be attributed to the fact that the perceptive attitude is open, curious, and adaptable to events and changes and, therefore, perhaps more optimistic.

H2 There is a significant relationship between personality type and job specialty.

The hypothesis was accepted on the basis of a statistically significant relationship between personality type and job specialty. The results of the crosstabulation indicated that different specialties attracted different types in significant proportions. Individuals in administrative and supervisory positions were predominately -STJs (40.8 percent). The -STJs tend to be practical, logical and decisive. They are organized, dependable people who get things done.

Of those who specialized in coding, 72.0 percent were -S-Js, and 61.9 percent were introverts. The job of coding involves detailed analysis of patient records to determine diagnoses, treatments and significant findings for the assignment of specific, precise numeric codes. Introverts are drawn to the inner world of concepts and ideas; are generally thoughtful and contemplative; and enjoy solitude

and privacy. The -S-J types seek order in their environment and dislike ambiguity. They have acute powers of observation and good memory for details.

Among the educators, 64.3 percent were --FJs. The --FJ types are characterized by their understanding of people and personal values. They have a concern with the human as opposed to the technical aspects of problems and make decisions by attending to what matters to others.

H3 There is a significant relationship between job specialty and job satisfaction.

The hypothesis was accepted on the basis of statistically significant relationships between job specialty and job satisfaction in the categories of work, pay, and promotion.

The results of the statistical analyses indicated that educators were most satisfied overall and that coders were least satisfied. Educators reported the highest group means for three of the five aspects of job satisfaction: work (40.36), supervision (45.33) and co-workers (44.93). Coders, on the other hand, reported the lowest group means for three of the five aspects of job satisfaction: pay (22.76), supervision (38.79) and co-workers (37.73).

H4 There are significant relationships among job satisfaction, personality types and job specialties.

The hypothesis was accepted on the basis of statistically significant interaction effects of type and job specialty on job satisfaction in the areas of work, pay

and promotion. The results of a full-factorial analysis of variance indicated that the effect on the dependent variable (job satisfaction) attributable to the combination of the independent variables (type and job specialty) was greater than that which could be attributed to the variables considered independently.

Chapter 7

Conclusions

Personality Type

Because of the importance of accuracy and completeness of medical records, it was predicted that this field would attract the IS-J types--those who enjoy system and order and are accurate and precise in their work. Of the 452 participants in this study, 38.6 percent were of the ISTJ and ISFJ types. Furthermore, 57.6 percent were I's (introverts), 73.8 percent S's (sensing) and 72.4 percent J's (judging).

Among the job specialties, all but quality assurance/utilization review (QA/UR) and educators were predominately of the IS-J types. QA/UR was the only specialty that reported more E's (extraverts) than I's (introverts)--51.7 percent. This finding is in keeping with the demands of the job, which require a high level of interpersonal contact, good communication skills, and activity outside the office or away from the desk.

The educators differed from the rest of the groups in the SN dimension (sensing/intuition). Fifty percent of this group were NFs; enthusiastic, insightful types who are people oriented and often find satisfaction and success in teaching.

Job Satisfaction

Overall, the highest levels of satisfaction were evidenced in the areas of supervision and co-workers. This

could be because of the homogeneity of the sample in terms of personality type. The lowest level of satisfaction appeared in the promotion subscale of the Job Descriptive Index. Because medical record practitioners are so specialized, many jobs are self-limiting, with few opportunities for promotion outside the medical record department. And, there are a limited number of middle- and upper-level management positions available within the department.

Of the 16 personality types, the E--P types (extraverted, perceptive) reported the highest group means for satisfaction for all five subscales of the JDI. In four of the five categories, the highest levels of satisfaction were among the EN-P types. In the total sample there were 69 (15.5 percent) E--Ps, of whom 39 (8.7 percent) were EN-Ps. These types are action-oriented innovators who are always seeking new experiences. They are optimistic and adapt readily to new situations. They are also unconventional, independent spirits who hate to be fenced in. In other words, the EN-Ps are the exact opposite of the IS-J types, which appeared in greatest number in this study (172 or 38.6 percent). Thus, the types that are attracted in greatest numbers to the field are not necessarily those who will find the greatest job satisfaction.

Among the job specialties, the educators appeared to be the most satisfied, with the highest group means for three of the five subscales of the JDI--work, supervision and

co-workers. However, they also reported the lowest group mean for promotion. Those who reported coding as their primary function demonstrated the lowest levels of satisfaction for three of the five JDI subscales--pay, supervision and co-workers.

There is not enough evidence to indicate that personality type can be used to predict job satisfaction in a given career. However, this study and others have shown that personality testing can be a useful adjunct in counseling students and practitioners in their career choices. Although all 16 personality types may be found in any given profession, it is likely that some types would be attracted more than others. Also, specialty areas within a profession may be found to attract certain types. From the point of view of type theory, a successful and satisfying career choice would be one which best utilizes the interests and preferences of each type.

Chapter 8

Recommendations

Several recommendations for future studies are offered.

1. A similar study of medical record practitioners drawn from a nation-wide population. With a larger population base, some of the specialty areas which were underrepresented in this study would be available in large enough numbers for analyses and comparisons. This study also had too few males to allow for a stratified random sample. A larger data base would make possible comparisons between males and females in medical record practice.
2. A study of the personality types of students enrolled in medical record administration and medical record technology programs. A comparison could be made between the type distribution of students and that of practitioners. A follow-up study after five years would be of great value in identifying what types were still in the medical record field and the specialty areas in which they were working.
3. Further investigation as to why IS-J types were the predominant types appearing in this study, while their exact opposites--the EN-PS reported the highest levels of satisfaction across all five subscales of the Job Descriptive Index.
4. A more in-depth study of the specialty areas in medical records. How much does personality type affect choice of

specialization and how do these factors in combination affect job satisfaction? Also, are there differences when a person is in a specialty not by choice but by circumstance?

Appendix A

Initial Contact Letter

November 1, 1986

Dear Medical Record Professional,

This is a request for your assistance in a very important project that I am undertaking to complete my doctorate at Wayne State University.

The intent of my study is to examine certain behavioral characteristics among medical record professionals and the relationships among these traits, type of position held, and job satisfaction. The results are expected to contribute to development of basic descriptive data for use in selecting students for MRT and MRA educational programs, in improving teaching, in providing career guidance to students and practitioners, and in understanding manpower trends.

To accomplish this task, I would like to survey all RRAs and ART's employed in the State of Michigan. My best resource for locating these individuals is people like you, who hold key positions in hospitals and other health care facilities. Therefore, I am asking you at this time to take a few minutes from your busy schedule to complete the enclosed form and return it to me in the envelope provided. All I need to know is how many RRAs and ARTs are employed in your department. When I have this information, I would like to send the survey materials to you for distribution to those individuals you have identified. The materials will include questionnaires and instructions and should be returned to me by each individual. All information gathered will be used only for purposes of study and research and the anonymity of the individual, as well as the institution, will be maintained.

Your participation is very important to me and critical to the success of the project. Please take a minute to complete the enclosed form and return it to me as soon as possible. I will then send you the appropriate number of survey packets for distribution.

If you would like further information regarding this project, please call me at (313) 845-9635. I will be happy to answer any questions you may have.

Thank you for your assistance.

Sincerely,

Bette L. Reynolds, RRA
Director of Allied Health

INFORMATION FORM

Hospital _____

City _____

No. of RRAs and ARTs _____

Person to Contact _____

Title _____

Telephone () _____

Thank you again for your assistance. A stamped, self-addressed envelope is provided for your convenience to return this form to:

Bette L. Reynolds, RRA
Henry Ford Community College
5101 Evergreen
Dearborn, MI 48128

Please call me at (313) 845-9635 if you have any questions.

Appendix B

Letter to Participants

December 1, 1986

Dear Medical Record Professional:

I am requesting your assistance in a very important project that I am undertaking to complete my doctorate at Wayne State University.

The intent of my study is to examine certain behavioral characteristics among medical record professionals and the relationships among these traits, job satisfaction, and type of position held. The results are expected to contribute to development of basic descriptive data for use in selecting students for MRT and MRA educational programs, in improving teaching, in providing career guidance to students and practitioners, and in understanding manpower trends.

To accomplish this task, I need input from all RRAs and ARTs employed in the State of Michigan. This is where your help is needed. Enclosed are two questionnaires I would like you to complete and return to me. You will be able to complete both in approximately 30 minutes. All necessary instructions are on the question booklets and the response sheet.

Briefly, here is a description of what the questionnaires are designed to measure. The purpose of the **MYERS-BRIGGS TYPE INDICATOR** is to look at how perception and judgment are used by different types of people. Perception involves ways of becoming aware of things, people, happenings or ideas; judgment involves ways of coming to conclusions about what has been perceived and in making decisions. The **JOB DESCRIPTIVE INDEX** asks you to describe your work by responding to a list of adjectives or short phrases relating to various aspects of the job.

You need not put your name on any of the forms, nor identify yourself in any way, unless you would like a copy of the results of the Myers-Briggs Type Indicator. Please be assured, however, that all information gathered will be used only for purposes of study and research and the anonymity of the individual, as well as the institution, will be maintained.

Your participation is very important to me and critical to the success of the project. Please take a few minutes to complete the questionnaires and return them to me in the enclosed envelope. If you have any questions, please call me at (313) 845-9635.

If you would like a report of your scores on the Myers-Briggs Type Indicator and a description of your "type", please enclose a 3 x 5 card with your name and address.

Thank you for your assistance.

Bette L. Reynolds, RRA
Director of Allied Health

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ABSTRACT

RELATIONSHIPS AMONG PERSONALITY TYPES, JOB SATISFACTION
AND JOB SPECIALTIES OF MEDICAL RECORD ADMINISTRATORS AND
MEDICAL RECORD TECHNICIANS

by

BETTE LEACH REYNOLDS

DECEMBER, 1988

Advisor: Dr. Claire C. Irwin

Major: Evaluation & Research

Degree: DOCTOR OF PHILOSOPHY

The purpose of the study was to examine personality characteristics of medical record professionals and the relationships among these traits, type of position held and job satisfaction.

The sample was drawn from registered record administrators and accredited record technicians employed in the State of Michigan. The Myers-Briggs Type Indicator was used to identify personality characteristics and the Job Descriptive Index measured job satisfaction.

The results of the statistical analyses indicated significant relationships between and among the variables. Of the 452 participants in the study, 38.6 percent were IS-J types. Two groups that differed from the total sample in personality type were educators (50.0 percent of whom were N's, intuitive types) and

those who reported their primary responsibilities in quality assurance/utilization review. The latter was the only job specialty with more extraverted than introverted types (51.7 percent).

Overall, the highest levels of satisfaction were in the areas of supervision and co-workers. The educators appeared to be the most satisfied group, with highest group means in three of the five subscales of the Job Descriptive Index--work, supervision and co-workers. Coders reported the lowest levels of satisfaction in three of the five categories--pay, supervision, and co-workers.

Of the 16 types, the E--P (extraverted, perceptive) types reported highest group means for satisfaction on all five subscales of the JDI. In four of the five categories, the highest levels of satisfaction were reported by the EN-P types. The EN-P types are the exact opposites of the IS-J types, which appeared in greatest numbers in the study. Thus, it would appear that the types that are attracted in greatest numbers to the field, are not necessarily those that will find the greatest job satisfaction.

Autobiographical Statement

Bette Leach Reynolds was born in Detroit, Michigan in 1936. After graduating from high school in 1954 she worked as a secretary for six years, at which time she decided to continue her education. In 1964 she received a Bachelor of Science in Medical Record Administration from Mercy College of Detroit, and became Assistant Director of Medical Records at Oakwood Hospital in Dearborn, Michigan. In 1969 she was offered a position as Assistant Professor at State University of New York at Alfred and one year later was appointed Director of the Medical Record Technology Program.

In 1974 she returned to Michigan to marry Eliot W. Reynolds. Coincidentally, that same summer she was offered the opportunity to develop a Medical Record Technology Program at Henry Ford Community College in Dearborn. After establishing the program and teaching for one year, she became Assistant Director of the Allied Health Division.

She received a Master of Education in Instructional Technology from Wayne State University in 1980. In 1982 she was appointed Director of Allied Health and Nursing at Henry Ford Community College.

She is a member of the American Medical Record Association, the Michigan Medical Record Association, Phi Delta Kappa, Michigan Educational Research Association, Michigan Association for Computer Users in Learning and the Michigan Association of Women Deans, Administrators and Counselors.