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**A COMPARISON OF PERSONALITY TYPES AS DETERMINED BY THE
MYERS-BRIGGS TYPE INDICATOR WITH THE PROCESS OF
SEPARATE-KNOWING AND CONNECTED-KNOWING
PROCEDURAL PROCESSING AMONG FEMALE,
UNDERGRADUATE, NON-TRADITIONAL
STUDENTS**

By

Joyce Ann Carter

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Educational Administration

1989

ABSTRACT

A COMPARISON OF PERSONALITY TYPES AS DETERMINED BY THE MYERS-BRIGGS TYPE INDICATOR WITH THE PROCESS OF SEPARATE-KNOWING AND CONNECTED-KNOWING PROCEDURAL PROCESSING AMONG FEMALE, UNDERGRADUATE, NON-TRADITIONAL STUDENTS

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The primary purpose of this study was to explore the relationship of personality types as indicated by the Myers-Briggs Type Indicator (MBTI) in relationship to the choice of separate-knowing or connected-knowing procedural process selected by white female non-traditional students to solve empowerment issues which they perceived to be barriers to their education at a four-year public university.

The sample consisted of 25 white females enrolled in an undergraduate degree program at a four-year public university. Participants were non-traditional students ranging from 25 to 59 years of age. Participants completed the MBTI and a demographic information sheet, as well as participating in an interview. The responses to the interview questions were coded to determine the procedural process each participant selected. Participants were rated as separate-knowers or connected-knowers.

A Pearson Product-Moment Correlation coefficient was calculated to show the association between each pair of MBTI pairings and the separate-knowing and connected-knowing score. Chi-square values were also calculated to determine

the association between each MBTI pair and the separate-knowing and connected-knowing scores. Specific responses to the interview questions were discussed to further illuminate the statistical findings and to illustrate the process of change.

Statistical analysis showed the separate-knowers have a preference for intuition rather than sensing and a preference toward perceiving rather than judging. Connected-knowers showed a preference for extroversion rather than introversion and a preference for feeling rather than thinking. Personality type did have an impact on how the participants in this study progressed through the procedural process of acquisition of knowledge and the procedural process of deepening their understanding.

An investigation of the interview responses indicated a strong bias toward change on the part of the women in this study. The transformational process was a powerful part of their daily lives.

The statistical association of personality typing and procedural processing proved to be a reasonable method for identifying the process of meaning-making for women students. Most relevant was the conclusion that women make a different sense of experience based upon their knowledge of human relationships. An educational system based on a connected model rather than a separate model might reasonably be expected to increase the educational gains of women students.

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For Gerry
whose love and understanding
make all things possible.

ACKNOWLEDGMENTS

My sincere appreciation to Kenneth Harding for his care as major advisor and chairperson of my dissertation committee. Many thanks to the other members of my dissertation committee, Marylee Davis, Howard Hickey, and James Snoddy, for their encouragement.

Special appreciation is extended to my professional colleagues at Central Michigan University: Scott Hammontree for his expertise, Susan Repp for support, Claudia Douglass for statistical critique, Shirley Vonder Embse for editing, Ira Rosenbaum for insight, Ulana Klymyshyn for deadlines, Glenn Starner for enthusiasm, and to the fine folks in my department for their encouragement and understanding.

I would also like to extend a heartfelt thanks to the twenty-five women who gave a part of themselves in order to make this research possible.

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CHAPTER I

The Problem

Women, like most adult students, re-enter the educational process during or following a time of transition. Sometimes the female student is deciding to make a career change; more often she is deciding to enter the professional world for the first time. In the case of mothers, re-entry into higher education may be preceded by the youngest child's entry into the world of elementary school or the youngest child's exit from the world of high school. Another transition which may precede the return to university education for woman is the loss of a spouse, either through divorce or death; this may also include the loss of the ability by the spouse to fulfill his traditional role of head-of-the-household through accident or illness. Which transition or combination of transitions precipitates the decision on the part of the returning woman is less important than the understanding that most adult women re-entering education begin the experience in a state of internal chaos and change. Educational professionals who work with the adult female student need to be cognitive of the unsettledness of their students (Belenky, et al. 1986). Adults who are in transition have, in a very real sense, exchanged a clearly defined roadmap for a chance to grow and change (Daloz, 1986). Their ontological sense of themselves and the world in which they live undergoes transformation.

During this time of transformation, these women are in the process of rediscovering themselves, forming new and intrinsically different relationships with people and with the world in which they live. Because this transformation begins at the core of their being, they begin to struggle to find their voice (Belenky, Clinchy, Goldberger, Tarole, 1986; Gilligan, 1982; Josselson, 1987). William Bridges stresses the importance of this state of confusion: "Chaos is not a mess, but rather it is the primal state of pure energy to which the person returns for every true new beginning" (Bridges, 1980, p. 119).

Each returning woman student takes on a quest. While the nature of each woman's quest is individual, it is the journey of a heroine. Daloz's metaphor of journey is useful here, for each female student becomes the traveler, the seeker on her way to empowerment.

Need for the Study

Adult women are re-entering higher education and beginning work toward higher education degrees in increasing numbers as the population of the United States becomes older. According to the National Center for Educational Statistics (Golladay, 1976, p. 12), by the year 2000, "the United States population will be dominated by persons in their middle years." Our society is changing at an increasingly rapid pace. Margaret Mead once remarked that the world in which we are born is not the world in which we

will live, nor is that the world in which we will die. It should come as no surprise that many adults choose to cope with changes in society and with changes in both their inner and outer worlds by re-entering a formal learning process. As of 1987, forty-three percent of the higher education students in the United States were over the age of twenty-five and fifty-one percent of those students were female (MASFAA, 1987, p. 19). It is imperative that educators investigate the procedural process of education for the non-traditional female student.

It is also important to understand that each adult female student re-entering education chooses an educational process to complete a task, to solve a problem, or to remove a barrier that is in keeping with her style of learning about and interacting with her ontological world. There is a need for research to synthesize data which deal with procedural processing and knowledge acquisition to illuminate the transaction of empowerment for these students. Teachers and mentors who are engaged with the adult female in higher education will find this combination of information useful in understanding the interaction between personality typing, procedural processing and empowerment within the process of education engaged in by the adult female learner as she chooses to explore and traverse a difficult education barrier. The lesson that people are different in fundamental ways "and that no amount of getting after them is going to change them" (Keirse,

1984, p. 2) is a valuable lesson for all educators who interact with adult students. Educators should also understand that there is no "reason to change them, because the differences are probably good, not bad" (Keirse, 1984, p. 2).

Purpose of the Study

The purpose of this study is to explore the relationship of personality types as indicated by the Myers-Briggs Type Indicator (MBTI) in relationship to the choice of separate-knowing procedural process or connected-knowing procedural process selected by white, female, non-traditional students to solve empowerment issues which they perceive to be barriers to their education at a four-year public university.

The Myers-Briggs Type Indicator (MBTI) is based on Carl Jung's psychological types (Myers, 1980). It is designed to investigate systematic preferences in an individual's basic approaches to life. It is also based on the assumption that there is a relatively consistent pattern to most human behavior and that this consistency is reflected in the ways individuals perceive the world and arrive at preferences for dealing with the world.

The terms "separate-knowing" and "connected-knowing" are used to describe two different conceptions or experiences of the self. The term "separate" is used to indicate a relationship that is essentially autonomous or separate from others, while the term "connected" is used to

denote a relationship that is essentially connected to others (Belenky, 1986).

The perspective of the separate/objective self--is based on impartiality, objectivity, and the distancing of the self from others. It assumes an ideal relationship of equality. When this is impossible, given the various kinds of obligatory role relationships and the sometimes conflicting claims of individuals in relationships, the best recourse is to fairness as an approximation of equality. This requires the maintenance of distance between oneself and others to allow for impartial mediation of relationships. To consider others in a reciprocity implies considering their situations as if one were in them oneself. Thus, an assumption of this perspective is that others are the same as self. (Lyons, 1983, p. 134)

Lyons further states:

The perspective of the connected self--labeled response--is based on interdependence and concern for another's well-being. It assumes an ideal relationship of care and responsiveness to others. Relationships can best be maintained and sustained by considering others in their specific contexts and not always invoking strict equality. (Lyons, 1983, p. 135)

Nel Noddings, the philosopher, says: "In the intellectual domain, our caring represents a quest for understanding" (Noddings, 1984, p. 169).

The terms "separate-knowing procedural processing" and "connected-knowing procedural processing" are similar to the definitions used by Lyons, and later by Gilligan, but take on a more specific definition as they relate to the learner.

Similarly, we posit two contrasting epistemological orientations: a separate epistemology, based on impersonal procedures for establishing truth, and a connected epistemology, in which truth emerges through care. (Belenky, 1986, p. 102)

Underlying the purpose of this study is the hypothesis that the female non-traditional student chooses a separate-

knowing process or a connected-knowing process of solving barrier problems in parallel relationship to her personality type. Particular attention will be paid to the relationship between choice of barrier processing and type distribution.

Limitations of the Study

This study is delimited to the correlation of methods of processing barriers with type distribution. Participants in this study have been limited to include only white, female students, aged twenty-five or over, enrolled in a baccalaureate degree program in a four-year, mid-western, state-supported university setting. A larger study could have included male students, minority students, graduate students, two-year college students, and/or students enrolled in an extended degree program. An attempt has been made, however, to delimit the scope and nature of the participants in order to reduce the number of uncontrolled variables. No attempt is made to equate these findings with those relating to males. No attempt is made to equate these findings with those relating to average-aged (18-22) undergraduates. No attempt is made to equate these findings to those found in either a community college setting or to an external degree setting.

The outcome of this study is limited by the honesty of the participants and the clarity of their responses within the interview process. This study will deal only with the relationship of personality types as determined by MBTI and

coded process choices as determined by the focused interview.

Myers-Briggs Type Indicator (MBTI)

The MBTI is a forced-choice, self-report inventory based upon the personality typology of Carl Jung (Jung, 1923, 1933, 1953) and is designed to investigate systematic preferences in an individual's basic approaches to life. The MBTI yields measures on the following four dichotomous dimensions: extroversion-introversion (E-I); sensing-intuition (S-N); thinking-feeling (T-F); and judgment-perception (J-P). Each scale reflects choices or preferences between opposites and the score on each dimension is indicated by the appropriate, corresponding letter; numerical values are also obtained which reflect the strengths of the particular preferences. Once the four preference scores are obtained, they may be combined to form a type profile. Type profiles include: ISTJ, ISFJ, ISTP, ISFP, ESTP, ESFP, ESTJ, ESFJ, INFJ, INTJ, INFP, INTP, ENFP, ENTP, ENFJ, and ENTJ. It should be noted that each of the scales measures a preference only and does not imply a fixation or an inability to function adequately in the opposite direction. The only implication of any preference score is that the subject typically prefers to behave, or evaluate a situation, in a particular manner.

Hypotheses of the Study

The MBTI is not a "static, classificatory scheme, but a dynamic process through which adaptation to the world occurs" (Quenk, 1984, p. 5). It is reasonable to assume a strong correlation exists between the participant's 'type' and the participants' choices of procedural process in working through their perceived barriers to education.

The following hypotheses will be investigated:

HQ1. There will be no significant difference between the distribution of general MBTI types for females and the distribution of types for participants in this study.

HQ2. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing E and participants typing I.

HQ3. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing E and participants typing I.

HQ4. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing S and participants typing N.

HQ5. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing S and participants typing N.

H06. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing T and participants typing F.

H07. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing T and participants typing F.

H08. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing J and participants typing P.

H09. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing J and participants typing P.

Definitions

Adult Student. There is no universally accepted definition of an adult. Adulthood is a complicated concept involving both age and maturity that varies with culture and time. Consequently, the term "adult" has biological, legal, social and psychological definitions (Knowles, 1973). For the purposes of this study "adult student" is defined as a person matriculated in undergraduate courses who is twenty-five years or older. For the sake of variety, the term "non-traditional student" will be used interchangeably with the term "adult student".

Praxis. Praxis is the action and reflection of people upon their world in order to transform it (Freire, 1984).

Empowerment. Empowerment is the self power that a person gains as she is a subject who acts upon and transforms her world, moving toward ever new possibilities of a fuller and richer existence. In particular, empowerment names the process an adult student discovers and chooses for her own as she integrates herself into the university environment.

Barriers to Education. Situational, institutional, and dispositional barriers are major types of barriers which may obstruct the quest of the adult student. Situational barriers are those which arise from the student's situation in life at a given time. Institutional barriers consist of those practices and procedures on the part of the institution that exclude or discourage adults from participating. Dispositional barriers are those related to the attitudes and self-perceptions the student feels about herself as a learner (Cross, 1984).

Procedural Process. Procedural process is that process which is used in making meaning. It involves both understanding and knowledge; it precludes evaluation (Belenky, et al., 1986, p. 100-101).

Separate-knowing. The epistemological orientation of separate-knowing is essentially autonomous; the relationship between the knower and the object (or subject) is primarily

one of knowledge. This characteristic mode of describing the self-in-relation-to-others is self-separate or objective in its relations to others (Belenky, *et al.*, 1986, p. 103-112).

Connected-knowing. The epistemological orientation of connected-knowing is essentially in relationship; the relationship between the knower and the object (or subject) is primarily one of understanding. This characteristic mode of describing the self-in-relation-to-others is self-connected or interdependent in its relations to others (Belenky, *et al.*, 1986, p. 112-123).

Overview of the Study

In Chapter Two, the review of the literature will include a brief summary of adult development theories. Literature pertaining to the basis for typology, review of validity findings for the MBTI, and a summary of related MBTI research will be presented. Literature pertaining to empowerment and educational barriers of adult learners will also be reviewed.

The methodology and procedures employed in this study will be presented in Chapter Three.

Chapter Four will present the results of this study.

In Chapter Five the data will be discussed and summarized. Conclusions will be drawn, implications for action will be suggested, and recommendations for further research will be made.

CHAPTER II

Review of the Literature

The review of literature is organized under three major headings:

- 1. Research using the Myers-Briggs Indicator Type**
- 2. A review of the major adult development theorists leading to an explanation of the development and use of procedural knowledge**
- 3. Research relating to empowerment in the processing of barriers in adult education.**

Studies and citations relating to each of these topics are reviewed, in turn, in this chapter.

Myers-Briggs Type Indicator

At Greenwich Observatory in 1796, an event occurred which later had an effect on the study of personality and individual differences. Maskelyne, the astronomer, fired his assistant Kinnebrook for calibrating the observatory clock incorrectly--or, at least, for not calibrating it exactly as Maskelyne did. Bessel, reading about the dismissal of Kinnebrook, began to study how different individuals performed when calibrating clocks. He found an array of differences and developed a formula he called the "personal equation" to help remedy the situation. Edwin Boring later suggested that this was the first attempt to study individual differences objectively and to use that information to improve the quality of life (Grasha, 1984).

In 1907 Adickes claimed that man is divided according to four world views:

1. Dogmatic
2. Agnostic
3. Traditional
4. Innovative

Adler, around 1920, also spoke of four goals of human beings, Spranger told of four human values, and thus the early twentieth century saw a revival of a view of human nature presented by Hippocrates almost twenty-five centuries earlier, who spoke of four temperaments (Keirsey, 1984).

Freud believed that human beings are fundamentally alike, each driven from within by Eros but his student and colleague Carl Jung disagreed. Jung claimed that:

People are different in fundamental ways even though they all have the same multitude of instincts [archetypes] to drive them from within. One instinct is no more important than another. What is important is our preference for how we 'function.' Our preference for a given 'function' is characteristic, and so we may be 'typed' by this preference. Thus Jung invented the 'function types' or 'psychological types'. (Keirsey, 1984)

The Myers-Briggs Type Indicator (MBTI) is based on Jung's psychological types (Myers, 1980). It is designed to investigate systematic preferences in an individual's basic approaches to life. It is further based on the assumption that there is a relatively consistent pattern to most human behavior and that this consistency is reflected in the ways

individuals perceive the world and arrive at conclusions about it.

Since the implementation of the MBTI, it has been used in essentially two ways. First, it has been examined in many studies designed to assess the instrument in an adequately reliable self-report inventory. (See Chapter 3 for studies on reliability and validity.) Second, it has been used as a prediction instrument in research predominantly in the fields of education, medical education, and business.

McCaulley and Natter (1974) led a research team to investigate the type differences in students labeled as "disruptive" in Florida schools. Their purpose was to identify causal factors of disruption and to suggest solutions. Data were collected in the spring of 1974 at the Developmental Research School at Florida State University for the Governor's Ad Hoc Task Force on Disruptive Youth. The sample population consisted of 521 students in the seventh through twelfth grades. Predictions of type differences in academic aptitude and achievement were confirmed. The project demonstrated that different types of students require different educational treatments.

Finally, knowledge of the distribution of types in any given school or classroom can be helpful to teachers and administrators planning for the instruction of the students. The few schools who [sic] have longitudinal data on the types of their students report that they can forecast changes in materials and supplies years ahead, based on the changes in distributions of their classes. (McCaulley and Natter, 1974, p. 189)

A team of research-practitioners at Ball State University matched sensing and intuitive types with selected instructional strategies and student support services. They used the MBTI as a diagnostic tool with high-risk students and found that attrition was reduced from 28 percent to 9 percent after first using a program that included informing these students of their MBTI type with an interpretation in the context of learning (Price, 1985). Their data are impressionistic; they worked with a large number of students in a case-study setting (exact number of subjects not given) and observed direct results, but without adequate research controls.

In a study involving 401 freshmen, Provost used the MBTI to determine college attrition. She was able to type those students likely to have low persistence rates as well as those students likely to have high persistence rates (Provost, 1985). During Fall 1980 the MBTI was administered to the entering freshman class of a private, four-year liberal arts college. Of the 401 entering freshmen the ethnic and racial composition was 12 Black, 2 Asian, 9 Hispanic, and 378 White. These students were traced for four years to observe their persistence or attrition, academic performance, and involvement in college.

Provost cautions that her findings on persistence or attrition types may not be generalized to all campuses. "If the environmental characteristics are quite different, certain types may more easily 'fit' at certain institutions"

(Provost, 1985, p. 22). But in its broadest implication this study provides colleges and universities with useful information on how the MBTI can be used to assist high-risk students in adapting self-understanding to their academic environment.

A great deal of research has been done on typing relative to career choice. This research includes a longitudinal study on the selected specialty fields of over five thousand medical students and ten thousand nurses (Myers, 1980).

The information provided by the MBTI is useful in helping students assess their strengths and in providing them with suggestions and methods for developing areas which are not preference areas. The MBTI is a good prediction instrument in areas of study and career choice. Who an individual is as a personality type is one area of knowledge; how an individual develops in the adult life cycle is another area of knowledge.

Adult Development

A review of the literature reveals a preponderance of adult developmental theory. As this study deals, at least in part, with developmental issues, it is highly appropriate to review the foundations of adult development theory which lead up to the more recent and, for purposes of this research, the more pertinent investigations in the field of adult growth and learning.

Adult development research began as early as the 1930's when Carl Jung began to identify phasic aspects in the development of adults (Lasker, 1980, p. 5). It is now generally accepted that "The person who can justly be considered the father of the modern study of adult development is Carl G. Jung" (Levinson, 1978, p. 4).

Erik Erikson expanded the study of childhood developmental theory to include the adult years. His concept of emergent personal qualities--ego identity, loving intimacy, caring creativity and wisdom--relates to adult dimensions of the development of choice, intention and understanding in adult life. Erikson was one of the earliest stage theorists. His Eight Stages of Life explain the development of personal qualities through dichotomies on an age-linked scale. Erikson's theory begins with the emergence of hope through the duality of trust versus mistrust. The infant works through this stage of growth between birth and one year of age. Second, the child develops self control as she works through the duality of autonomy versus shame between the ages of one and three. The developing person then progresses through direction, competence, fidelity and love until reaching the care stage. Erikson gives the learning of care, the balance of generativity versus stagnation, the longest time frame. His theory supports the notion that the individual works toward care from approximately age twenty-five until approximately age sixty-four. At approximately age sixty-five, Erikson

believes, the individual enters the final stage of life, the development of wisdom, a choice between ego integrity and despair (Erikson, 1959).

William Perry's research into intellectual and ethical development in the college years was the first substantial research on development with young adults. Perry's study, Forms of Intellectual and Ethical Development in the College Years (1968), links Erikson's development theory to the intellectual and ethical growth occurring during average aged (17-22) college years. It was his intent:

To illustrate the variety in students' response to the impact of intellectual and moral relativism. Wishing to secure this variety in a small sample of students, [he] felt it best to obtain the largest possible range between those freshmen bringing with them a strong preference for dualistic, right-wrong thinking and those bringing with them a strong affinity for more qualified, relativistic and contingent thinking. [He] considered such differences as a manifestation of differences in 'personality.' It had not yet occurred to [him] that it might be more fruitful to consider such differences primarily as expressions of stages in the very developments [he] was setting out to explore. (Perry, 1968, p. 7)

Interviews were conducted in late May or June of each college year for each volunteer participant. Interviews included 17 complete four-year records. Within its own strictest limits the study demonstrates the possibility of assessing, in developmental terms, abstract structural aspects of knowing and valuing in intelligent late-adolescents.

The study follows students through what Perry defines as the main line of development; that is, a progression from Position 1, where:

The student sees the world in polar terms of we=right=good versus other=wrong=bad. Right answers for everything exist in the Absolute, known to Authority whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretions of discrete rightnesses to be collected by hard work and obedience. (Perry, 1968, p. 9)

The study continues through Position 9 in which the student:

Experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which he expresses his life style. (Perry, 1968, p. 10)

At one level, Perry's study outlines the sequential forms of major personal development occurring as late as the college years. At a deeper level this study makes:

Salient the courage required of the student in each step in his development. This demand upon courage implies a reciprocal obligation for the educational community: to recognize the student in his courage and to confirm the membership he achieves as he assumes the risks of each forward movement. This is a creative obligation: to find new ways to encourage. (Perry, 1968, p. 215)

Although Perry's study deals only with regular-aged college students, it is an imperative link in the chain of adult development theory. Perry uses Erikson's emergent personal qualities to define and, therefore, understand intellectual and ethical growth.

Abraham Maslow's construction of the Hierarchy of Needs brought the concept of self-actualization into the adult consciousness in 1970. Lasker and deWindt discussed the adult movement from one of "self-protection" (to get) through the stages of "conformist" (to be) and "conscientious" (to do) to the final step of "autonomy" (to become). Their theory of development is closely related to

Maslow's Hierarchy of Needs which moves from the earliest stage of physiological needs for shelter, air, rest and food to safety-security needs for stability, order and law to love-belonging needs for acceptance, respect and responsibility and finally to self-actualization needs for achievement of potential, expression and creativity.

Daniel Levinson's intensive investigation of forty middle-aged males, The Seasons of a Man's Life (1978), discusses the age-linked components of physical functioning, social relationships, occupations and self-understanding. Levinson chose forty men for his intensive life study, the largest sample size his resources could handle.

Despite [his] strong desire to include women, [he] decided finally against it. A study of twenty men and twenty women would do justice to neither group. The differences between women and men are sufficiently great so that they would have to become a major focus of analysis. (Levinson, 1978, p. 9)

Levinson's study included ten men from each of four occupations:

1. Hourly workers in industry
2. Business executives
3. University biologists
4. Novelists

The sample men were distributed in age between thirty-five and forty-five. All were American born; all lived in the region between Boston and New York. Interviewer and interviewee joined collaboratively in the process of biographical interviewing to construct the story of each

interviewee's life. The basic aim was to portray an individual life as it evolved over the years (Levinson, 1978, p. 15).

It is now generally accepted that all lives are governed by common developmental principles in childhood and adolescence and go through a common sequence of developmental periods. At the same time, each individual life has its own special course. (Levinson, 1978, p. 3)

Levinson attempts, as do other developmentalists, to examine the lived life as it evolves rather than searching for a single, specific criterion. From his collected data, Levinson is able to divide the male life cycle into four major eras:

1. Childhood and adolescence (ages 0-17)
2. Early adulthood (ages 22-40)
3. Middle adulthood (ages 45-60)
4. Late adulthood (ages 65-?)

Each era, according to Levinson, is separated from the next by a transition period lasting from three to five years, and each era is internally broken into three divisions. Within these divisions Levinson discusses and explains the age-linked dimensions of changes in physical functioning, social relationships, occupational situations and self-understanding.

Gail Sheehy's journalistic book Passages: Predictable Crises of Adult Life (1976) was published two years prior to the publication of Levinson's The Seasons of a Man's Life. Sheehy draws heavily on Levinson's theory but

conducted intensive interviewing of both men and women herself. Passages: Predictable Crises of Adult Life is not designed as a research study. Sheehy makes no attempt to investigate thoroughly the lives of each participant, nor does she attempt to control variables. Yet, Passages is an important step in the publication of materials on the theory of adult development because it popularized it as a topic. Written in an easily read and understood style, Passages became a best seller and brought the idea of adult growth and change into the supermarket and thus into the living rooms of many non-academic adults. Adults of all walks of life could now discuss mid-life crisis, catch-30 and the sexual diamond with assurance, and recognize that although each is an individual, their crises of passage unite them with other developing humans rather than isolating them. Passages made an important impact on the adult consciousness.

In Transformation: Growth and Change in Adult Life, Roger Gould combines adult development age-lined stage theory with the pull of childhood reality into the growth and change of adults.

To brew up an adult, it seems that some leftover childhood must be mixed in; a little unfinished business from the past periodically intrudes on our adult life, confusing our relationships and disturbing our sense of self. I call this unfinished business childhood consciousness. Every time we feel anxious, depressed, afraid, inadequate or inferior and say to ourselves, 'There's no good reason to feel this way,' childhood consciousness has invaded our adult consciousness. We won't outgrow it, and we can't will

it away. To achieve adult consciousness we must overcome childhood consciousness. (Gould, 1978, p. 17)

One of the basic principles of Transformations is that as adults we strive for a fuller, more independent adult consciousness, and in doing so trigger the angry demons of childhood consciousness. "Growing and reformulating our self-definition becomes a dangerous act. It is the act of transformation" (Gould, 1978, p. 25). As children, Gould claims, we are unable to confront the demonic reality so we keep it at bay through protective devices. These protective devices overcome our childhood feeling of total vulnerability and seem to guarantee our complete safety; but as an adult, these coping skills exact a tremendous toll because they impose arbitrary outgrown rules of behavior and thinking on us, and thereby limit our concept of who we can be.

Gould began his research project at UCLA to explore his hunch about childhood consciousness. He and his colleagues began by sitting in on all therapy conducted in the University's outpatient department. This first project led to a second, more clearly defined research project. Gould constructed a questionnaire to be given to people aged 16 to 50 who were not therapy patients. The questionnaire forced people to rank statements according to their personal applicabilities. The ranking was a measure of each person's intuitive reading of themselves. The questionnaire was given to 524 people. The results of the questionnaire matched the

observations the researchers had made of the therapy patients. "Patients and non-patients of the same age shared the same general concerns about living" (Gould, 1978, p. 14). Gould then made a rough catalogue of the march of concerns in men and women between the ages of 16 and 50.

Gould tracks adult concerns on an age-linked pattern. According to Gould, between the ages of 16 and 22, we leave our parents' world and confront the first major fake assumption: I'll always belong to my parents and believe in their world. Between the ages of 22 and 28 the individual confronts the second major fake assumption: doing things my parents' way, with willpower and perseverance, will bring results. But if I become too frustrated, confused or tired or am simply unable to cope, they will direct me toward the right way. At ages 28 to 34 the adult confronts his third major fake assumption: life is simple and controllable. There are no significant coexisting contradictory forces within me. And finally, at ages 35 to 45, the adult confronts his fourth major fake assumption: there is no evil or death in the world. The sinister has been destroyed. Gould claims that adults carry with them these assumptions about their world that were created in childhood, do not accurately reflect adult reality, are beyond conscious awareness and influence how adults respond to present situations. Gould also presents a method for helping the adult to learn to free himself from the tyranny

of childhood consciousness. In short, he says the adult must:

1. Recognize his tension and confusion.
2. Understand that he responds to two contradictory realities.
3. Give full intensity to the childhood reality; that is, let it be real.
4. Realize that both contradictory realities still exist. We're not sure which one is real. Confusion again, but more intense and better defined.
5. Test reality. Take a risk that discriminates one view from another.
6. Fight off the strong urge to retreat just on the edge of discovery.
7. Reach an integrated, trustworthy view of a section of reality unencumbered by the demonic past.
(Gould, 1978, p. 34)

Gould recognizes that he has "Come to understand 'growth' in one special way: as the release from arbitrary internal constraints" (Gould, 1978, p. 321).

What does it mean to have security? Most people would say it means being sure of the love, loyalty or protection of someone else. More precisely, it means having a workable mental and emotional structure--that is, a set of patterns of action and thinking that gives us the sense of being grounded in and sheltered by a familiar and comprehensible reality. We need to live in some kind of reality structure. When we grow, we wander in an uncharted area. But if we wander long enough, we begin creating a new structure. That's the way we're built; there's no fighting it. (Gould, 1978, p. 328)

Transformations is a highly psychological response to adult development and growth, no doubt growing out of Gould's education and experience as a psychoanalyst.

Kohlberg's theory about states of moral judgment (1981) discusses adult male moral development from the stage of obedience (punishment orientation) to the stage of conscience orientation (universal ethical). In Robert Kegan's developmental study, The Evolving Self: Problem and Process in Human Development (1982), he uses both men and women as exemplary sources. Kegan develops a scheme entitled the Helix of Evolutionary Truces. His theory of development, founded primarily but not entirely on the works of Kohlberg and Piaget, supports the notion of balances. Kegan claims that as the individual goes through his life there are times when he is preoccupied with self, balanced by other times when he is preoccupied with interaction with others. "Our movement involves both a reaching out and a letting go" (Kegan, 1982).

Kegan considers:

The meaning of each evolutionary truce for the basic organization of the psychological self--a life span developmental approach to object relations which describes a sequence of emotional, motivational, and psychodynamic organizations, as well as the now familiar cognitive and sociomoral ones. (Kegan, 1982, p. 74)

Kegan shows his evolutionary truces as balances between psychologies favoring independence and psychologies favoring inclusion. He believes the individual begins with the incorporative evolutionary truce, a mothering culture. It is here, Kegan explains, "that the individual comes to experience closeness and being taken care of highly ambivalently--they are his fondest wish and his gravest

nightmare" (Kegan, 1982, p. 128). The individual proceeds to the first of the psychologies favoring inclusion, the impulsive evolutionary truce, a parenting culture. It is here that the individual begins to develop a sense of who he is, a self with properties that persist through time. Now the individual shifts toward a psychology favoring independence, the imperial evolutionary truce, a role recognizing culture. It is here that the individual begins to take over the controls and authority that once were exercised by the family and begins to bid for his own sense of organization and role. The interpersonal evolutionary truce, a culture of mutuality, moves the individual toward an inclusion in the larger world. It is here that the individual strives for self-authorship and psychological autonomy within the larger community. As the individual moves into the institutional evolutionary truce, a culture of self-authorship, he attempts to develop autonomy. Of course, to progress to the final truce, the individual must fully develop his autonomy and then be prepared to give up his self-possession as he moves into the interindividual evolutionary truce which is the truce of intimacy. At each evolutionary truce, Kegan says, we must confirm the reality, contradict it and be prepared to continue to the next step in our evolution.

The heart of the constructive-developmental framework--and the source of its potential for growth--does not lie so much in its account of stages or sequences of meaning organizations, but in its capacity to

illuminate a universal on-going process (call it 'meaningmaking,' 'adaptation,' 'equilibration,' or 'evolution') which may well be the fundamental context of personality development. (Kegan, 1982, p. 264)

At each balance, or rather unbalance, point,

It is a voice which says, 'I cannot recognize myself'--and, I am going to suggest, this names very precisely what is happening. One is unable to re-cognize, or re-know, oneself and one's world; one experiences, even literally, being beside oneself. (Kegan, 1982, p. 265)

A discussion of the progression in the study of adult development was necessary to show the strong research background which provides a solid base of theory for the more contemporary studies of female adult development.

Recently women theorists have begun to address female needs for attachment and connection to others. They point a way toward a new set of concepts with which to make sense of the course of development in women (Gilligan, 1982; Belenky *et al.*, 1986; Josselson, 1987). Carol Gilligan began her work on adult development with Robert Kegan. At a certain point in her research she recognized that psychological theorists had fallen into the habit of assuming that what was true for men was equally true for women.

Implicitly adopting the male life as the norm, they have tried to fashion women out of masculine cloth. It all goes back, of course, to Adam and Eve--a story which shows, among other things, that if you make a woman out of a man, you are bound to get into trouble. In the life cycle, as in the Garden of Eden, the woman has been the deviant. (Gilligan, 1982, p. 6)

Gilligan's In a Different Voice; Psychological Theory and Women's Development integrates data collected during the exploration of three research projects. Gilligan's The

College Student Study "explored identity and moral development in the early adult years by relating the view of self and thinking about morality to experience of moral conflict and the making of life choices" (Gilligan, 1982, p. 2). Twenty-five sophomore students were chosen at random from a group of students who had selected to enroll in a course on moral and political choice. These subjects were interviewed as seniors and then five years following graduation. The second study, The Abortion Decision Study, "considered the relationship between experience and thought and the role of conflict in development" (Gilligan, 1982, p. 3). Twenty-nine women, ranging in age from fifteen to thirty-three, diverse in ethnic background and social class, some single, some married, a few the mothers of preschool children, were interviewed during the first trimester of a confirmed pregnancy at a time when they were considering an abortion. Twenty-one of the twenty-nine were interviewed again at the end of the year following choice.

The hypotheses which were generated by the first two studies concerning different modes of this reality and their relationship to different views of self were further explored and refined through The Rights and Responsibilities Study. "This study involved a sample of males and females matched for age, intelligence, education, occupation, and social class at nine points across the life cycle: ages 6-9, 11, 15, 19, 22, 25-57, 35, 45 and 60 (Gilligan, 1982, p.

3). Total sample size was 144 (8 males and 8 females at each age) and included a more intensively interviewed subsample of 36 (2 males and 2 females at each age).

In her work with both males and females (only The Abortion Decision Study was, understandably, limited to females), Gilligan is able to come to a new understanding of the differences in psychological and moral development in men and women. Gilligan discovers a paradox:

For the very traits that traditionally have defined the 'goodness' of women, their care for and sensitivity to the needs of others, are those that mark them as deficient in moral development. (Gilligan, 1982, p. 18)

The psychology of women has consistently been described as distinctive in its greater orientation toward relationships and interdependence. Women's developmental strength lies in its recognition of the continuing importance of attachment in the human life cycle. "Woman's place in man's life cycle is to protect this recognition while the developmental litany intones the celebration of separation, autonomy, individuation and natural rights (Gilligan, 1982, p. 23). Gilligan reminds her readers that:

Only when life-cycle theorists divide their attention and begin to live with women as they have lived with men will their vision encompass the experience of both sexes and their theories become correspondingly more fertile. (Gilligan, 1982, p. 23)

Ruthellen Josselson claims that:

The most important developmental task facing women today is the formation of identity, for it is in the realm of identity that a woman bases her sense of herself as well as her vision of the structure of her life. (Josselson, 1987, p. 3)

Josselson's research, using the focused interview, explores female adult development from the concept of identity formation. Josselson's Finding Herself: Pathways to Identity Development in Women (1987) is a longitudinal study. Josselson conducted intensive interviews with sixty randomly selected senior women from four colleges and universities. During the initial interview, Josselson assessed each woman's progress in formulating identity as well as in aspects of her developmental history. Twelve years later, Josselson was able to locate and interview thirty-four of the original sixty women in an effort to understand how their adolescent identity formation influenced their lives.

There are two interrelated themes which underlie Finding Herself. Josselson makes an effort to extend the theoretical understanding of the developmentally crucial process of identity formation in response to Erik Erikson's statement that "in order to describe the universal genetics of identity, one would wish to be able to trace its development through the histories of ordinary individual" (Erikson, 1968, p. 155). The ordinary individuals which she has chosen to study are women, and it is this choice that forms the second motif.

Despite all that has been written about women, few have studied women phenomenologically or have been interested in their self-definition, allowing them to tell their stories. In this respect, this work is fundamentally heuristic, an effort to portray the whole woman who is lost in statistical analysis. (Josselson, 1987, p. xiv)

Josselson uses an empirical research paradigm known as identity-status research, a paradigm that she feels preserves the nuances and subtlety of Erikson's work. Josselson's approach identifies four divergent paths to identity formation based on the presence or absence of crisis about and commitment to specific identity elements. The purpose of Josselson's study is to explore the internal differences among four groups of women that explain why some "resolve identity crisis and integrate identities while others either avoid the task of creating an identity or become unable to transcend crisis" (Josselson, 1987, p. 33).

Nona Plessner Lyons, in an article entitled, "Two Perspectives; On Self, Relationships, and Morality" concludes that there are two distinct modes of describing the self in relation to others: separate/objective and connected, as well as two kinds of considerations used by individuals in making decisions--justice and care.

In contrast to the man's notion of morality--as 'having a reason,' 'a way of knowing what's right, what one ought to do,'--is the woman's sense of morality as a type of 'consciousness,' 'a sensitivity,' incorporating an injunction not to endanger or hurt other people. (Lyons, 1983, p. 126)

In the mode of separate/objective self, relationships are experienced in terms of reciprocity between separate individuals; that is, as a concern for others by considering them as one would like to be considered, with

objectivity and in fairness. In this mode relationship is mediated through rules that maintain fairness and are grounded in roles which arise from duties of obligation and commitment. In the connected-self mode, relationships are experienced as responses to others on their terms; that is, as a concern for the good of others or for the alleviation of their burdens, hurt or suffering (physical or psychological). In this mode, relationship is mediated through the activity of care which maintains and sustains caring and connection. This relationship is grounded in interdependence which comes from recognition of the interconnectedness of people.

There are several implications of Lyons's study, but two which seem pertinent to this study. According to Lyons, psychological theories of development should recognize a morality of care as a systematic, lifelong concern of individual rather than temporary, stage- or level-specific concern; and theories of ego and identity development should consider a relational conception--the-self-in-relation-to-others--as an intrinsic part of self-definition.

Mary Field Belenky and associates take the concept of separate and connected-knowing one step further in a study entitled: Women's Ways of Knowing: The Development of Self, Voice, and Mind. They "show how women's self-concepts and ways of knowing are intertwined. [They] describe how women struggle to claim the power of their

own minds" (Belenky, 1986, p. 3). Their study is based on extensive interviews with ordinary women living ordinary lives. Their informants "were rural and urban American women of different ages, class and ethnic backgrounds, and educational histories" (Belenky, 1986, p. 4).

The project began in the late 1970's when Mary Field Belenky, Blythe McVicker Clinchy, Nancy Rule Goldberger, and Jill Mattuck Tarule, following in the footsteps of Gilligan and Lyons, began to investigate epistemological perspectives from which women know and view the world. It is only recently that women have begun to play a role as theorists in the social sciences. As Carol Gilligan (1979) has pointed out, women have been missing even as research subjects at the formative stages of our psychological theories. Certainly there exists a potential bias on the part of male investigators to limit their variables by selecting exclusively or predominantly male samples for research.

This omission of women from scientific studies is almost universally ignored when scientists draw conclusions from their findings and generalize what they have learned from the study of men to lives of women. If and when men turn to the study of women, they typically look for ways in which women conform to or divert from patterns found in the study of men. (Belenky, 1986, p. 6)

Certainly, as we read adult developmental psychology, we learn a great deal about the development of independence and autonomy, abstract critical thought and the exploration and choice of a morality of rights and

justice in both men and women. We learn far less about the development of interconnectedness, interdependence, intimacy, care and contextual thought.

Belenky, *et al.*, adopted an intensive interview/case study approach because they "wanted to hear what the women had to say in their own terms rather than test [the researcher's] own preconceived hypotheses" (Belenky, 1986, p. 11). They interviewed women who were recent alumni or currently students in formal educational settings as well as women from what they came to call invisible colleges--human service agencies supporting women in parenting their children. In all, they interviewed one hundred thirty-five women from nine dissimilar colleges and universities, a community college, an alternative high school and three different family agencies.

Using a sequence similar to Perry's series of epistemological perspectives (positions), Belenky grouped women's perspectives on knowing into five major epistemological categories:

Silence, a position in which women experience themselves as mindless and voiceless and subject to the whims of external authority; received knowledge, a perspective from which women conceive of themselves as capable of receiving, even reproducing, knowledge from the all-knowing eternal authorities but not capable of creating knowledge on their own; subjective knowledge, a perspective from which truth and knowledge are conceived of as personal, private, and subjectively known or intuited; procedural knowledge, a position in which women are invested in learning and applying objective procedures for obtaining and communicating knowledge; and constructed knowledge, a position in which women view

all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies for knowing. (Belenky, 1986, p. 15)

Of particular interest to this study is the epistemological position of procedural knowledge. Belenky divides procedural knowledge into two categories: separate-knowing and connected-knowing. The procedures which men and women use for establishing meaning, both separate-knowing and connected-knowing, are similar and equally reasonable but they are not identical. When separate-knowing is utilized the orientation is toward impersonal rules. When connected-knowing is utilized the orientation is toward relationship (Belenky, 1986, p. 101). Both Gilligan and Lyons use the terms "separate" and "connected" to describe two different orientations or experiences of the self, as "essentially autonomous (separate from others) or as essentially in relationship (connected to others)" (Belenky, 1986, p. 102). Those who experience the self as predominantly separate tend toward "a morality based on impersonal procedures for establishing justice, while those people who experience the self as predominantly connected tend to espouse a morality based on care" (Belenky, 1986, p. 102). Belenky borrows the terms "separate" and "connected" from Gilligan, but when she speaks of separate-knowing and connected-knowing she makes a distinction between definitions. She refers "not to any sort of relationship between the self and

another person but with relationships between knowers and the objects (or subjects) of knowing (which may or may not be persons)" (Belenky, 1986, p. 102).

We are well-tuned to the voice of separate-knowing. Developmentalists have instructed us well in this analytical, logical, data-based, rule-orientated voice. Some call it the voice of reason. The connected-knowing voice is less easy to hear. "Connected-knowing builds on the subjectives' conviction that the most trustworthy knowledge comes from personal experience rather than the pronouncements of authorities" (Belenky, 1986, p. 113). But experience is not self limiting.

Connected knowers develop procedures for gaining access to other people's knowledge. At the heart of these procedures is the capacity for empathy. Since knowledge comes from experience, the only way they can hope to understand another person's ideas is to try to share the experience that has led the person to form the idea. (Belenky, 1986, p. 113)

It is understood that connected knowers can only approximate other people's experiences and therefore have only limited access to their knowledge. But they must act as connected rather than separate selves in their attempt to see and hear the other in the other's terms. It is, for some, a difficult game. The sociologist, Shulamit Reinharz, writes:

I will never know the experience of others, but I can know my own, and I can approximate theirs by entering their world. This approximation makes tragic, perpetually inadequate aspect of social research. (Reinharz, 1984, p. 365)

In all procedural knowing, it is the process rather than the content of knowing (knowledge) that is central.

"Separate knowers learn through explicit formal instruction how to adopt a different lens--how, for example, to think like a sociologist. Connected knowers learn through empathy. Both learn to get out from behind their own eyes and use a different lens, in one case the lens of a discipline, in the other the lens of another person". (Belenky, 1986, p. 115)

Carol Pearson's research on adult development takes a somewhat different perspective. In The Hero Within, Pearson states that: "There is a need now to explore female and male journey patterns together, giving serious attention to ways we are the same and ways we differ" (Pearson, 1986, xvi). Pearson's research led her to explore the archetypal level patterns of male and female heroism. She discovered that while archetypes were quite similar for men and women, they differed profoundly in detail, tone and meaning. Pearson's:

Theory departs from many stage theories in that it dissociates stage from chronological age, it de-emphasizes the importance of addressing each learning task in sequence, and it recognizes cultural relativity. It makes no claim to universal truth. (Pearson, 1986, xviii)

This selective review of adult developmental literature has explored, although briefly, the foundations of adult developmental theory. With the advent of Gilligan's, Lyons's and Belenky's work we see a growth toward the inclusion of interconnectedness and caring and a movement away from the strict hierarchy, autonomy and

power which is more typical of studies designed with only male subjects.

Procedural Processing and Barriers to Education

Carp, Peterson and Roelfs (1974) divided perceived barriers to learning for non-traditional students into three categories:

1. Situational
2. Institutional
3. Dispositional

In a national survey conducted for the Commission on Non-Traditional Students, the authors asked respondents to circle all of the items listed that they felt was important in keeping them from learning what they wanted to learn. The twenty-four items were grouped according to situational, institutional and dispositional barriers. Cross (1984) says that in all survey research, situational barriers lead the list as reasons for non-participation; these concerns range from roughly 10 percent of respondents citing situational factors such as lack of child care or transportation to about 50 percent mentioning cost or a lack of time. The cost of education and lack of time lead all other barriers of any sort by substantial margins.

Low-income groups are far more likely to mention cost as a barrier than middle-income and upper-income groups. Among actual learners, however, public funding is supporting adult education for about a third of the black learners, while employers are supporting educational costs for about a third of the white males. This leaves white females as the only population subgroup presented in NCES data in which a

majority of learners (66 percent) are supporting educational costs from their own family funds. No doubt that is one reason why in almost all surveys, women are more likely than men to cite the cost of education as a barrier. (Cross, 1984, p. 100)

In addition, a comprehensive study of the college attendance rates of New York youth (N.Y. State Education Department, 1969) reported that the lack of money continues to operate as a barrier to educational opportunities for women. "Significantly more women than men changed their college plans because of financial limitation". (Cross, 1971, p. 143)

Lack of time vies with cost for first place among obstacles to education. It is mentioned more often by people in their 30's and 40's than by those younger or older, more often by the highly educated than by the poorly educated, and more often by those in high-income occupations than by those in low-paying jobs. (Cross, 1984, p.103)

It is not surprising that child care presents a significant problem to women between the ages of 18 and 39 (and to few other population subgroups), and transportation is a major problem to the elderly and the poor but seldom to the middle class or middle aged (Cross, 1984, p. 104).

Despite concerns of cost and child care, Cross indicates that women as a group are well qualified by traditional standards to undertake college work.

Traditional tests of academic aptitude usually show a slight female superiority in verbal abilities, whereas men outscore women on quantitative measures. When verbal and quantitative measures are combined, as they usually are in the admission process, men have slightly better test scores than women. On the other hand, when grades are used as the measure of academic accomplishment, women receive markedly higher grade point averages than men. To give a very rough

example of relationships in the form of percentages, 49 percent of the college-bound males and 43 percent of the females scored above the mean score of a quarter million young people on the composite test score of the American College Tests; 51 percent of men and 68 percent of the women had high school grade-point averages of 2.5 (C+) or better. (Cross, 1971, p. 135)

The second group of perceived barriers to education, according to Carp, Peterson and Roelfs, are institutional barriers. Institutional barriers include such items as: "Don't want to go to school full time", "Courses aren't scheduled when I can attend", "Too much red tape in getting enrolled". Reluctance to attend schools full time leads the list of institutional barriers with 35 percent of the respondents listing full time educational requirements as a barrier to their pursuit of education.

Dispositional barriers, although the group least often selected by potential adult learners as barriers to their education, also includes several important factors. Of the respondents, 17 percent listed "Afraid that I'm too old to begin", and 12 percent listed "Low grades in past, not confident of my ability" (Carp, Peterson, and Roelfs, 1974).

Helping adult learners to successfully work their ways through their barriers is an important facet of adult education. Schlossberg uses the term "transitions" as inclusive of not only obvious life changes such as high school graduation, job entry, marriage, birth of the first child and bereavement, but also such subtle factors as the

loss of one's career aspirations and even the non-occurrence of anticipated events (Schlossberg, 1979, p. 6). It is the occurrence or non-occurrence of these life transitions that often trigger a return to the educational process (Aslanian, 1980; Cross, 1984; Daloz, 1986).

Schlossberg distinguishes between successful and unsuccessful transitions. She found three sets of factors that affect how one adapts to a transition and influences the outcome: First were the characteristics of the transition itself, such as role change, source, timing, onset, duration, affect, and degree of stress; second were the characteristics of the pretransition and posttransition environments, such as interpersonal support systems, institutional supports, and the physical environment; and third were the characteristics of the individual going through the transition, such as sex, age, state of health, race, ethnic background, socioeconomic status, value orientation, psychosocial competence, and previous experience with a transition of a similar nature. (Aslanian, 1980, p. 25)

Brookfield claims that

Adults learn throughout their lives, with the negotiations of the transitional stages in the life-span being the immediate causes and motives for much of this learning. They exhibit diverse learning styles--strategies for coding information, cognitive procedures, mental sets--and learn in different ways, at different times, for different purposes. As a rule, however, they like their learning activities to be problem centered and to be meaningful to their life situation, and they want the learning outcomes to have immediacy of application. (Brookfield, 1986, p. 31)

It is during times of transition that a cognitive dissonance enters the awareness of the adult learner and widens the expectation of awareness. This often results in a feeling of unbalance.

In social science language, it means creating a cognitive dissonance, a gap between one's perceptions and expectations: I think I should be there, but I see myself here. Leon Festinger (1957), who first invented the term cognitive dissonance, maintains that there is an intrinsic human need to close such a dissonance, to harmonize it again with our own inner selves. That, he says, is what learning is about. We move to close gaps. (Daloz, 1986, p. 223)

When we speak of transitions, we speak of finding our own voices or of helping others, in this case adult learners, to empower themselves so that they may find their own voices. Freire explains:

That man's ontological vocation is to be a subject who acts upon and transforms his world, and in so doing moves toward ever new possibilities of fuller and richer life individually and collectively. This world to which he relates is not a static and closed order, a given reality which man must accept and to which he must adjust; rather, it is a problem to be worked on and solved. (Freire, 1984, p. 13)

Daloz reminds us that "people best develop under their own power" (Daloz, 1986, p. 187). Some of the great thinkers of our times, Joseph Campbell (mythologist) and Carl Rogers (psychologist) agree with the words of Paulo Freire, that we change ourselves and, in changing ourselves, we change the world.

The use of the metaphor of voice to denote transitional growth in women is current with the literature (Belenky, Clinchy, Goldberger, and Tarule, 1986; Gilligan, 1982; Josselson, 1987). During the process of transformation, women begin to reject the voice of reason and select instead between separate-knowing and connected-knowing as ways of working through the chaos of change.

Gilligan (1982) first used the terminology "separate-knowing" and "connected-knowing" to distinguish two ways for the learner to empower herself. Belenky and others (1986) expanded and clarified the terms "separate-knowing" and "connected-knowing" within the epistemological study of procedural knowledge in relation to women and learning.

Summary

The review of literature has discussed the Myers-Briggs Type Indicator and some of the research which has been done in using personality types as indicated by the MBTI to predict behavior. A review of adult development theory began with the formation of adult development as an area of study and progressed through the major theories. This section ended with research in female adult development and a discussion of women's ways of developing their voice and interaction with their ontological world. Procedural processing and barriers to education included the major surveys delineating barriers (situational, institutional and dispositional) and ended with a discussion of the two types of procedural knowledge most often used by women to process their perceived barriers to the educational process.

CHAPTER III

Design of the Study

In this chapter, the design of the study is presented. The population and samples are identified. The procedures for data collection are described. The tabulation of demographic information is explained. A discussion of reliability and validity for both the Myers Briggs Type Indicator (MBTI) and the interview coding is provided. A discussion of the statistical analysis is provided.

Sample

This study was conducted using twenty-five white females enrolled in undergraduate degree programs at a four-year public university. Participants were adult or non-traditional students ranging in age from twenty-five to fifty-nine years of age. Participants reside in the medium sized city containing the university or come from the surrounding rural area within a commuting distance of sixty miles. All participants had an accumulated grade-point average of 2.5 or above (on a 4.0 scale). Subjects were randomly selected from those female students who chose to enroll in a course specifically designed for non-traditional students. Participants had completed at least one full semester at the university.

Research Design

Subjects were typed according to the MBTI. The MBTI, form F, is a 166 item, paper and pencil, self-administered, forced-choice, untimed questionnaire having no right or wrong answers. The questions were chosen to represent a major effort to capture Jungian personality types in a psychometric instrument; they represent the everyday preferences which show Jung's more basic preference types (see Appendix A).

The MBTI was scored for four preferences which structure the individual's personality. Points for each pole of the preference were totaled, and a preference score was obtained by applying a formula to the differences between the points for the more-preferred and less-preferred pole. For easy reference, a letter designating the direction of preference is used (see Table 3.1).

Since there is a choice of four preferences, a type can be identified by the four letters which show the way the subject prefers to function. The characteristics of the preferences are EI, SN, TF and JP. These four scores combine to generate 16 types, shown in Table 2, each with its own descriptions and gifts, its own journey to excellence, and its own potholes to be avoided (see Appendix B).

Because the MBTI is a self-report inventory it was not necessary to have the participants experience the MBTI as a group. Participants took the MBTI in the counseling center of the university which is certified to give the MBTI. In

Table 3.1

Four Preferences/A Person's Type

Interest	EXTROVERSION	Outer world of actions, objects and persons
	INTROVERSION	Inner world of concepts and ideas

Perception	SENSING	Immediate real facts of experience
	INTUITION	Possibilities, meanings and relationships of experience

Judgments or Decisions	THINKING	Objectively and impersonally analyzing facts and ordering them in terms of cause and effect
	FEELING	Subjectively and personally weighing values and the importance of choices for one's self and other people

Living Preference	JUDGING	Planned orderly way, aiming to regulate and control events
	PERCEIVED	Flexible, spontaneous way, aiming to understand and adapt to events

SOURCE: Myers, I & McCauley (1985).

order to limit the subjective influence of the research, the MBTI was neither scored by the counseling center nor collected by the researcher until after the interview process and interview coding were completed.

It is important to note that the stability of these preference scores, split-half and test-retest reliabilities has been reported to range between .44 and .94 for various subject populations (Stricker and Ross, 1963; Stalcup, 1968; Levy, Murphy, and Carlson, 1972; Howes 1977). A review of these studies finds that the Thinking-Feeling dimension coefficient fluctuates the most and is the only one which falls below an index of .66 in the cited literature. Of all samples tested, the consistently highest indices of stability have been obtained from those studies composed of college students. For college samples, Myers (1962) reports coefficients ranging from .80 to .94 for all four scales. According to Nunnally (1959), reliability figures for the better-established, self-descriptive inventories usually range between .75 and .85. Therefore, the MBTI appears to be reliable for research purposes with college populations. Specific indices of intercorrelation are reported in the manual (Myers, 1985) for samples of male and female college students.

Although evidence for the validity of the MBTI is not overwhelming, a number of studies have found significant indices of concurrent and construct validity. In an examination of the MBTI, Sundberg (1965) indicated that the

relationships of its scores to a large number of tests of interest, value and personality, such as the Strong Vocational Interest Blank (Strong, 1959) and the Edwards Personal Preference Schedule (Edwards, 1954), were largely in the predicted direction.

In summary, while the psychometric support for the MBTI is not overwhelming, there is ample evidence in the literature to suggest that it is a reasonably reliable and, to a somewhat lesser extent, valid measure of individual preference.

Demographic information on the participants was collected via a questionnaire completed by each subject (see Appendix C). Demographic information was tabulated in terms of age, marital status, number and age of children and time and type of high school completion; also university credit hours earned, university credit hours per semester and cumulative grade-point average were figured. A tabulation of work in/out of the home, enrollment in community college, commuter versus university housing, career expectations and majors and minors were tabulated.

Each participant was interviewed using the focused interview as a means of measuring the degree of separate-knowing and/or connected-knowing procedural processing in her acquisition of knowledge and understanding (see Appendix D). Each interview response was rated as voiced by the subject. The response to each question was used as an

indicator in determining the procedural process each participant selected to attempt a solution to the perceived barrier. The nature of this research dictated the use of open questions during the interview. The questions were organized within a given area of investigation and followed the accepted format of moving from general to specific. Each interview began with an "opener" question designed to assist the informant in feeling at ease and to elicit non-directed, unstructured replies. The open question provided background for the more detailed and specific questions which followed. Further information was gained by asking "follow-up" and "reason-why" questions. "Probe" questions were used to obtain additional ideas which the subject had not immediately stated (Merton, 1956).

The interview questions which were used in this study were correlated by Clinchy. Specific sections were designed by Gilligan and Kohlberg. The section questions entitled "Women's Ways of Knowing" were designed by Clinchy (1986). Specific barriers to education questions were designed for this research. This interview format, with the exception of barriers to education, was used in its entirety by Belenky, Clinchy, Goldberger, and Tarule to conduct an in-depth study involving 135 women dealing with the issue of women and learning (Belenky *et al.*, 1986). Sections C, D, G, and H of the interview format were omitted in this research since the information sought in these sections was not pertinent to this study.

Interviews were scheduled for a length of one hour. All interviews were tape recorded.

Results of the interview information were coded to establish process patterns for each participant. A coding response form was designed to determine the procedural process of the interviewee's response to each question. The code response form is a Likert scale of five. One end of the scale represents extreme separate-knowing procedural process preference, while the other end of the scale represents extreme connected-knowing procedural process preference. The coding response is similar in design to the coding used by Lyons (1983) and Belenky (1986) (see Appendix E).

All twenty-five of the interviews were also scored by an independent male investigator in an attempt to reduce subjectivity, both on an individual basis and in terms of gender subjectivity. The inter-reader reliability was calculated.

The procedural processing results were then correlated with the results of the MBTI.

Analysis

MBTI scores of the participants were compared to the percentages of each type found in the general population. Individual indicator scores were compared to the percentage found in the female college population.

A separate-knowing procedural processing (S-K) and a connected-knowing procedural processing (C-K) score were established for each participant. S-K and C-K scores were graphed; clusters of homogeneous grouping occurred; and each participant was classified as either a separate-knower or a connected-knower.

Chi-square was used to graph the frequency count and percentages of each MBTI individual indicator. Chi-square was also used to determine frequency count percentages for the sixteen MBTI indicators.

Analysis consisted of statistical evaluation of relationships found between specific modes of processing and specific types as determined by the MBTI in the form of Pearson Product Moment Correlation and Chi-square. Descriptive statistical data were presented in the forms of tables and graphs.

The number of participants in this study (n=25) is not exclusive; therefore, a discussion of the participants' ontological relationships with their abilities to process barriers and solve problems by procedural knowledge, separate-knowing procedural knowledge, and connected-knowing procedural knowledge are discussed in relationship to their indicator types. This discussion concludes the analysis.

Summary

The ability to process procedural knowledge in education and in life is an important skill for adult

students returning to the educational process. Adult students who do not learn ways appropriate to themselves of reading the road map abandon the journey and do not reach their destination.

This research correlates theory of personality typing and types of procedural processing used by female adult students to overcome problems which they have identified as barriers to their own educational progress. It is expected that a discussion of the relationship between type and process will add to the literature on how female adults succeed in the educational process.

CHAPTER IV

Results of the Analysis

Twenty-five white, female non-traditional students enrolled in a baccalaureate degree program in a four-year, midwestern, state-supported university participated in this study. The underlying assumption of this study is that the female, non-traditional student chooses either a separate-knowing procedural process or a connected-knowing procedural process to work through her perceived barriers to education in parallel relationship to her personality type as determined by the Myers-Briggs Type Indicator. Participants completed a demographic information questionnaire (See Appendix C.) and the Myers-Briggs Type Indicator (See Appendix A.); they also participated in an interview (See Appendix D.).

Demographic information was tabulated in terms of:

- 1. Age distribution**
- 2. Marital status**
- 3. The number and ages of any children**
- 4. Time and type of high school completion**
- 5. Community college attendance**
- 6. Number of college credit hours earned**
- 7. Average number of credit hours per semester**
- 8. Grade point average**
- 9. Housing**
- 10. Commuting distance**

11. Prior work experience

12. Career expectations

The Myers-Briggs Type Indicator was scored, and the participants were categorized by personality type.

The interview responses were divided into those characteristic of separate-knowing procedural process and those characteristic of connected-knowing procedural process. Then the subjects were divided into two homogeneous groups (e.g., separate-knowers and connected-knowers).

The MBTI personality types and the interview procedural process analysis were analyzed using a Pearson Product-Moment Correlation and Chi-square. Specific interview responses were discussed to illuminate the statistical results.

Analysis of Demographic Information

The participants in this study were twenty-five white females enrolled in an undergraduate degree program at a four-year public university. Participants were non-traditional students ranging in age from 25 to 59 years. The median age was 37. The mean age was 38. Distribution of participants by age were skewed. The greatest percentage of participants was in the 30-39 years of age range, with 52% of the participants falling into that range. The lowest percentage of participants (4%) fell into the 55-64 years of age range (see table 4.1).

Table 4.1

Age Distribution

Age	Frequency (N=25)	% of This Sample	% of National Sample* (N=744)
25-29	3	12%	20%
30-34	6	24%	17%
35-39	7	28%	13%
40-44	4	16%	8%
45-49	3	12%	8%
50-54	1	4%	7%
55-59	1	4%	6%
60+	-	-	20%

*Aslanian, 1980, p. 139.

In contrast to national figures (Aslanian, 1980, p. 135), the percentage of participants in this study was substantially higher in the 30-34, 35-39 and 40-44 age ranges. All the women in this study were seeking degrees in order to enter a professional career. These women desired to enter the work force for three major reasons:

1. The economic pressure on their family was substantial whether the woman was married or the single adult in the household
2. All these women felt that they should do more than maintain a household
3. All these women desired to lead lives which would intimately connect them to society

Aslanian claims that these are three of the most powerful forces bringing women into the workplace (1980, p. 29).

Because all the women in this study were career seekers, it is not surprising that the percentage of women in the youngest group is lower than in Aslanian's study. Many women of this age are experiencing the transition to marriage and the birth of children, and thus much of their learning is oriented toward learning about family and child-rearing. Much learning about family issues is done outside the perimeters of the four-year university. It is equally understandable that the percentage of women in this study within the last two age groups, 50-54 and 55-59, is also smaller. Nationally, most women within these age groups are not seeking professional careers. Age limits the ability to complete a four-year degree, obtain a professional appointment and allow for enough years to be productive and acquire eligibility for retirement.

Some problems surfaced when the participants were categorized according to marital status. Marital status varied among the participants with the greatest percentage (52%) in the divorced category. Kelly was divorced and remarried. She chose to use married as her indicator as it is her current status. Esther claimed three marriages and three divorces. Helen claimed two each of marriage and divorce. Jamie was both widowed and divorced with the divorce being the more current. In tabulation, the current marital status was used (see Table 4.2).

Table 4.2

Marital Status

Marital Status	Frequency (N=25)	% of This Sample	% of National Sample* (N=744)
Single/never married	3	12%	12%
Married	9	36%	67%
Separated	-	-	2%
Divorced	13	52%	10%
(not remarried)			
Widowed	-	-	9%
(not remarried)			

*Aslanian, 1980, p. 142

A far greater percentage of the participants in this study were divorced than in Aslanian's study, 52% of the study sample group as compared with only 10% in the national adult learner survey. Several rationales seem reasonable in accounting for this differential. The percentage of participants in this study in the 25-29 age range was substantially smaller than the percentage of participants in the national study falling into the same age range, 12% as compared with 20%. Thus, the participants in this study had had more years in which to both marry and divorce. It is true that the national study also included women in the 60+ age range while this study did not. These older women certainly had had time for both marriage and divorce, but social norms dictated a lower percentage of divorce for these women. An additional difference between the two groups studied is the type of education the learners are

pursuing. All the participants in this study are engaged in acquiring a four-year undergraduate degree, while the learners in the Aslanian study were engaged in a wide variety of educational programs including high school completion, community college, community education, as well as college and university degree programs. It may be that divorced women have a greater participation in an undergraduate degree program for financial reasons. All the participants in this study were seeking a degree which they hoped would lead them into stable and financially secure careers.

The number of children per participant varied. No participant had more than 4 children. Two of the participants had 4 children each with all the children being above the age of majority (see Table 4.3.).

Table 4.3

Number of Children

Number of Children	Frequency (N=25)	% of This Sample	% of National Sample* (N=744)
0	4	16%	23%
1	7	28%	16%
2	6	24%	26%
3	5	20%	18%
4	3	12%	10%
5 or more	-	-	5%

*Aslanian, 1980, p. 142

Having, one, two or three children does not appear to limit a woman's ability to pursue an education. Having four children seems to be a slight deterrent and having five or more children appears to be a substantial deterrent. These findings are similar to the profile developed in the Aslanian study.

Participation in learning drops sharply among adults who have five or more children. The learning of adults with fewer than five children is unaffected by the number. (1980, p. 46)

The total number of children for the 25 women engaged in this study was 47. The mean number of children was 1.88.

The age of the children is also a factor in the return of women to the educational process. The mean age of the children of participants was 15.8 years. The youngest child in this group was 3 years old; the oldest child was 37 years old. Two children, belonging to two different women, were of preschool age (see Table 4.4). This study sample has a substantially lower percentage of children in the 25+ age group. This difference might be expected since the study group was also significantly younger than the national sample.

Twenty-three of the twenty-five women (92%) in this study graduated with their high school diplomas on time with their classmates. One woman completed her high school education in the local adult education high school completion program, and another received a high school equivalency by completing the G.E.D. exam.

Table 4.4

Age of Children

Age of Children	Frequency (N=47)	% of This Sample	% of National Sample* (N=744)
2 or under	-	-	3%
3-4	2	4%	5%
5-8	9	19%	9%
9-12	7	15%	12%
13-17	10	21%	18%
18-21	8	17%	14%
22-24	5	11%	8%
25+	6	13%	37%

*Aslanian, 1980, p. 142

Twelve of the twenty-five women (48%) attended either community college or a different university for a length of time ranging from one semester to four years before attending this university. Thirteen of the women (52%) had no prior higher education experience before enrolling at the university level.

At the time of their interviews, participants had attended the university from 2 to 10 semesters. The mean number of semesters attended was 4.3. University credit hours completed ranged from 30 to 172 semester hours. The mean semester hours earned by this group was 87.48. The average number of semester hours completed per semester ranged from 6 to 15. Three of the participants consistently took a six-hour/part-time credit load. Two of these three were the two women with preschool-aged children; the third

woman was one of the two participants who had full time employment.

Grade point averages for this group ranged from 2.50 to 3.96 on a 4-point scale; the mean grade point average was 3.26.

Six (24%) of the women in this study chose to live in university housing; five of them occupied family apartments, while one of them lived in a residence hall. Eight others (32%) chose to live in off-campus housing in the same city where the university is located. This group included both renters and women living in their own homes. Eleven (44%) of these women commuted to the university. Commuting distance ranged from ten to sixty miles one way.

Only one woman in this group had no work experience before entering the university. The work experience of the remaining 24 women varied. One woman had worked in a factory; one had been a waitress; one had owned her own business; one had served in the U.S. Army; three of the women had worked in the medical field; eight had held secretarial or clerking positions; nine had worked in non-professional helping positions with the elderly, the disadvantaged, or in a school setting as an aide.

Although the career expectations of the women in this study varied, 10 (40%) of them anticipated a career in education. Seven of the ten were interested in elementary education; one was interested in secondary education; and two felt that special education would be their niche. Other

women sought four-year terminal degrees in fields which included: journalism, health fitness, social work, counseling, broadcasting, accounting, and cartography. One aspired to an advocacy position for women's rights. Two of the women were undecided regarding their career choices. Three women felt they would seek additional post-graduate education in psychology, law and the ministry.

Analysis of Myers-Briggs Type Indicator

The participants in this study completed the 166-item, paper and pencil, forced-choice, untimed Myers-Briggs Type Indicator (MBTI). The MBTI was scored to determine the individual's personality type. Of the 16 types possible within the format for the MBTI, 11 types were represented in this sample. The personality types, ESFJ and ENFP, represented 40% of the participants. Each of these types was the type scored by five of the participants. Four of the participants (16%) type INFP. The types ISFP, INTP and ESTJ were each represented by two participants (8%). Five types, ISFJ, INFJ, ISTP, ENTP and ENFJ, were represented by one participant each (4%). Types ISTJ, INTJ, ESTP, ENTJ and ESFP were not represented by this sample. The strength of types ENFP and ESFJ is not surprising. Eleven women typed both E (extroversion) and F (feeling), while only three women typed both I (introversion) and T (thinking). The word-letter combinations of NF (intuition-feeling) and SF (sensing-feeling) were also strongly represented by this

sample. Nineteen women (76%) were typed either NF or SF. Eleven women typed NF (44% of the subjects), and eight women typed SF (32% of the subjects). The combinations of NF and SF are well represented in the career fields of education and other liberal arts majors (Myers, 1980, p. 159). The majority of women in this study were training for careers in those fields. Figure 4.1 represents the MBTI type profile for each participant. The distribution of participants across the MBTI types is shown in Table 4.5.

The distributions across MBTI types for the study sample and the national data bank are compared in Figure 4.2. The MBTI data bank is maintained at the Center for Applications of Psychological Type (CAPT). The national data used for comparison included the records of 32,731 women evaluated between March 1978 and December 1982. The data were collected from women in conjunction with some educational experience. Fifty percent of the cases used in the CAPT scores were from women who had completed at least one year of higher education, while the remaining 50% were from women with more limited formal education. (See Table 4.6: Summary Data for Single-Letter Preferences and Two-Letter Combinations for NTWG and CAPT.)

Participants in this study showed a high correlation with the subjects in the CAPT data bank, particularly in the E-I pairing. Women in this study were well-balanced in the typing of extroversion versus introversion. Fifty-six

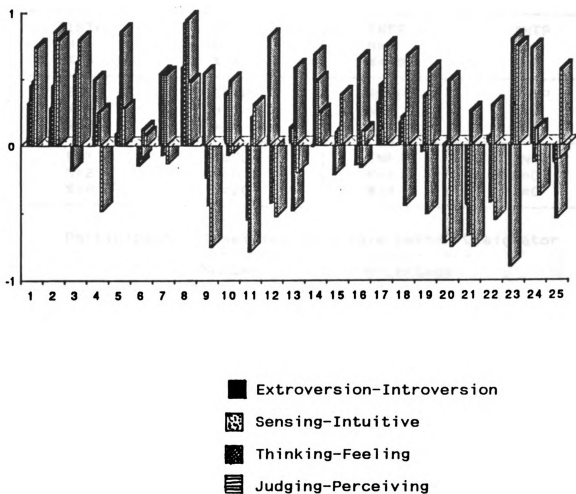


Figure 4.1

MBTI Personality Type Profile for Each Participant.

Table 4.5

Participants Classified as Myers-Briggs Types*

Sensing Types		Intuitive Types	
With Thinking	With Feeling	With Feeling	With Thinking
ISTJ N=0 %=0	ISFJ N=1 %=4	INFJ N=1 %=4	INTJ N=0 %=0
ISTP N=1 %=4	ISFP N=2 %=8	INFP N=4 %=16	INTP N=2 %=8
ESTP N=0 %=0	ESFP N=0 %=0	ENFP N=5 %=20	ENTP N=1 %=4
ESTJ N=2 %=8	ESFJ N=5 %=20	ENFJ N=1 %=4	ENTJ N=0 %=0

Participants Classified by Single-Letter Designator

Number	Percentage
E 14	56
I 11	44
S 11	44
N 14	56
T 6	24
F 19	76
J 10	40
P 15	60

*N=25

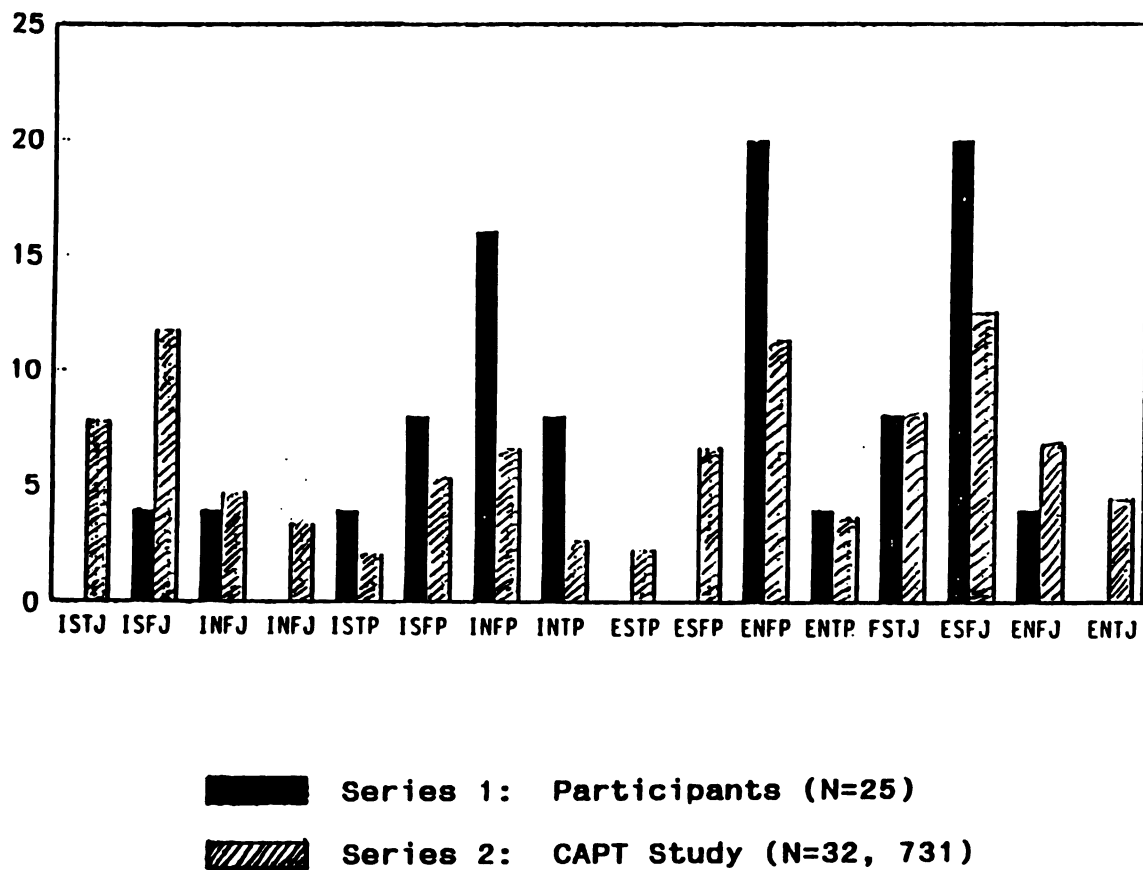


Figure 4.2.

A Comparison of Percentage of Each MBTI Type of Participants with CAPT Estimated Frequencies of Each MBTI Type.

Table 4.6

Summary Data for Single-Letter Preferences and Two-Letter Combinations for NTWG and CAPT

	E	I	S	N	T	F	J	P
NTWG	56%	44%	44%	56%	24%	76%	40%	60%
CAPT	55.7%	44.3%	56.4%	43.6%	34.6%	65.4%	59.5%	40.5%

	IJ	IP	EP	EJ	ST	SF	NF	NT
NTWG	8%	36%	24%	32%	12%	32%	44%	12%
CAPT	27.6%	16.7%	23.8%	31.9%	20.2%	36.1%	29.2%	14.4%

	SJ	SP	NP	NJ	TJ	TP	FP	FJ
NTWG	32%	12%	48%	8%	8%	16%	44%	32%
CAPT	40.1%	16.3%	24.3%	19.4%	23.9%	10.7%	29.8%	35.6%

	IN	EN	IS	ES	ET	EF	IF	IT
NTWG	28%	28%	16%	28%	12%	44%	32%	12%
CAPT	17.4%	26.2%	26.9%	29.5%	18.6%	37.1%	28.3%	16.0%

Note: NTWG = Non-traditional women who participated in this study (N=25).

CAPT = CAPT Data Bank Form F cases; women only (N=32,731).

percent typed as extroverts while 44% typed as introverts. CAPT data is surprisingly similar with a ratio of 55.7% extroversion to 44.3% introversion.

The T-F pairing showed a 10% difference between the women in this study, 24% thinking and 76% feeling, as compared with the women in the CAPT data, 34.6% thinking and 64.4% feeling. The ratio for both groups was high on the feeling scale supporting Isabel Myers's early estimates that 65% of the female population would type as feeling while 35% would type as thinking (McCaulley, et al., 1985, p. 3). Among the four pairings of the MBTI, E-I, S-N, T-F, and J-P, the results showed the least amount of balance within the T-F pairing. This imbalance is equally true for participants in this study and participants in the CAPT data.

The S-N pairing and the J-P pairing showed reverse percentages in a comparison of scores for the women in this study with the scores for the women in the CAPT data bank. The S-N pairing showed a nearly equal balance with S representing 44% of the participants and N representing 56% of the participants, while the CAPT data bank reported 56.4% S and 43.5% N. Both sets of ratios show a clear difference from Myers's estimate that 75% of the general population would score on the S scale. It is important to remember both that the participants in the CAPT data were engaged in some level of education and that the participants in this study were seeking higher education degrees because earlier MBTI studies (McCaulley, 1974) indicated that S's are the

most likely to drop out of school and the least likely to return. A higher ratio of N's is to be expected among the women in this study since all but two of these women completed their high school education at the usual time (were not drop-outs) and all of them have returned to formal education. It is not surprising that the J-P pairing showed a similar reversal with the women in this study scoring 40% J and 60% P, while the CAPT data reports 59.5% J and 40.5% P, since S-N and J-P are positively correlated (McCaulley, et al., 1985, p. 8).

While the two groups of women are comparable in a general sense, it is important to remember that all the women in this study were engaged in higher education, while only fifty percent of the CAPT scores were obtained from women who had had at least one year of higher education.

It is also important to recognize the limitations of the CAPT study.

The data bank has a bias, of undetermined amount, toward introversion and intuition--the two preferences most associated with attraction to higher education. Even the adults with lower educational levels in the data bank are included because their answer sheets were submitted in conjunction with some professional activity, so they may be somewhat atypical of their types. Most of the cases in the data bank are scored for professionals working in educational institutions or in settings where psychological or personality variables are considered relevant. We assume that types more likely to drop out of school (the SP types), and types with relatively less interest in matters psychological (the ST and SJ types) are under-represented in the MBTI Data Bank in comparison to their frequencies in the general population. The data bank does not include types for persons too young or too low in reading ability to answer the MBTI. At the other end of the age range, records answered when the

respondents were over forty account for only 13% of the data bank. (McCaulley, 1985, p. 3)

The most general hypothesis to be investigated (H01) states that there will be no significant difference between the distribution of the general MBTI types for a large population of women and the distribution of the general MBTI types for participants in this study. Inspection of Figure 4.2 (A Comparison of Percentage of Each MBTI Type with CAPT Estimated Frequencies of the MBTI Type) indicated that differences existed. Statistical analysis comparing the two distributions was not pursued since only 25 women participated in this study and a type change for one of those would initiate a 4% change. The women in the CAPT data bank and the women in this study were dissimilar in a number of ways which could bias the distributions. Some differences may be attributed to the larger percentage of N's among the participants of this study (56%) compared with CAPT (43.6%) and the larger percentage of P's (60%) as compared with CAPT (40.5%). Other differences may occur because the participants in this study were all career oriented and because the participants had an established solid grade point average. Women represented in the CAPT data bank had less formal education and were not necessarily on a professional career track.

Analysis of Interviews

Interviews were conducted with the participants during a several month period. Participants also completed the

Demographic Information Sheet at this time (see Appendix C). All Interviews were tape recorded, and interview questions were asked in the order in which they appear on the Interview Schedule (see Appendix D).

A coding response sheet was designed to assist the interviewer in decoding the responses (see Appendix E). Responses were coded on a Likert scale ranging from 1 through 5. In an attempt to reduce confusion the Coding Response sheet was designed so that the numeral 1 always represented a connected-knowing response and the numeral 5 always represented a separate-knowing response. The numeral 3 represented a response which balanced connected-knowing process and separate-knowing process. Occasionally a participant's response was not applicable to the question and those responses were coded N.A.

Each question response was coded individually; thus each informant was rated on 20 answers. The final question in the interview was an open-ended question designed to give the participant an opportunity to discuss anything she wished and an opportunity to bring satisfactory closure to the interview. Since these responses varied enormously, they were not included in the coding process.

The coding process began with a discussion between the primary researcher and the independent investigator. Clear definitions of separate-knowing procedural processing and connected-knowing procedural processing were established.

An understanding of the relationship of each question to the terminology was also established. The primary researcher and the independent investigator coded all interviews independently. Results were compared, differences in interpretation were discussed and conclusions were drawn. A connected-knowing/separate-knowing score (C-K/S-K) was determined for each participant. Not applicable responses were removed from the data.

Connected-knowing, separate-knowing and not applicable responses were tallied for each question for the total sample to check for potential bias of the questions. Each question contained responses on the connected-knowing end of the scale and on the separate-knowing end of the scale. No question elicited inappropriate responses from more than four of the participants.

Connected-knowing responses and separate-knowing responses were tallied for each participant and plotted on a scattergram (see Figure 4.3). Two distinct clusters became evident. Participants were rated as connected-knowers if they had more connected-knowing responses than separate-knowing responses. This was the case for nineteen participants. Participants were rated as separate-knowing if they had more responses than connected-knowing responses; this was the case for six participants.

A Pearson Product-Moment Correlation coefficient was calculated to show the intercorrelations between each pair type on the Myers-Briggs Type Indicator (extroversion/

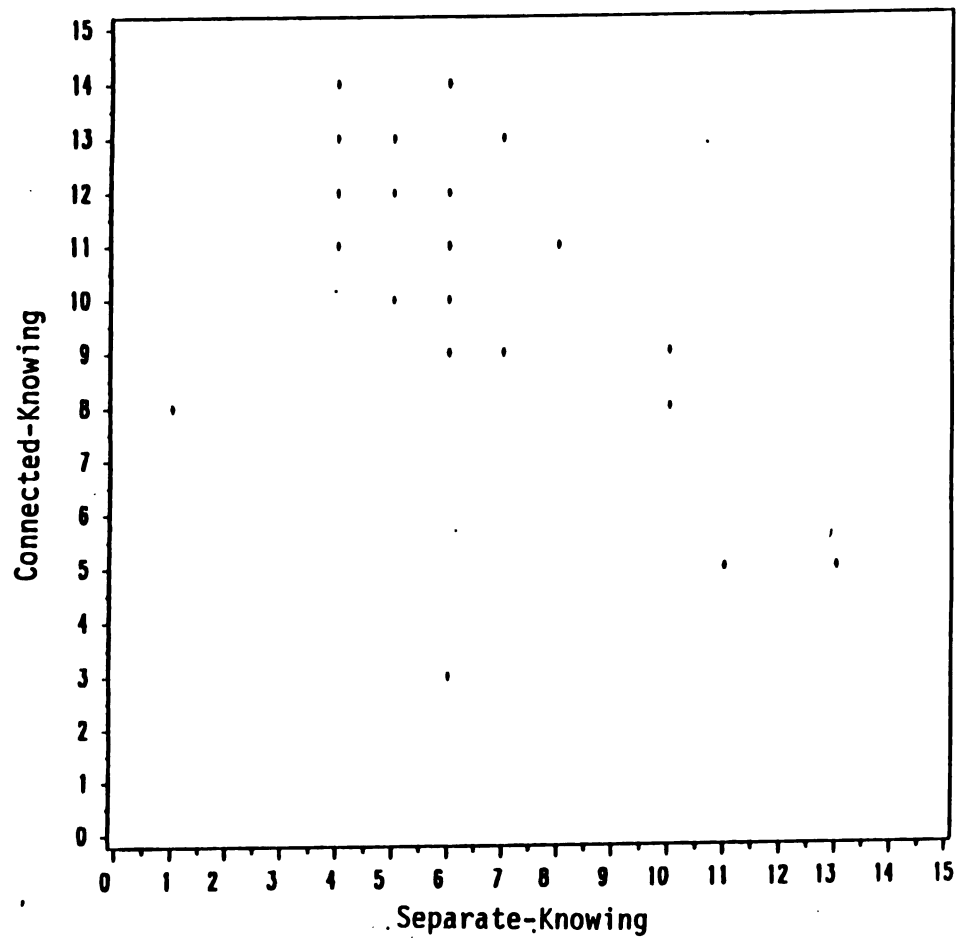


Figure 4.3

Participants Plotted According to Connected-Knowing and Separate-Knowing.

introversion (E/I), sensing/intuition (S/N), feeling/ thinking (F/T), and judging/perceiving (J/P)). Correlations were also calculated to show the association between each pair of MBTI pairings and the connected-knowing and separate-knowing score.

The only significant intercorrelation ($r=.58$, $n=25$, $p > .01$) was found between the sensing/intuition pair and the judging/perceiving pair. Participants who typed intuitive on the S/N scale also typed perceptive on the J/P scale. This correlation is supported by the research literature on the MBTI (Myers, 1985).

Chi-square values were calculated to determine whether an association between each MBTI pair and the separate-knowing and connected-knowing scores existed. It is important to note that the number of participants was small ($n=25$) and the distribution of subjects between connected-knowing and separate-knowing was disproportionate. However, interesting relationships emerged upon close inspection of the data.

Since each of the eight remaining hypotheses is paired, they will be discussed in pairs.

The second and third hypotheses to be investigated were the following:

H02. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing extroversion (E) and participants typing introversion (I).

H03. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing extroversion (E) and participants typing introversion (I).

A scattergram was drawn using the E/I typing pair and the separate-knowing/connected-knowing methods of processing (see Figure 4.4).

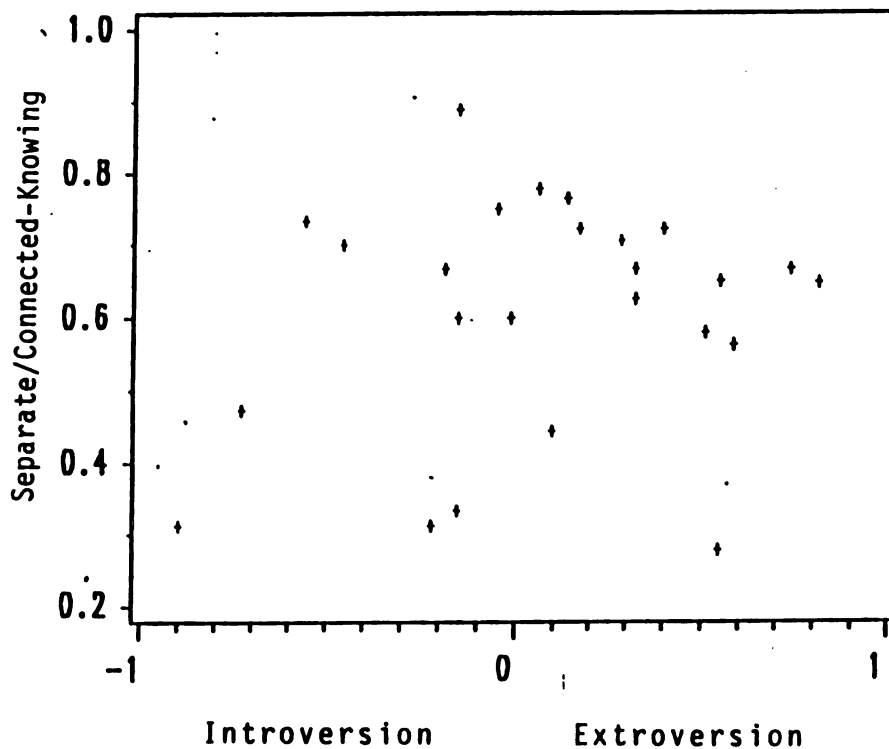


Figure 4.4

Separate/Connected-Knowing vs. Introversion/Extroversion.

Although there is a loose cluster in the upper right-hand quadrant, there was no statistically significant correlation ($r=.18$, $n=25$, $p > .05$).

The Chi-square of C-K/S-K by I/E was not statistically significant ($\chi^2=1.65$, $n=25$, $p > .05$), but the frequency table presents some useful information (see table 4.7).

Table 4.7

S-K/C-K by I/E

	I	E
C-K	7	12
S-K	4	2

Twelve participants (48%) are extroverted with connected-knowing processing. Only 7 participants (28%) are introverted with connected-knowing processing. Of the 6 separate-knowing processing participants, twice as many (67%) are introverts. There is a positive relationship between participants typed as extroverts on the MBTI and participants who are classified as connected-knowers. In addition, there is a positive relationship between participants rated as introverts on the MBTI and participants who are classified as separate-knowers.

Therefore, it is reasonable to ask E-I questions to determine whether a woman student is a connected-knower or separate-knower. Several discerning questions from the MBTI include:

1. When you have to meet strangers, do you find it:
 - a. Pleasant or at least easy?
 - b. Something that takes a good deal of effort?

2. Are you:
 - a. Easy to get to know?
 - b. Hard to get to know?
3. Do you tend to have:
 - a. Deep friendships with a very few people?
 - b. Broad friendships with many different people?

The next pair of hypotheses to be investigated correlates the relationship between processing and the sensing and intuition pair typing.

H04. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing sensing (S) and participants typing intuitive (N);

H05. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing sensing (S) and participants typing intuitive (N).

A scattergram of the separate-knowing and connected-knowing score and the sensing/intuitive pair typing was plotted (see Figure 4.5). The connected-knowers are fairly evenly distributed across the S/N scale, while the separate-knowers are grouped on the intuitive end. There was no statistically significant correlation ($r = -.35$, $n = 25$, $p > .05$).

This relationship is more clearly evident in the Chi-square table ($\chi^2 = 2.39$, $n = 25$, $p > .05$) (see Table 4.8).

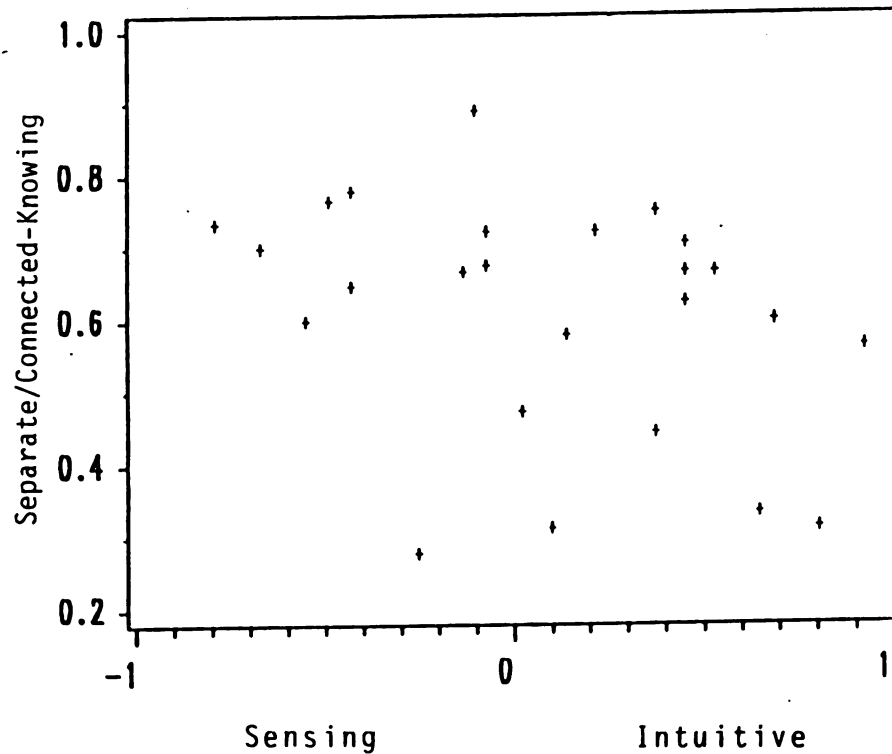


Figure 4.5

Separate/Connected-Knowing vs. Sensing/Intuitive.

Table 4.8

C-K/S-K by S/N

	S	N
C-K	10	9
S-K	1	5

Nine of the connected-knowing participants (47%) were also intuitive, while 10 connected-knowing participants (53%) typed as sensing, striking a near balance. But separate-

knowers showed a different distribution pattern; five separate-knowing participants (83%) also typed intuitive, while only one separate-knowing participant (17%), was rated as separate-knowing and typed sensing. It follows that if a woman student is classified as a separate-knower then she probably also prefers to think in intuitive ways. Questions on the MBTI which differentiate between sensing thinkers and intuitive thinkers include these three:

1. Do you admire more the people who are:
 - a. Conventional enough never to make themselves conspicuous?
 - b. Too original and individual to care whether they are conspicuous or not?
2. In deciding something important, do you:
 - a. Find you can trust your feeling about what is best to do?
 - b. Think that you should do the logical thing, no matter how you feel about it?
3. Is it higher praise to say someone has:
 - a. Vision?
 - b. Common sense?

The third pair of hypotheses to be investigated correlates the relationship between the thinking/feeling type pairing and separate/connected-knowing process.

H06. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing thinking (T) and participants typing feeling (F);

H07. There will be no significant difference in the frequency of use of connected-knowing processing

between participants typing thinking (T) and participants typing feeling (F).

A scattergram shows the relationships of the S-K/C-K rating with the MBTI typing of thinking/feeling (see Figure 4.6).

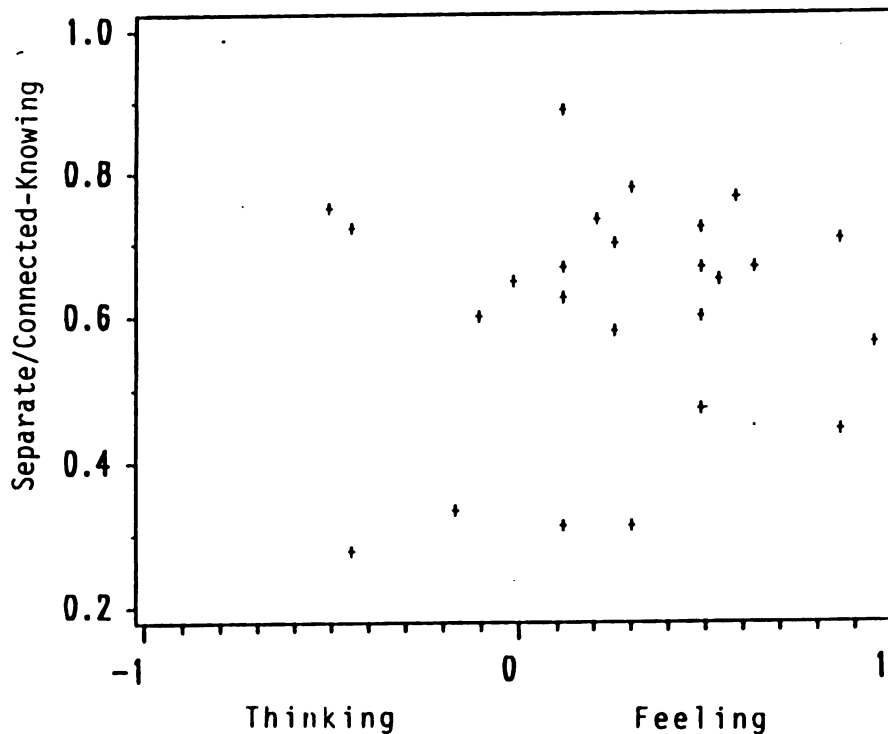


Figure 4.6

Separate/Connected-Knowing vs. Thinking/Feeling

An examination of the scattergram shows a concentration of participants in the upper right-hand quadrant and a feeling dominance on the thinking/feeling type scale. There was no statistically significant correlation ($r = .10$, $n = 25$, $P > .05$). Nineteen participants, 76%, typed F on the thinking/feeling scale. The distribution of participants on T/F is not unusual. Isabel Myers estimates that 75% of the

female population is feeling with the remaining 25% thinking. This distribution would likely be different if the sample size contained an equal number of male participants.

The Chi-square table illustrates this distribution of connected-knowers and separate-knowers on the F/T scale ($\chi^2=.37$, $n=25$, $p > .05$) (see Table 4.9).

Table 4.9

S-K/C-K by T/F

	T	F
C-K	4	15
S-K	2	4

A substantial percentage (76%) of the participants were typed as feeling on the F/T scale, and a considerable percentage (79%) of the participants typed feeling were also connected-knowers. Since connected-knowers frequently exhibit a strong sense of relationship with others and women typed as feeling demonstrate warmth and openness in their inter-personal relationships, it is reasonable to see a connection between participants typed as feeling and participants rated as connected-knowers.

The final hypotheses to be investigated explored the relationship between separate-knowing and connected-knowing and the judging/perceiving type pairing:

H08. There will be no significant difference in the frequency of use of separate-knowing processing between participants typing judging (J) and participants typing perceiving (P).

H09. There will be no significant difference in the frequency of use of connected-knowing processing between participants typing judging (J) and participants typing perceiving (P).

A scattergram shows the relationship between the separate and connected-knowing rating and the judging/perceiving type pair (see Figure 4.7).

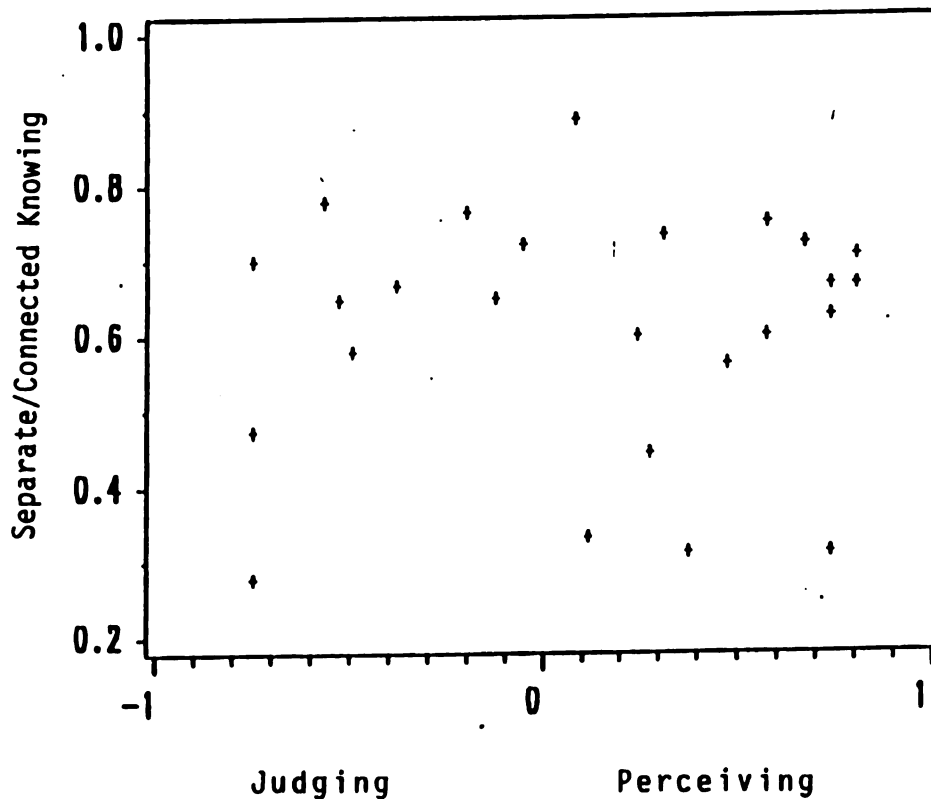


Figure 4.7

Separate/Connected-Knowing vs. Judging/Perceiving

The scattergram shows a cluster of eleven participants classified as connected-knowers and typing as strong perceivers. There was no statistically significant correlation ($r=.04$, $n=25$, $p > .05$).

The Chi-square shows a similar distribution of connected-knowers and separate-knowers across the J/P scale ($\chi^2=.15$, $n=25$, $p > .05$) (see Table 4.10).

Table 4.10

S-K/C-K by J/P

	J	P
C	8	11
S	2	4

Eight connected-knowing participants (42%) typed as J, while eleven connected-knowing participants (57%) type as P. Four separate-knowing participants (66%) typed as P, while only two separate-knowing participants (33%) typed as J.

There exists a positive relationship between participants typed as perceiving and participants rated as separate-knowers. It has already been established that participants typed as intuitives tend to be separate-knowers also; it is reasonable to see a trend toward separate-knowing on the part of participants typed as perceiving and participants typed as intuitive since there is a positive

correlation between individuals typed as perceiving and individuals typed as intuitive.

In general, participants who are rated as connected-knowers tend to be extroverts. It is likely that connected-knowers may also tend toward feeling on the F/T scale, but a larger sample size would be necessary to determine this relationship. Participants who are rated as separate-knowers tend toward introversion on the E/I scale, intuitive on the S/N scale, feeling on the F/T scale and perceiving on the J/P scale.

Discussion of Interviews

The interview process was used:

1. To identify barriers to learning; and
2. To reveal the procedural processing each participant preferred to use to work through her perceived barriers to achieving her educational goals.

This is an accepted method of investigation.

Several methods have been used to study barriers to adult learning. The most common method is to ask people directly through interviews or questionnaires to identify barriers to learning. (Cross, 1984, p. 97)

It is also a general assumption of this research:

That the way people talk about their lives is of significance, that the language they use and the connection they make reveal the world that they see and in which they act. (Gilligan, 1982, p. 2)

Seminal to this study is the process of change and whether that change takes place through acquisition of

knowledge and information by a separate-based process or by a connected-based process. Nowhere was the transformational process of change more apparent than within the context of the words of the interviewees.

The interview format was constructed in such a way as to allow each respondent to begin by reviewing her life. What kinds of things had been important to her, what had stayed with her, allowed a view of the transitional process she had begun. Each participant was then asked to talk about her current circumstances. She was asked to tell something about what her life was like right now. She was asked what she cared about and thought about. Women who saw themselves as essentially separate from others and who had gained a knowledge perspective were rated as separate knowers, while women who felt that they gained a connection with self and/or others were rated as connected-knowers.

Separate-knowing answers tended to include statements about logical goals, steps taken and steps to be taken:

Ellen. "What stands out for me is that I decided to go back to school. Just that I made the decision and I did it. I care about getting that degree. [Pause] And I care about my daughter and my husband."

Brenda. "I set goals for the first time in my life. I left a boyfriend of eight years, got my G.E.D., and applied to college. Making it here is the most important thing to me."

Goldie. "My three goals are what I care most about. I care about remaining chemically free and independent. I care about my education. I care, too much, about my grade-point average."

Connected-knowing answers tended to revolve around self-understanding and interaction with others:

Dawn: "What strikes me is the way my whole life has changed in the past couple of years. It's the growth. The growth in myself and the growth I see in my kids. My whole family interacts differently now. Even my brothers and sisters treat me differently."

Helen: "What stands out in my life? There's been a lot of changes since my divorce. I moved away from my home town and went back to school. A lot of changes in my family--my family being me and my three kids. My daughter got married, my son left home, and my fourteen-year-old child came with me. I moved away from friends and family, and coming to school was a big adjustment for me. The kinds of things that have been important are really the emotional things right now. I miss being close to my daughter being that she is pregnant with my first grandchild, and I recognize that she would feel more comfortable if the miles were less. That's important to me. And having my fourteen-year-old son here is important. He's settled in school and

beginning to deal with himself. The adjustment at fourteen is difficult, and I worried more about that than the adjustment for me, because I felt I could handle it, but I was afraid for him. Feelings are what stay with me. I'm a feeling person; I like to be with people. I like to get to know them. Things that people say and do are what stays with me. The interaction I have with people, that's important. Even though I'm in school and in classes, that isn't near as important as people are to me. I find friends stay with me more than college. More than bookwork."

In regard to their current lives, the interviewees were expressive. There was no differentiation between separate-knowing answers and connected-knowing answers. In response to the request to "Tell me something about what your life is like right now," the participants talked about the chaotic process of transformation:

Martha: "Confusing. Kind of messed up."

Ellen: "Chaotic. I really care about getting this degree . . . and my daughter . . . and my husband. Priorities are tough."

Esther: "Hectic. Really, it's just run, run, run."

Diane: "Frantic. You get through the day and then you get through the next day. Some days you're not sure who you are."

Helen: [a sigh] "That's a loaded question. Hectic, crazy, kind of frustrating. I've changed a lot. Some days I don't know who I am. [A laugh] But there's a lot of growth here. I love it."

Sheri: "Confusing, rewarding, exhausting."

In a time of crisis these women are also engaged in the process of development. Conflict is the harbinger of growth and Erikson (1964, p. 139), in charting development through crisis, demonstrates that vulnerability signals the emergence of potential strength, creating a dangerous opportunity for growth, "a turning point for better or worse". Underlying these messages of confusion and chaos is the voice of potential and achievement. "But I like the analogy drawn from the Chinese language, in which the same character stands for two meanings: 'crisis' and 'opportunity'" (Rogers, 1980, p. 339).

In the midst of the chaos it is clear that these women see the potential for growth and opportunity. The woman who stated this ambiguity most clearly was Darby:

Darby: "Turning forty stands out for me. It was the best thing that ever happened to me. I prepared for it for a whole year. When I was thirty-nine I knew I was

going to be forty. Forty is mid-life crisis year and I decided I wasn't going to have a mid-life crisis; I was going to have a mid-life opportunity. And I was not going to live the last forty years of my life like I'd lived the first forty years. I was a wimp and I was sick of it. I was going to become Darby, and I had to find out who she was."

Janice also saw her life in a holding pattern with an optimistic outcome:

Janice: "I don't know who I am. This is a neutral stage. I know I'm going to end up being someone. It's exciting. I have no idea today who that is."

Great writers have often speculated about the transitional process. Ralph Waldo Emerson (1965, p. 38) reminds us that, "Not in his goals but in his transitions man is great." Change and transition are important concepts in most studies which deal with the education of adults. Beginnings and endings which initiated the transformational process surfaced and re-surfaced throughout the interviewing, but the feelings associated with the state of being in transition surfaced most clearly in the self-description (Section B) portion of the interviews.

Separate-knowers tended to describe themselves as separating from others in order to discover who they were, what they wanted, and where they were going:

Tonie: "I see myself now as being a go-getter. I am much more independent."

Ellen: "I am more flexible. I just keep adding things: a part-time job, school, another baby."

Brenda: "It's a holding pattern. I don't allow all of it out. People don't see me. I don't let them. I don't go with the crowd. It's taken me a lot of years to see that I might be an okay person. I'm not sure yet. I'm cautious."

Dawn: "When I want something, I go after it. This is new to me."

Nearly all the participants who responded to the self description section of the interview with connected-knowing answers expressed a confusion similar to the puzzlement of Alice in Lewis Carroll's Alice's Adventures in Wonderland (1965, p. 50):

"Who are you?" asked the Caterpillar. This was not an encouraging opening for a conversation.

Alice replied, rather shyly, "I--I hardly know, Sir, just at present--at least I know who I was when I got up this morning, but I think I must have changed several times since then."

"What do you mean by that?" said the Caterpillar, sternly. "Explain yourself!"

"I can't explain myself, I'm afraid, Sir, because I'm not myself, you see."

Like Alice, many of the participants struggled to name themselves; they struggled to find their voice; they struggled to define their role. In the self-description

section each woman was requested to talk about what her life was like right at this time, and connected knowers tended to talk about new connections:

Terri: "Sometimes my life is quiet. I'm super sensitive. I've always put barriers between myself and other people. I used to throw out a lot of garbage to see if others would see through it. I've always looked to see what others thought. Now I look to myself and try to make a connection with other people from this viewpoint. I worry about my daughter's psychological health and mine. Making real friends--friends based on honesty--is tough. But rewarding."

Helena: "I'm a person who wants to do things well, and I always put other people before myself. I used to think this was wrong, but now I've learned to get done what I need to and still have time to help the world. I am helpful and caring. It's an important part of me."

Denise. "I'm right in the middle of a big change. Yes, yes, I've really changed. I used to be a doormat. I look at my children and I see that they are doing all right. I look at myself and see that I am doing all right. I'm more sure of who I am and the impact I can make. My world is less rocky boat and more stable. I love my children, education, the whole world. I care about the world."

These women have begun to find their own voices and have connected with the world in which they live. They have begun to recognize the impact they can make and the value of that impact. As they broke free of their isolation, pulled away Belenky's culture of silence, each participant became:

A subject who acts upon and transforms [her] world, and in doing so moves toward ever new possibilities of a fuller and richer life individually and collectively. This world to which [she] relates is not a static and closed order, a given reality which [woman] must accept and to which [she] must adjust; rather, it is a problem to be worked on and solved . . . Each [woman] wins back [her] right to say [her] own word, to name the world. (Freire, 1984, p. 13)

Not only is learning to name the world a difficult task, but it also brings with it a new level of responsibility. In the third section of the interview (Section E), participants were asked to discuss a real life moral dilemma.

Ellen: "My second semester at school I enrolled for a full load. During the second week my husband hurt his knee and had to have knee surgery. There was a lot of pressure on me to withdraw from school or at least drop part of my course load. The conflict was family or school. I weighed all the options, and I listened to others' points of view. I'd always been the member of the family who gave up what I was doing to keep things going. This time I was convinced they could make it at home. I chose to stick with my classes. It was a hard

decision. I stuck with my own needs. I was fair to me. It was my turn."

In the midst of a tough decision, Ellen chose her own sense of being. She chose self-development over self-sacrifice. She listened to her own voice. Ellen was able to name the myth that had governed her life. Until this time she and her family believed that she must always drop her own goals for the goals and needs of her family. Once she developed enough confidence in her own ability to understand and reason through a situation, she was able to make a responsible alternate decision.

When we do not name them [myths], we are hostages to them and can do nothing else but live out their plots to the end. When we name them, we have a choice about our responses. We can extricate ourselves from undesirable myths and/or we can respect the archetypal pattern that is exerting control over our lives and learn its lesson. (Pearson, 1986, p. XVI)

In The Hero with a Thousand Faces, Joseph Campbell defines the hero as:

The champion not of things become but of things becoming; the dragon to be slain by him is precisely the monster of the status quo: Hold fast the keeper of the past.

Pearson (1986, p. 151) reminds us that "the hero's task always has been to bring new life to a dying culture."

Janice finds herself immersed in what is, for her, a stagnant culture. She discusses her moral dilemma in terms of her decision to return to school:

Janice: "In weighing the odds on returning to school, I wasn't sure what was the right thing to do. I had a lot of turmoil with the decision. Letting go of a company I had worked for for eight years. I've given up a lot of the financial security, but still being in that environment I was very unhappy and stagnant. The biggest fear was financial. There's a lot of uncertainty in letting go and taking a step back and trying to change. The biggest issue that I considered was myself. I knew I could stay in the company. I had to take a look at what school offered me. I did a lot of soul searching into my own identity. I went back to school. I needed to grow. I am growing. It's very hard, but the self satisfaction is very rewarding. One of the biggest lessons that I learned is that you have to take the risks. You have to be willing to make the risks. You have to follow your heart to find your direction."

While Ellen and Janice looked to themselves for their solutions, Sheri turned both toward herself and toward her child's needs:

Sheri: "A moral dilemma? The first one that comes into my head is about my marriage. I kept feeling the need to take responsibility for his actions. I tried looking at it from his point of view. I tried looking at it from everyone else's point of view. But when I

got to it, it had to be what I thought was the most important thing. I was the only person in the relationship capable of making a responsible decision. I had to come to that conclusion. I had a baby to take care of. The baby was my deciding factor. She had to be. I learned that I do have more choices than people normally consider, that you can be a complete and whole person although you go against what society deems right. I felt horrible guilt about the marriage breakup. But then I realized that I had to do that in order to survive. I am capable of doing good things--difficult things--but good things."

Goldie turned toward her instinctive gift as a mother, too, considering the needs of the rest of the family when she had to make a decision regarding her son:

Goldie: "Some months ago, my son, who is an alcoholic, had three felony charges against him, and has been in recovery programs twice, turned eighteen. He's been going downhill. He gets better, then he just goes out and gets into trouble. It had gotten to the point that I had to decide if I wanted him staying with me now that he had turned eighteen. It's caused me a lot of emotional problems and a lot of trouble with school. Or if it was time for him to move out on his own and find out. The conflict was between the motherly

instinct in me saying, 'No, I can't do this, I have to stick by him, it's my responsibility, and I love him.' There was a big battle in me saying which is best for him--let go of the apron strings or hold him close right now. I decided to hold him close but gave him an ultimatum. He could stay only if he re-entered a rehabilitation program. And he had to take the initiative. I considered my son in this decision. I considered my husband. I thought about how it would affect our family life. I thought about how it would affect me. I learned that with patience and love things can work out."

In making decisions that affected their lives and the lives of others, each of the participants in this study weighed the role of responsibility and care. Autonomy, the pinnacle of Maslow's hierarchy, was seldom a consideration. Their connection with themselves, their children, their spouses, the world in which they live and the world that they wished to create was given considerable weight. They began, some for the first time in their lives, to make choices in values. They began to live existentially. Malik reminds us that:

The aim of existential education is not to produce merely well-informed men and women, but to educate a generation that is aware of its potentialities for freedom, making decisions, and living those decisions in their own individual lives. In living an authentic life man freely makes certain choices from a number of alternate values. The fact that he is free to choose makes him fully responsible for his own life which he

lives in accordance with his freely-chosen values. His life gives substance to these values; and as such makes him creator of those values. He brings those values into existence by the mere act of living them. (Malik, 1966, p. 353)

What impressed these women about themselves was not what life had brought to them, but rather what they had been able to do with it. They capitalized again and again on Aldous Huxley's (1972) statement: "Experience is not what happens to you, it's what you do with what happens to you."

The final two sections of the interview process dealt with education (Section F) and barriers to education (Section FA). As the women reflected upon themselves, it is not surprising that they voiced a strong preference toward the people involved in and with their educational process. Especially if, as current research is increasingly demonstrating, women define themselves differently than men do, it becomes necessary for women to stress an interconnectedness with their environment and the people within it rather than a close allegiance to separateness and autonomy (Choderow, 1978; Gilligan, 1982; Belenky, et al., 1986). Asked to reflect on what they felt would stay with them about their experiences in education, the women turned their thoughts toward the individuals who had impact on their learning. This remained true whether they expressed an essentially internal growth and self-discovery or an essentially external connection with the world of ideas:

Esther: "What stays with me is the kindness people have shown me. The willingness some of my professors have had to help me through material I had difficulty understanding."

Anita: "I will remember the people who have allowed me to be an adult, let me create my own space [A laugh], and of course I will also remember the people who have been directive and parental--not, though, with the same admiration."

Vicky: "I have special regard for one of my journalism professors. I never thought I was a creative person. I decided on journalism because I write fairly competently and the field would allow me to do what I like best--travel. But this professor showed me that I was creative. She made me expand my abilities. She was tough, but she taught me a lot about myself. She worked with me."

Heather: "Learning that I can learn, even from bad instructors. This has really changed how I think about the world. That people who are different from me have important things to offer, and I can learn those things if I put my judgment on hold and take their view for a while."

Bonnie: "The whole world changed for me because I had this history professor who taught me that history is a

matter of interpretation. My God, I thought, life is a matter of interpretation."

For most of the participants, involvement in the higher educational process broadened and deepened their perspective of society and their role in society. Some saw a very real change in the way they participated:

Martha: "During my first semester here I walked from married housing to my classes on the railroad tracks. I didn't want to meet any of the other students along the way. I was too intimidated by them. They all seemed to know who they were and where they were going, and I felt so lost that I was sure my confusion showed on my face. Now I spend at least an hour every day in the student union meeting other students. They are just like me. Some are younger, some are smarter, lots of them have nicer clothes--but basically we are all just people."

Helena: "In an odd way, my experience at the university has returned to me some of my father's ideas. My dad always tried to expose us kids to the world. When we would travel across the United States he would stop the car and we'd all pile out and talk with the farmer in his field or the old man sitting on the front stoop whittling. My dad always said that everyone has something important to offer and sometimes

you have to go out of your way to discover what it is. I'd lost that focus. Here I have found it again. The other students, the professors--they all have something to offer, something important to me. I am a part of the world again."

Participants were asked what had been most helpful about the institution. Overwhelmingly they named specific people who had taken the time to find the information they needed and specific advisors, counselors and professors who had willingly given their time and attention to explain specific information and/or had engaged in discussion with them about their own concerns (careers, current life confusions, etc.):

Barbara: "This woman in the Philosophy Department was really able to help me get centered. I really didn't know what to do for a major or what kind of career I wanted. I didn't know what my interests were. And she listened and gave me some suggestions--you know, things to think about. Then I talked with a couple other people, got some direction. But I made my own choice--my own decision. On this time I had the correct information and good people to bounce my ideas off."

Marilyn: "I enrolled in the class for non-traditional students for selfish reasons. I wanted a little self improvement. The interaction was terrific. I gained a

lot of self-esteem, and I learned how the system works. I learned to go to bat for myself, and I found that I am worth going to bat for. This was all new to me. I could not have done this without the personal attention. I found out that I counted."

For these women, what they had learned about the world, the ideas which they came into contact with, their sense of self growth, all revolved around a connection to individuals. Mostly they had been impressed with, inspired by and learned from a relationship with individual university related personnel (faculty, administrators and fellow students). These women chose not to become increasingly autonomous, but rather to follow an alternate map, suggested by Gilligan (1982) toward ever-increasing connectedness and relationship.

Participant responses fell into two groups when they were asked if there were important things that the institution had not provided for them, and if there were things that they felt they could not learn at this institution. Students with only enough credit hours to be classified as sophomores and juniors felt that everything they wished to learn was provided somewhere in the university structure. They could not conceive of ideas or disciplines which were not available. Students who had obtained senior status talked about the desire for graduate education in specific fields. Because the institution they

currently attend is predominantly an undergraduate university, they felt that they might seek additional education at other institutions. Responses did not either support or negate connected-knowing processing or separate-knowing processing, but differentiated participants depending on the number of credit hours they had achieved.

All the participants addressed the issue of being non-traditional students at a university where the students are predominantly traditional in age. The women felt that, as an institution, the university did not address their needs as well as they wished. They concluded that while many professors were sensitive to their priorities and their time commitments, others were fairly insensitive and unavailable to them as people. University business offices which are closed during the lunch hour and after five o'clock were occasionally a problem. The non-traditional student organization was beneficial but unable to meet all their needs. The course designed to address the needs of older students was valuable but also met during regular daytime hours. In all, they simply wished the institution would more effectively recognize their existence.

The final section (Section FA) of the interview dealt with barriers to education. While the literature on adult student barriers to education illustrates several methods of obtaining educational barrier information, "The most common method is to ask people directly through interviews or questionnaires to identify barriers to learning" (Cross,

1984, p. 97). Participants were asked what barriers and problems they faced in returning to school, how they worked through those barriers and what success they felt they had had. Obstacles fell into three categories:

1. Situational barriers
2. Institutional barriers
3. Dispositional barriers

Situation barriers were nearly always mentioned first by the participants. Situational barriers "are those arising from one's situation in life at a given time" (Cross, 1984, p. 98). It is not surprising that twenty-four of the women listed financial concerns as one of their biggest problems. Only two of the participants currently worked full-time. One of these women worked as a secretary for the university and, as such, received tuition benefits, so the economic cost of education was not critical for her. Four of the participants worked at minimum wage part-time jobs (teacher's aide, clerk, receptionist). These women struggled to maintain a household and pay educational fees. Three women supplemented governmental educational assistance grants as work-study students within the structure of the university. One woman qualified for educational monies from the Michigan Rehabilitation Commission. The majority of the women in this group were currently in a tenuous economic situation, although all but two of the women's original core families had been middle-income families. This corresponds to Cross's findings:

Because low family socioeconomic status is still a barrier to college for women, college women as a group tend to come from a slightly higher socioeconomic status than men. (Cross, 1972, p. 142)

Due to life situations these women had serious economic difficulties and claimed financial problems as a major concern.

Despite the fact that college women come from higher SES homes than do college men, women are a little more likely than men to list financing their education as a major concern. (Cross, 1971, p. 142)

Ellen: "Money was my biggest problem. I didn't even have a car to get here."

Heather: "Finances. My old job hardly paid the rent. I had not been able to save any money for education. I also realized that I wasn't going to be able to save."

Anita: Money. I went to financial aid and applied for Pell grants and Perkins loans. I got them. Then I applied for food stamps. This was a real come-down for me. I used to be a real pillar of this city. I got to the point where I thought my husband had made a good salary all his life and paid a lot into the system. But it's not good, the way they do it. It really takes your pride away. You use these food stamps in front of people and you feel humiliated. For a while I would go out of town to shop and cry all the way home, but I got over that."

A second major situational concern for many of the women dealt with child-care issues:

Denise: "I had these young children. They are the most important people in my life. How was I going to balance all of this? Now I look at them and see that they are all right."

Jamie: "Balancing the need of myself and my child has been difficult at times."

Judy: "Juggling everyone's schedule. I didn't want the kids to suffer. Here I was working two part-time jobs, going to school and still being a mother. I only take six credits at a time. It will take me forever to finish, but the kids are important. They need time and energy too."

For these women, the toll their educational time and expenses would take on the family was a critical factor in determining when they returned to school and the number of credit hours they attempted to handle. They had a very real need to balance the demands of their families and their concerns for their education. Certainly, the women in this group tended to weigh repeatedly the cost to others against the benefit to self. This scenario is not unlike Evans' (1985) observation:

. . . gender differences would seem to suggest that when study is seen as demanding a choice between cost

to others and benefit to oneself, women are likely to sacrifice their studies more often than men.

And there lies in this a paradox, as Gilligan points out:

For the very traits that traditionally have defined the 'goodness' of women, their care for and sensitivity to the needs of others, are those that mark them as deficient in moral development. (Gilligan, 1982, p.18)

Certainly, addressing issues of care are critical for women returning to the educational process.

Institutional barriers were not a strong concern for this group. Their perception of the limitations of their particular institution has been previously discussed. Perhaps their lack of concern about institutional barriers at this point in the interview indicates a two-fold process. Early in the interview these women were asked to address the limitations of the institution and had, at that time, expressed their concerns and, second, they had already completed a substantial portion of their undergraduate education. It seems reasonable to assume that they had come to terms with the institutional limitations. For women who were working, the major limitation of the institution was a noticeable lack of evening classes; for women with small children the lack of reliable child care was a concern. But full-time workers and mothers with young children were both minorities within this particular study sample.

Dispositional barriers were listed as a strong second to situational barriers. Dispositional barriers are those barriers "related to attitudes and self-perceptions about oneself as a learner" (Cross, 1981, p. 98). Unlike Cross

(1981, p. 106) who indicates that dispositional barriers are mentioned by only 5 to 15 percent of survey respondents, this group felt quite comfortable discussing their self-perceptions as learners.

Sheri: "Myself. I've been my biggest barrier. Everything else is petty. It gets to me, gets frustrating. I get overwhelmed. But I have been my biggest barrier. The bottom line is that it's my responsibility, and that's scary. Mostly I am trying to give myself credit for what I have done."

Marilyn: "I was afraid to come back to school. I never thought I was very smart. And at first I felt like I didn't know anything. I sat in this English class just feeling ignorant. I thought, 'Oh my God, this guy is going to find out that I'm just dumb.'"

Helena: "My biggest problem was psychological. I had had two bad marriages, and I had no self-confidence. I drove two hours one way to this university three times before I could get out of the car and go into the admissions office and ask for an application. I was sure they would take one look at me and say 'No way'."

Again and again lack of self-confidence surfaced as a major fear for these women returning to school. Grades were important to them. High marks helped to build their sense

of confidence; low marks confirmed their own belief that they were not very bright. Critical to building a sense of self-esteem was a willingness on the part of professors and administrators to spend time with them, to listen to their concerns and to respond in a positive and helpful manner. Many of the women spoke of self-growth. A few of them spoke of being reborn, of finding their path, of using, some for the first time, their own voice. Most of these women appeared to be in a state of transition; validation for them had come from the outside; now they were beginning to believe in an inner sense of validation.

One of the final questions they were asked was, "What successes do you feel you have had?"

Barb: "I went into that first classroom, and I came out breathing."

Bonnie: "I've got a high grade-point average. I've proved to myself that I can do it. I'm getting a lot of respect from my husband, my daughter, and my friends."

Kelly: "I have had a 3.0 G.P.A. and three healthy and happy kids. I'm a success!"

Terri: "I've come to grips with myself. I lost forty pounds and quit smoking. I'm proud of me."

Denise: "I've survived. I've gained a sense of self-

confidence. My kids are doing well. We're putting down roots for the first time in our lives. We're a working piece of the world. I love it."

Helena: "I made it. I've really made it!"

Their enthusiasm for themselves and their places in the world is impressive, as well it should be, for some of them have struggled through serious barriers to arrive at the point of success. Recently women theorists have begun to address female needs for attachment and connection to others. They point a new way toward a new set of concepts with which to make sense of the course of development in women (Gilligan, 1982; Belenky, et al., 1986; Josselson, 1987). These women are heroines. A historical survey of the patterns of male and female heroism shows that at the archetypal level they are quite similar, but the female's journey differs "profoundly in detail, tone, and meaning from analogous stories about men. Moreover, the female hero's journey was more optimistic and more democratic and equalitarian than her male counterpart's" (Pearson, 1986, p. xvi).

Summary

In this chapter, the demographic information was tabulated and summarized, the MBTI was scored and participants grouped according to their personality types, the interview was rated and two homogeneous groups emerged.

The personality types and connected-knowing processing and separate-knowing processing groupings were analyzed and the associations between the interview responses were discussed as they applied to the major issues of concern for the participants. In Chapter V, the study is summarized, conclusions are drawn from the results are discussed, and recommendations for further study are made.

CHAPTER V

Summary, Conclusions and Recommendations

The primary purpose of this study was to explore the relationship of personality types as indicated by the Myers-Briggs Type Indicator (MBTI) with the choice of separate-knowing procedural processing or connected-knowing procedural processing as selected by white, female, non-traditional students enrolled in a degree program at a four-year university. The focus of this exploration was the pairing of personality types with the selected method used to solve empowerment issues which the participants perceived as barriers to their education. Seminal to this study was the issue of change.

Procedures

Data on twenty-five individuals were collected. The first step in the analysis was to synthesize the demographic information. The participants were discussed in terms of:

1. Age distribution
2. Marital status
3. The number and age of any children
4. Time and type of high school completion
5. Community college attendance
6. Number of credit hours earned
7. Average number of credit hours per semester
8. Grade point average

9. Housing
10. Commuting distance
11. Prior work experience
12. Career expectations

Over half the participants were between the ages of 30 and 39 years. Of the 47 children of the participants only 2 were below school age. Many of the women had waited to continue their formal education until they had established their family and their youngest child had entered school. These women had set aside their own desire for education and career until the early child-rearing years had passed. This perspective accounts for the low number of women participants (only 3) in the 25 to 29 age range. There were also few women in this study (only 5) who were over the age of 45. The participants were seeking education which would allow them to pursue a professional career. Age does limit the number of years in which one can hope to obtain an education, acquire a professional position, reach a level of productivity in the career and acquire eligibility for retirement. Therefore, it is not surprising that the majority of these women in the process of obtaining a baccalaureate degree were in their early-middle adult years.

Thirteen of the women participants were divorced. Nearly all these women spoke about the importance of the divorce as a motivating force or trigger event to their decision to re-enter education.

The participants completed the Myers-Briggs Type Indicator. Of the sixteen types possible within the format of the MBTI, 11 types were represented in this study. The personality types ESFJ and ENFP were each scored by five of the participants; four of the participants type as INFP; ISFP, INTP, and ESTP were each scored by two of the participants; and types ISFJ, INFJ, ISTP, ENTP and ENFJ were each represented by one participant. Types ISTJ, INTJ, ESTP, ENTJ and ESFP were not represented by this sample (see Appendix G).

Interviews were conducted and the responses to the questions were coded. Participants were rated as either separate-knowers or connected-knowers, depending on the number of their responses falling into each of the two categories. Six participants were classified as separate-knowers, while nineteen participants were classified as connected-knowers.

A Pearson Product-Moment Correlation coefficient was calculated to show the intercorrelations between each pair type on the Myers-Briggs Type Indicator and to show the association between each pair of MBTI pairings and the separate-knowing and connected-knowing score. Chi-square values were calculated to show association between each MBTI pair and the separate-knowing and connected-knowing score.

Specific responses to the interview questions were discussed to further illuminate the statistical findings

and to discuss the process of change and whether that change takes place through acquisition of knowledge and information by a separate-based process or by a connected-based process.

Hypotheses

Nine null hypotheses were tested. The first hypothesis to be investigated was that there would be no significant difference between the distribution of national MBTI types for females and the distribution of types for participants in this study. A comparison of percentages for each national, female MBTI type with percentages for each participant MBTI type revealed some differences. The percentage of women in the National Center for Application of Psychological Type study typing S and typing J was higher than the percentage of those women typing N and typing P, while the percentage of women in this study typing N and typing P was higher than the percentage of women typing S and typing J. Since the pairing of S and J and the pairing of N and P are positively correlated, it was expected that a shift occurring in one pair would result in a corresponding shift in the second pair. The differences between the two groups was not large and is probably accounted for by the differences in the educational backgrounds of the two groups of women.

The second and third hypotheses to be investigated were that there would be no significant difference in the frequency of use of separate-knowing processing between

participants typing E and participants typing I, and that there would be no significant difference in the frequency of use of connected-knowing processing between participants typing E and participants typing I. The study indicates that H02 and H03 were false. There was a positive relationship between participants typed as introverts on the MBTI and participants classified as separate-knowers. In addition, there was a positive relationship between participants typed as extroverts on the MBTI and participants classified as connected-knowers.

The fourth and fifth hypotheses to be investigated were that there would be no significant difference in the frequency of use of separate-knowing processing between participants typing S and participants typing N, and that there would be no significant difference in the frequency of use of connected-knowing processing between participants typing S and participants typing N. The study indicated that separate-knowers tended to be intuitive, while connected-knowers were balanced between sensing and intuitive types.

The sixth and seventh hypotheses to be investigated were that there would be no significant difference in the frequency of use of separate-knowing processing between participants typing T and participants typing F, and that there would be no significant difference in the frequency of use of connected-knowing processing between participants typing T and participants typing F. The findings of this

study indicate that there was a positive relationship between participants typed as feeling on the MBTI and classified as connected-knowers.

The final hypotheses, hypotheses eight and nine, to be investigated were: that there would be no significant difference in the frequency of use of separate-knowing processing between participants typing J and participants typing P and that there would be no significant difference in the frequency of use of connected-knowing processing between participants typing J and participants typing P. Findings from this study indicate that there was a positive relationship between participants classified as separate-knowers and participants typing P on the MBTI. There was no difference between participants classified as connected-knowers and participants typing either J or P on the MBTI.

Findings

The twenty-five participants ranged in ages from 25 to 59 years. The median age was 37. The mean age was 38. Although marital status was varied, the greatest percentage (52%) was in the divorced category. The number of children per participant varied. No participant had more than four children. Three of the participants had four children each; four of the participants had no children; the mean number of children for this group of women was 1.88.

The participants were nearly equally divided between those who had attended a community college or another

university before coming to this university (48%) and those who had begun their higher education at this university (52%). The participants were also almost equally divided between those who lived in campus housing and the university town (56%) and those who chose to commute (44%).

Only one of the participants had no work experience prior to attending the university.

The participants had attended the university for a varied length of time (2 to 10 semesters). The average number of semester hours completed per student per semester ranged from 6 to 15. Grade-point averages for this group ranged from 2.50 to 3.96 on a 4 point scale; the mean grade-point average was 3.26.

The career expectations of the women in this study varied, with the largest percentage (40%) anticipating a career in education. Other women sought four-year terminal degrees in fields which included:

1. Journalism
2. Health fitness
3. Social work
4. Counseling
5. Broadcasting
6. Accounting
7. Cartography

Two of the women remained undecided about their career choices. Three of the women felt they would seek additional post-graduate education in psychology, law and the ministry.

As a result of personality typing via the Myers-Briggs Type Indicator, the participants were represented in 11 types. The participants were fairly evenly divided on three of the four scales; extroversion was represented by 56% of the participants, while its counterbalance, introversion, was represented by 44% of the participants; sensing was represented by 44% of the participants, while intuition was represented by 56% of the participants; and judging was represented by 40% of the participants, while perceiving was represented by 60% of the participants. The scores of the participants showed the most diversity on the thinking/feeling scale; 76% of the participants represented feeling, while only 24% of the participants represented thinking. This diversity is usual among the typing of women on the feeling/thinking scale of the MBTI.

Following the analysis of interview responses, the participants were divided into two groups: separate-knowers and connected-knowers. The majority of the participants (19) were rated as connected-knowers, while only 6 participants were rated as separate-knowers.

A Pearson Product-Moment Correlation coefficient was calculated to show relationship between the classification of either separate-knowing or connected-knowing and the typing within each of the four component pairs of the MBTI. Separate-knowers showed a strong preference toward introversion rather than extroversion, a preference for intuition rather than sensing and a preference toward

perceiving rather than judging. Connected-knowers showed a strong preference for extroversion rather than introversion, a preference for feeling rather than thinking, no preference between intuition and sensing and no preference between perceiving and judging.

Personality type did have an impact on how the participants in this study progressed through the process of acquisition of knowledge and the process of deepening their understanding; but perhaps their being women had the most significant impact on the choices they made and the ways in which they integrated and connected with those choices.

An investigation of the participants' interview responses indicated a strong bias toward change on the part of the women in this study. It was evident from their responses that they were engaged in the process of finding their own voices and connecting with the world in which they live. The transformational process was a powerful part of their daily lives. They voiced a concern with self-development and the ways in which their development could help them form stronger, but more egalitarian relationships, with the other people in their lives.

Conclusions

Most adult women re-entering education begin the experience in a state of internal chaos and change. Clearly, adults who are in a transitional state have exchanged a defined road map for a chance to grow and change.

This is a time when their ontological sense of themselves and the world in which they live undergoes transformation. This is a time of empowerment for these students. Certainly there is a need to synthesize the data which deal with procedural processing and knowledge acquisition for the re-entry woman.

The terms "separate" and "connected" were used by Gilligan (1982) and Lyons (1983):

To describe two different conceptions or experiences of the self, as essentially autonomous (separate from others) or as essentially in relationship (connected to others). The separate self experiences relationship in terms of reciprocity, considering others as it wishes to be considered. The connected self experiences relationships as responses to others in their terms. (Belenky, 1986, p. 102)

When the terms "separate" and "connected" are used in reference to knowledge and knowing, they contrast two epistemological orientations: a separate epistemology which is based upon impersonal procedures for establishing truth, and a connected epistemology in which truth emerges through care.

Although our use of the terms separate and connected is similar enough to Gilligan's to warrant our adopting them, when we speak of separate and connected-knowing we refer not to any sort of relationship between the self and another person but with relationship between knowers and the objects (or subject) or knowing (which may or may not be persons). (Belenky, 1986, p. 102)

Certainly, the voice of separate-knowing is easy to hear. It is the voice of logical reason. It is objective and tough-minded; it is the voice of much of the educational process. "Separate-knowing is large an adversarial form"

(Belenky, 1986, p. 106). The procedures separate-knowers use for making meaning are strictly impersonal.

The voice of connected-knowing is more difficult to hear because, as educators, we are not schooled to hear it. "connected-knowing builds on the subjectivists' conviction that the most trustworthy knowledge comes from personal experience rather than the pronouncements of authorities" (Belenky, 1986, p. 113). To expand their knowledge base, connected-knowers:

Develop access to other people's knowledge. Since knowledge comes from experience, the only way they can hope to understand another person's ideas is to try to share the experience that had led the person to form the idea. (Belenky, 1986, p. 113)

Separate-knowers suppress the self, taking as impersonal a stance as possible toward the knowing. They attempt to weed out the self. Connected-knowers gradually shift their focus from their own experiences and ways of thinking to other people's ways of thinking.

As in all procedural knowing, it is the form rather than the content of knowing that is central. Separate-knowers learn through explicit formal instruction how to adopt a different lens--how, for example, to think like a sociologist. Connected knowers learn through empathy. Both learn to get out from behind their own eyes and use a different lens, in one case the lens of a discipline, in the other the lens of another person. (Belenky, 1986, p. 115)

Of the 25 participants in this study, 19 women (76%) were classified as connected-knowers, while 6 women (24%) were classified as separate-knowers. It is possible that the resulting imbalance of separate-knowers and connected-knowers in this study is due, at least in part, to the

female gender of all the participants. Separate- and connected-knowing are not gender-specific, but as Belenky points out, may be gender-related:

The two modes may be gender-related. It is possible that more women than men tip toward connected-knowing and more men than women toward separate-knowing. Some people, certainly, would argue that this is so, but we know of no hard data (to use a favorite separate-knowing term) bearing directly on the issue, and we offer none here because we interviewed no men. (Belenky, 1986, p. 103)

Most studies of adult development have been conducted by male psychologists using male participants. Clearly their work establishes a growth pattern toward autonomy and power. But female psychologists studying the growth and development of female participants point toward a different pattern of integration, a pattern which moves toward interconnectedness and care rather than autonomy and power (Gilligan, 1982; Lyons, 1983; Belenky, 1986; and Josselson, 1987).

Recommendation

Given these differences, women re-entering education may respond to the acquisition of knowledge by using a procedural process which differs from that of the male student.

First, connected-knowers have a strong sense of the importance of experience, an interconnectedness with others, and a tendency to process decisions based on feeling. They do not wish to be told that they have the potential to become knowledgeable; they need to know that their past experiences have already made them knowledgeable and that

the knowledge that they have already acquired is of value. Women students need to make sense of their own experiences. They need to find their voices and use their own words for meaning-making. Marquerite Duras, the French feminist writer, says that men have all the old words on the tips of their tongues, while:

Women have been in darkness for centuries. They don't know themselves. Or only poorly. And when women write, they translate the darkness. Men don't translate. They begin from a theoretical platform that is already in place, already elaborated. The writing of women is really translated from the unknown, like a new way of communicating, rather than an already formed language. (Duras, 1975, p. 174)

The interviews of the participants in this study illuminated the need on the part of these women to grasp a sense of their own value and to build on that base an ability to be confident in themselves.

Secondly, traditional forms of education, such as banking education, may not be highly productive methods of education for connected-knowers. Freire says:

Whereas banking education anesthetizes and inhibits creative power, problem-posing education involves a constant unveiling of reality. The former attempts to maintain the submersion of the consciousness. (Freire, 1984, p. 68)

Belenky discusses a different mode of teaching; one she calls the midwife-teacher. A midwife-teacher is one who helps the student to articulate and expand her already formed core of knowledge.

Midwife-teachers are the opposite of banker-teachers. While the bankers deposit knowledge in the learner's head, the midwives draw it out. They assist the student in giving birth to their own ideas, in making

their own tacit knowledge explicit and elaborating it. (Belenky, 1986, p. 217)

The women in this study were elegant in their praise of teachers who connected with them. "She [a philosophy professor] listened and gave me some suggestions. You know, things to think about" (Barbara). "In that class, the professor taught me how to go to bat for myself. I learned that I was worth going to bat for" (Marilyn). "This professor showed me that I was creative. She made me expand my abilities," (Vicky). "I will remember the people who allowed me to be an adult. Let me create my own space" (Anita). The teachers who were spoken of by these women with respect and care were the teachers who had connected with them, helped them to believe in themselves, and showed them their own pattern of growth. They were connectors. They were midwife teachers.

In view of the evidence that women perceive and construe social reality differently from men and that these differences center around experiences of attachment and separation, life transitions that invariably engage these experiences can be expected to involve women in a distinctive way. And because women's sense of integrity appears to be entwined with an ethic of care, so that to see themselves as women is to see themselves in a relationship of connection, the major transitions in women's lives would seem to involve changes in the understanding and activities of care. (Gilligan, 1982, p. 171)

Thirdly, women reach mid-life with a psychological history that is different from men's; they make a different sense of experience based on their knowledge of human relationship.

Since the reality of connection is experienced by women as a given rather than as freely contracted, they arrive at an understanding of life that reflects the limits of autonomy and control. As a result, women's development delineates the path not only to a less violent life but also to a maturity realized through interdependence and taking care. (Gilligan, 1982, p. 172)

Freire (1984, p. 62) says that as we abandon the banking model of education in favor of the problem-posing model, we will "Undermine the power of oppression.

Through communication the human life holds meaning:

The teacher's thinking is authenticated only by the authenticity of the students' thinking. The teacher cannot think for his students, nor can he impose his thought on them. Authentic thinking, thinking that is concerned about reality, does not take place in ivory tower isolation, but only in communication. (Freire, 1984, p. 64)

In summary, communication and interconnectedness are the links to processing the acquisition of knowledge for connected-knowers. "If we replace the separate model with the connected model we can spare women the alienation, repression, and division their schooling currently confers on them" (Belenky, 1986, p. 228). Certainly, it seems likely that education conducted on the connected model would help to alleviate some of the fear and uncertainty with which women often view the process. Such an educational process could "help women toward community, power, and integrity. Such an education could facilitate the development of women's minds and spirits" (Belenky, 1984, p. 228).

A connected-knowing process of education would function toward helping the learner to return to herself. It is an

educational process which plays the believing game rather than the traditional educational process of playing the doubting game. The essence of this connected process is beautifully illuminated in the final pages of Cat's Eye by the contemporary Canadian writer, Margaret Atwood. The central character, Elaine, now approaching fifty years of age, sees clearly the central core of her being and extends the care needed to free herself.

I am the older one now, the stronger. If she stays here any longer she will freeze to death; she will be left behind, in the wrong time. It's almost too late.

I reach out my arms to her, bend down, hands open to show I have no weapon. It's all right, I say to her. You can go home now.

The snow in my eyes withdraws like smoke. (Atwood, 1988, p. 419)

At the end of her interview, Helen says, "My professor at the community college told me I could do it. And I made it. I really made it!" Marilyn says, "I am trusted at work and because of that trust I find confidence and self-fulfillment." Martha claims, "I always thought I was nobody, and then I started school and this one teacher took time with me and listened. Everyday I gain some more self-confidence. I'm a person too."

Implications for Further Research

Educational research by, with and for women has increased during the last several years. Lyons suggests that:

Psychological theories of moral development should recognize a morality of care as a systematic, lifelong concern of individuals. It should not be identified

solely as a temporary, stage- or level-specific concern, or as subsumed within a morality of justice, as Kohlberg's work posits. (Lyons, 1983, p. 141)

It is reasonable to assume that theories of moral development will become more inclusive as research into the development of women adds to the data base of psychological development theories.

First, research into separate-knowing and connected-knowing procedural processing in the acquisition of knowledge and the search for understanding is only in the infant stage. Significant research is needed in order to investigate whether and how gender differences affect the individual's responses to processing. Research studies in separate-knowing and connected-knowing including male participants need to be defined and carried out. Although there is inherent difficulty in understanding sex differences, "sex as a variable for study ought to be included in research designs and methodologies as a matter of course" (Lyons, 1983, p. 142).

Secondly, this study dealt only with white participants; it is possible that minority women interact with their ontological worlds in ways which differ from white women. Research comparing and/or contrasting majority women with minority women, in regard to procedural processing in the acquisition of knowledge, ought to be helpful to educators at all levels of adult learning.

Thirdly, the goals and mission of community colleges frequently differ from those of universities. Research

studies which explore the similarities and differences between female students enrolled at community colleges and female students enrolled at universities, within the processing of knowledge acquisition and development of understanding, should provide reliable information for educators at those levels.

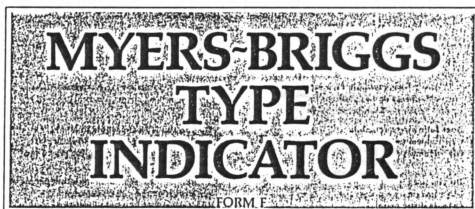
Fourthly, research dealing with young women progressing through the primary grades should look at separate-knowing and connected-knowing as methods girls use during their educational development; research might synthesize process theory with development theory.

Exploration into the relationship of personality types with separate-knowing and connected-knowing procedural processing is only in the beginning stages of investigation. The idea that there are two different and equally valid modes of meaning-making, separate-knowing and connected-knowing, is becoming increasingly prominent in the research literature of adult development. As further research into adult development is conducted with women, we will gain the depth of understanding necessary to work collaboratively with adult women students as they acquire knowledge and deepen their awareness and understanding.

Women's concerns are centered on care and interconnectedness. This essential difference from autonomy and power imparts a richly empathic approach to gaining knowledge and understanding.

APPENDICES

APPENDIX A



by Katharine C. Briggs and Isabel Briggs Myers

DIRECTIONS:

There are no "right" or "wrong" answers to these questions. Your answers will help show how you like to look at things and how you like to go about deciding things. Knowing your own preferences and learning about other people's can help you understand where your special strengths are, what kinds of work you might enjoy and be successful doing, and how people with different preferences can relate to each other and be valuable to society.

Read each question carefully and mark your answer on the separate answer sheet. *Make no marks on the question booklet.* Do not think too long about any question. If you cannot decide on a question, skip it but be careful that the *next* space you mark on the answer sheet has the same number as the question you are then answering.

Read the directions on your answer sheet, fill in your name and any other facts asked for, and work through until you have answered all the questions.



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ELEVENTH PRINTING, 1966

Which answer comes closest to telling how you usually feel or act?

1. Does following a schedule
 - (A) appeal to you, or
 - (B) crank you?
2. Do you usually get along better with
 - (A) imaginative people, or
 - (B) realistic people?
3. If strangers are staring at you in a crowd, do you
 - (A) often become aware of it, or
 - (B) seldom notice it?
4. Are you more careful about
 - (A) people's feelings, or
 - (B) their rights?
5. Are you
 - (A) inclined to enjoy deciding things, or
 - (B) just as glad to have circumstances decide a matter for you?
6. When you are with a group of people, would you usually rather
 - (A) join in the talk of the group, or
 - (B) talk individually with people you know well?
7. When you have more knowledge or skill in something than the people around you, is it more satisfying
 - (A) to guard your superior knowledge, or
 - (B) to share it with those who want to learn?
8. When you have done all you can to remedy a troublesome situation, are you
 - (A) able to stop worrying about it, or
 - (B) still more or less haunted by it?
9. If you were asked on a Saturday morning what you were going to do that day, would you
 - (A) be able to tell pretty well, or
 - (B) list twice too many things, or
 - (C) have to wait and see?
10. Do you think on the whole that
 - (A) children have the best of it, or
 - (B) life is more interesting for grown-ups?
11. In doing something that many other people do, does it appeal to you more to
 - (A) do it in the accepted way, or
 - (B) invent a way of your own?
12. When you were small, did you
 - (A) feel sure of your parents' love and devotion to you, or
 - (B) feel that they admired and approved of some other child more than they did of you?
13. Do you
 - (A) rather prefer to do things at the last minute, or
 - (B) find that hard on the nerves?
14. If a breakdown or mix-up halted a job on which you and a lot of others were working, would your impulse be to
 - (A) enjoy the breathing spell, or
 - (B) look for some part of the work where you could still make progress, or
 - (C) join the "trouble-shooters" who were wrestling with the difficulty?
15. Do you usually
 - (A) show your feelings freely, or
 - (B) keep your feelings to yourself?
16. When you have decided upon a course of action, do you
 - (A) reconsider it if unforeseen disadvantages are pointed out to you, or
 - (B) usually put it through to a finish, however it may inconvenience yourself and others?
17. In reading for pleasure, do you
 - (A) enjoy odd or original ways of saying things, or
 - (B) like writers to say exactly what they mean?

18. In any of the ordinary emergencies of everyday life, do you prefer to
 - (A) take orders and be helpful, or
 - (B) give orders and be responsible?
19. At parties, do you
 - (A) sometimes get bored, or
 - (B) always have fun?
20. Is it harder for you to adapt to
 - (A) routine, or
 - (B) constant change?
21. Would you be more willing to take on a heavy load of extra work for the sake of
 - (A) extra comforts and luxuries, or
 - (B) a chance to achieve something important?
22. Are the things you plan or undertake
 - (A) almost always things you can finish, or
 - (B) often things that prove too difficult to carry through?
23. Are you more attracted to
 - (A) a person with a quick and brilliant mind, or
 - (B) a practical person with a lot of common sense?
24. Do you find people in general
 - (A) slow to appreciate and accept ideas not their own, or
 - (B) reasonably open-minded?
25. When you have to meet strangers, do you find it
 - (A) pleasant, or at least easy, or
 - (B) something that takes a good deal of effort?
26. Are you inclined to
 - (A) value sentiment more than logic, or
 - (B) value logic more than sentiment?
27. Do you prefer to
 - (A) arrange dates, parties, etc. well in advance, or
 - (B) be free to do whatever looks like fun when the time comes?
28. In making plans which concern other people, do you prefer to
 - (A) take them into your confidence, or
 - (B) keep them in the dark until the last possible moment?
29. Is it a higher compliment to be called
 - (A) a person of real feeling, or
 - (B) a consistently reasonable person?
30. When you have a decision to make, do you usually
 - (A) make it right away, or
 - (B) wait as long as you reasonably can before deciding?
31. When you run into an unexpected difficulty in something you are doing, do you feel it to be
 - (A) a piece of bad luck, or
 - (B) a nuisance, or
 - (C) all in the day's work?
32. Do you almost always
 - (A) enjoy the present moment and make the most of it, or
 - (B) feel that something just ahead is more important?
33. Are you
 - (A) easy to get to know, or
 - (B) hard to get to know?
34. With most of the people you know, do you
 - (A) feel that they mean what they say, or
 - (B) feel you must watch for a hidden meaning?
35. When you start a big project that is due in a week, do you
 - (A) take time to list the separate things to be done and the order of doing them, or
 - (B) plunge in?
36. In solving a personal problem, do you
 - (A) feel more confident about it if you have asked other people's advice, or
 - (B) feel that nobody else is in as good a position to judge as you are?
37. Do you admire more the people who are
 - (A) conventional enough never to make themselves conspicuous, or
 - (B) too original and individual to care whether they are conspicuous or not?
38. Which mistake would be more natural for you:
 - (A) to drift from one thing to another all your life, or
 - (B) to stay in a rut that didn't suit you?

Go on to the next page.

39. When you run across people who are mistaken in their beliefs, do you feel that
(A) it is your duty to set them right, or
(B) it is their privilege to be wrong?
40. When an attractive chance for leadership comes to you, do you
(A) accept it if it is something you can really swing, or
(B) sometimes let it slip because you are too modest about your own abilities, or
(C) or doesn't leadership ever attract you?
41. Among your friends, are you
(A) one of the last to hear what is going on, or
(B) full of news about everybody?
42. Are you at your best
(A) when dealing with the unexpected, or
(B) when following a carefully worked-out plan?
43. Does the importance of doing well on a test make it generally
(A) easier for you to concentrate and do your best, or
(B) harder for you to concentrate and do yourself justice?
44. In your free hours, do you
(A) very much enjoy stopping somewhere for refreshments, or
(B) usually want to use the time and money another way?
45. At the time in your life when things piled up on you the worst, did you find
(A) that you had gotten into an impossible situation, or
(B) that by doing only the necessary things you could work your way out?
46. Do most of the people you know
(A) take their fair share of praise and blame, or
(B) grab all the credit they can but shift any blame on to someone else?
47. When you are in an embarrassing spot, do you usually
(A) change the subject, or
(B) turn it into a joke, or
(C) days later, think of what you should have said?
48. Are such emotional "ups and downs" as you may feel
(A) very marked, or
(B) rather moderate?
49. Do you think that having a daily routine is
(A) a comfortable way to get things done, or
(B) painful even when necessary?
50. Are you usually
(A) a "good mixer", or
(B) rather quiet and reserved?
51. In your early childhood (at six or eight), did you
(A) feel your parents were very wise people who should be obeyed, or
(B) find their authority irksome and escape it when possible?
52. When you have a suggestion that ought to be made at a meeting, do you
(A) stand up and make it as a matter of course, or
(B) hesitate to do so?
53. Do you get more annoyed at
(A) fancy theories, or
(B) people who don't like theories?
54. When you are helping in a group undertaking, are you more often struck by
(A) the cooperation, or
(B) the inefficiency, or
(C) or don't you get involved in group undertakings?
55. When you go somewhere for the day, would you rather
(A) plan what you will do and when, or
(B) just go?
56. Are the things you worry about
(A) often really not worth it, or
(B) always more or less serious?
57. In deciding something important, do you
(A) find you can trust your feeling about what is best to do, or
(B) think you should do the *logical* thing, no matter how you feel about it?

58. Do you tend to have
 (A) deep friendships with a very few people, or
 (B) broad friendships with many different people?
59. Do you think your friends
 (A) feel you are open to suggestions, or
 (B) know better than to try to talk you out of anything you've decided to do?
60. Does the idea of making a list of what you should get done over a week-end
 (A) appeal to you, or
 (B) leave you cold, or
 (C) positively depress you?
61. In traveling, would you rather go
 (A) with a companion who had made the trip before and "knew the ropes", or
 (B) alone or with someone greener at it than yourself?
62. Would you rather have
 (A) an opportunity that may lead to bigger things, or
 (B) an experience that you are sure to enjoy?
63. Among your personal beliefs, are there
 (A) some things that cannot be proved, or
 (B) only things that *can* be proved?
64. Would you rather
 (A) support the established methods of doing good, or
 (B) analyze what is still wrong and attack unsolved problems?
65. Has it been your experience that you
 (A) often fall in love with a notion or project that turns out to be a disappointment—so that you "go up like a rocket and come down like the stick", or do you
 (B) use enough judgment on your enthusiasms so that they do not let you down?
66. Do you think you get
 (A) more enthusiastic about things than the average person, or
 (B) less enthusiastic about things than the average person?
67. If you divided all the people you know into those you like, those you dislike, and those toward whom you feel indifferent, would there be more of
 (A) those you like, or
 (B) those you dislike?
- [On this next question *only*, if two answers are true, mark both.]
68. In your daily work, do you
 (A) rather enjoy an emergency that makes you work against time, or
 (B) hate to work under pressure, or
 (C) usually plan your work so you won't need to work under pressure?
69. Are you more likely to speak up in
 (A) praise, or
 (B) blame?
70. Is it higher praise to say someone has
 (A) vision, or
 (B) common sense?
71. When playing cards, do you enjoy most
 (A) the sociability,
 (B) the excitement of winning,
 (C) the problem of getting the most out of each hand,
 (D) the risk of playing for stakes,
 (E) or don't you enjoy playing cards?

Go on to the next page.

Which word in each pair appeals to you more?

Think what the words mean, not how they look or how they sound.

- | | | | | | |
|---------------------|----------------|-----|---------------------|-------------|-----|
| 72. (A) firm-minded | warm-hearted | (B) | 98. (A) sensible | fascinating | (B) |
| 73. (A) imaginative | matter-of-fact | (B) | 99. (A) changing | permanent | (B) |
| 74. (A) systematic | spontaneous | (B) | 100. (A) determined | devoted | (B) |
| 75. (A) congenial | effective | (B) | 101. (A) system | zest | (B) |
| 76. (A) theory | certainty | (B) | 102. (A) facts | ideas | (B) |
| 77. (A) party | theater | (B) | 103. (A) compassion | foresight | (B) |
| 78. (A) build | invent | (B) | 104. (A) concrete | abstract | (B) |
| 79. (A) analyze | sympathize | (B) | 105. (A) justice | mercy | (B) |
| 80. (A) popular | intimate | (B) | 106. (A) calm | lively | (B) |
| 81. (A) benefits | blessings | (B) | 107. (A) make | create | (B) |
| 82. (A) casual | correct | (B) | 108. (A) wary | trustful | (B) |
| 83. (A) active | intellectual | (B) | 109. (A) orderly | easy-going | (B) |
| 84. (A) uncritical | critical | (B) | 110. (A) approve | question | (B) |
| 85. (A) scheduled | unplanned | (B) | 111. (A) gentle | firm | (B) |
| 86. (A) convincing | touching | (B) | 112. (A) foundation | spire | (B) |
| 87. (A) reserved | talkative | (B) | 113. (A) quick | careful | (B) |
| 88. (A) statement | concept | (B) | 114. (A) thinking | feeling | (B) |
| 89. (A) soft | hard | (B) | 115. (A) theory | experience | (B) |
| 90. (A) production | design | (B) | 116. (A) sociable | detached | (B) |
| 91. (A) forgive | tolerate | (B) | 117. (A) sign | symbol | (B) |
| 92. (A) hearty | quiet | (B) | 118. (A) systematic | casual | (B) |
| 93. (A) who | what | (B) | 119. (A) literal | figurative | (B) |
| 94. (A) impulse | decision | (B) | 120. (A) peacemaker | judge | (B) |
| 95. (A) speak | write | (B) | 121. (A) accept | change | (B) |
| 96. (A) affection | tenderness | (B) | 122. (A) agree | discuss | (B) |
| 97. (A) punctual | leisurely | (B) | 123. (A) executive | scholar | (B) |

Which answer comes closest to telling how you usually feel or act?

124. Do you find the more routine parts of your day
(A) restful, or
(B) boring?
125. If you think you are not getting a square deal in a club or team to which you belong, is it better to
(A) shut up and take it, or
(B) use the threat of resigning if necessary to get your rights?
126. Can you
(A) talk easily to almost anyone for as long as you have to, or
(B) find a lot to say only to certain people or under certain conditions?
127. When strangers notice you, does it
(A) make you uncomfortable, or
(B) not bother you at all?
128. If you were a teacher, would you rather teach
(A) fact courses, or
(B) courses involving theory?
129. When something starts to be the fashion, are you usually
(A) one of the first to try it, or
(B) not much interested?
130. In solving a difficult personal problem, do you
(A) tend to do more worrying than is useful in reaching a decision, or
(B) feel no more anxiety than the situation requires?
131. If people seem to slight you, do you
(A) tell yourself they didn't mean anything by it, or
(B) distrust their good will and stay on guard with them thereafter?
132. When you have a special job to do, do you like to
(A) organize it carefully before you start, or
(B) find out what is necessary as you go along?
133. Do you feel it is a worse fault
(A) to show too much warmth, or
(B) not to have warmth enough?
134. When you are at a party, do you like to
(A) help get things going, or
(B) let the others have fun in their own way?
135. When a new opportunity comes up, do you
(A) decide about it fairly quickly, or
(B) sometimes miss out through taking too long to make up your mind?
136. In managing your life, do you tend to
(A) undertake too much and get into a tight spot, or
(B) hold yourself down to what you can comfortably handle?
137. When you find yourself definitely in the wrong, would you rather
(A) admit you are wrong, or
(B) not admit it, though everyone knows it,
(C) or don't you ever find yourself in the wrong?
138. Can the new people you meet tell what you are interested in
(A) right away, or
(B) only after they really get to know you?
139. In your home life, when you come to the end of some undertaking, are you
(A) clear as to what comes next and ready to tackle it, or
(B) glad to relax until the next inspiration hits you?
140. Do you think it more important to
(A) be able to see the possibilities in a situation, or
(B) be able to adjust to the facts as they are?
141. Do you feel that the people whom you know personally owe their successes more to
(A) ability and hard work, or
(B) luck, or
(C) bluff, pull and shoving themselves ahead of others?
142. In getting a job done, do you depend upon
(A) starting early, so as to finish with time to spare, or
(B) the extra speed you develop at the last minute?
143. After associating with superstitious people, have you
(A) found yourself slightly affected by their superstitions, or
(B) remained entirely unaffected?

Go on to the next page.

144. When you don't agree with what has just been said, do you usually
(A) let it go, or
(B) put up an argument?
145. Would you rather be considered
(A) a practical person, or
(B) an ingenious person?
146. Out of all the good resolutions you may have made, are there
(A) some you have kept to this day, or
(B) none that have really lasted?
147. Would you rather work under someone who is
(A) always kind, or
(B) always fair?
148. In a large group, do you more often
(A) introduce others, or
(B) get introduced?
149. Would you rather have as a friend someone who
(A) is always coming up with new ideas, or
(B) has both feet on the ground?
150. When you have to do business with strangers, do you feel
(A) confident and at ease, or
(B) a little fussed or afraid that they won't want to bother with you?
151. When it is settled well in advance that you will do a certain thing at a certain time, do you find it
(A) nice to be able to plan accordingly, or
(B) a little unpleasant to be tied down?
152. Do you feel that sarcasm
(A) should never be used where it can hurt people's feelings, or
(B) is too effective a form of speech to be discarded for such a reason?
153. When you think of some little thing you should do or buy, do you
(A) often forget it till much later, or
(B) usually get it down on paper to remind yourself, or
(C) always carry through on it without reminders?
154. Do you more often let
(A) your heart rule your head, or
(B) your head rule your heart?
155. In listening to a new idea, are you more anxious to
(A) find out all about it, or
(B) judge whether it is right or wrong?
156. Are you oppressed by
(A) many different worries, or
(B) comparatively few?
157. When you don't approve of the way a friend is acting, do you
(A) wait and see what happens, or
(B) do or say something about it?
158. Do you feel it is a worse fault to be
(A) unsympathetic, or
(B) unreasonable?
159. When a new situation comes up which conflicts with your plans, do you try first to
(A) change your plans to fit the situation, or
(B) change the situation to fit your plans?
160. Do you think the people close to you know how you feel
(A) about most things, or
(B) only when you have had some special reason to tell them?
161. When you have a serious choice to make, do you
(A) almost always come to a clear-cut decision, or
(B) sometimes find it so hard to decide that you do not wholeheartedly follow up either choice?
162. On most matters, do you
(A) have a pretty definite opinion, or
(B) like to keep an open mind?
163. As you get to know people better, do you more often find that they
(A) let you down or disappoint you in some way, or
(B) improve upon acquaintance?
164. When the truth would not be polite, are you more likely to tell
(A) a polite lie, or
(B) the impolite truth?
165. In your way of living, do you prefer to be
(A) original, or
(B) conventional?
166. Would you have liked to argue the meaning of
(A) a lot of these questions, or
(B) only a few?

APPENDIX B

EFFECTS OF THE COMBINATIONS OF ALL FOUR PREFERENCES IN YOUNG PEOPLE

INTUITIVES		INTROVERTS PERCEPTIVE EXTROVERTS JUDGING
WITH FEELING	WITH THINKING	
INFJ	INTJ	
Succeed by perseverance, originality and desire to do whatever is needed or wanted. Put their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear convictions as to how best to serve the common good.	Have original minds and great drive which they use only for their own purposes. In fields that appeal to them they have a fine power to organize a job and carry it through with or without help. Skeptical, critical, independent, determined, often stubborn. Must learn to yield less important points in order to win the most important.	
Live their outer life more with feeling, inner more with intuition.	Live their outer life more with thinking, inner more with intuition.	
INFP	INTP	
Full of enthusiasms and loyalties, but seldom talk of these until they know you well. Care about learning, ideas, language, and independent projects of their own. Apt to be on yearbook staff, perhaps as editor. Tend to undertake too much, then somehow get it done. Friendly, but often too absorbed in what they are doing to be sociable or notice much.	Quiet, reserved, brilliant in exams, especially in theoretical or scientific subjects. Logical to the point of hair-splitting. Interested mainly in ideas, with little liking for parties or small talk. Tend to have very sharply defined interests. Need to choose careers where some strong interest of theirs can be used and useful.	
Live their outer life more with intuition, inner more with feeling.	Live their outer life more with intuition, inner more with thinking.	
ENFP	ENTP	PERCEPTIVE EXTROVERTS JUDGING
Warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution for any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can always find compelling reasons for whatever they want.	Quick, ingenious, good at many things. Stimulating company, alert and outspoken, argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Turn to one new interest after another. Can always find logical reasons for whatever they want.	
Live their outer life more with intuition, inner more with feeling.	Live their outer life more with intuition, inner more with thinking.	
ENFJ	ENTJ	
Responsive and responsible. Feel real concern for what others think and want, and try to handle things with due regard for other people's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, active in school affairs, but put time enough on their studies to do good work.	Hearty, frank, able in studies, leaders in activities. Usually good in anything that requires reasoning and intelligent talk, such as public speaking. Are well informed and keep adding to their fund of knowledge. May sometimes be more positive and confident than their experience in an area warrants.	
Live their outer life more with feeling, inner more with intuition.	Live their outer life more with thinking, inner more with intuition.	

SOURCE: MYERS, 1976, PAGE 7

		SENSING TYPES	
		WITH THINKING	WITH FEELING
INTROVERTS	JUDGING	ISTJ Serious, quiet, earn success by concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions. Live their outer life more with thinking, inner more with sensing.	ISFJ Quiet, friendly, responsible and conscientious. Work devotedly to meet their obligations and serve their friends and school. Thorough, painstaking, accurate. May need time to master technical subjects, as their interests are not often technical. Patient with detail and routine. Loyal, considerate, concerned with how other people feel. Live their outer life more with feeling, inner more with sensing.
	PERCEPTIVE	ISTP Cool onlookers, quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in impersonal principles, cause and effect, or how and why mechanical things work. Exert themselves no more than they think necessary, because any waste of energy would be inefficient. Live their outer life more with sensing, inner more with thinking.	ISFP Retiring, quietly friendly, sensitive, modest about their abilities. Shun disagreements, do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. May be rather relaxed about assignments or getting things done, because they enjoy the present moment and do not want to spoil it by undue haste or exertion. Live their outer life more with sensing, inner more with feeling.
EXTROVERTS	PERCEPTIVE	ESTP Matter-of-fact, do not worry or hurry, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. May be a bit blunt or insensitive. Can do math or science when they are the need. Dislike long explanations. Are best with real things that can be worked, handled, taken apart or put back together. Live their outer life more with sensing, inner more with thinking.	ESFP Outgoing, easygoing, accepting, friendly, fond of a good time. Like sports and making things. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people as well as with things. Live their outer life more with sensing, inner more with feeling.
	JUDGING	ESTJ Practical realists, matter-of-fact, with a natural bend for business or mechanics. Not interested in subjects they see no use for, but can apply themselves when necessary. Like to organize and run activities. Tend to run things well, especially if they remember to consider other people's feelings and points of view when making their decisions. Live their outer life more with thinking, inner more with sensing.	ESFJ Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Always doing something nice for someone. Work best with plenty of encouragement and praise. Little interest in abstract thinking or technical subjects. Main interest is in things that directly and visibly affect people's lives. Live their outer life more with feeling, inner more with sensing.

APPENDIX C

DEMOGRAPHIC INFORMATION

Name:

Age:

Marital Status:

Do you have children?

What are their ages?

In what year did you graduate from high school?

In the years between high school and coming to college, did you work in and/or out of the home?

If you worked out of the home, what did you do?

Did you attend a community college? If so, for how long?

Do you live in university housing? Do you live in town?

If you commute, about how many miles do you drive to campus?

How many semesters have you been attending this university?

How many credit hours have you completed?

How many credit hours do you usually take each semester?

What is your G.P.A.?

What is your career expectation?

What are your major and minor areas of study?

APPENDIX D

INTERVIEW SCHEDULE

(revised)

Section A--Background

- A1. What stands out for you in your life over the past few years?
What kinds of things have been important?
What stays with you?
- A2. Tell me something about what your life is like right now.
What do you care about, think about?

Section B--Self-Descriptions (Gilligan)

- B1. How would you describe yourself to yourself?
If you were to tell yourself who you really are, how would you do that?
- B2. Is the way you see yourself now different from the way you saw yourself in the past?
What led to the changes?
Have there been any other turning points?
- B3. How do you see yourself changing in the future?

Section E--Real Life Moral Dilemma (Gilligan)

Everyone has had the experience of being in situations where they had to make a decision but weren't sure what was the right thing to do. Could you describe to me a situation where you weren't sure what was the right thing to do?

- E1. What was the situation? What was the conflict for you in the situation?
- E2. In thinking about what to do, what did you consider? Why? Were there other things you thought of in trying to decide what to do? How did you weigh each alternative?
- E3. What did you decide to do? Why? What happened?

- E4. Looking back on it now, did you make the best choice? Why or why not?
- E5. Thinking back over the whole thing, what did you learn from it?

Section F--Education

As I said earlier, this project is concerned with women and learning and the role of learning and education in women's lives . . . and I'd like you to think about that now.

- F1. What do you think will stay with you about your experiences here [in this school, in this program]? (Probe for specific academic and nonacademic experiences; good and bad teachers; good and bad assignments; good and bad programs or courses; residential or off-campus arrangements.)
- F2. Has being here [being in this program] changed the way you think about yourself or the world?
- F3. In your learning here, have you come across an idea that made you see things differently . . . or think about things differently?
- F4. What has been most helpful to you about this place?
- F5. Are there things this [school, program, environment] doesn't provide that are important to you? Are there things you would like to learn that you don't think you can learn here?
- F6. Looking back over your whole life, can you tell me about a really powerful learning experience that you've had, in or out of school?

Section FA--Barriers (Carter)

- FA1. What are some problems or barriers you faced in returning to school? (Probe for situational, institutional, and dispositional barriers.)
- FA2. How did you work through solving each problem or barrier?
- FA3. What successes do you feel you have had?

Section I--Conclusion

Okay, thanks. Now before we stop I have just one or two more questions.

- I1. What will you and your life be like fifteen years from now?
- I2. Are there any other questions that I should have asked you, that would have thrown some light on these issues we are interested in . . . that is, women's lives and women's learnings?

APPENDIX E

CODING RESPONSES

A. In respect to her general perception:

1. In regard to the past few years is the interviewee more concerned with people events or object events:

people 1 2 3 4 5 object

2. In regard to her current life does the interviewee care more about people or goals:

people 1 2 3 4 5 goals

B. In respect to her self-descriptions:

1. Does the interviewee describe herself in terms of people/roles or object/roles:

people 1 2 3 4 5 object

2. Does the interviewee perceive the changes(s) in the way she sees herself as connected-knowing change or separate-knowing change:

connected-knowing 1 2 3 4 5 separate-knowing

3. In relationship to future changes, does the interviewee perceive change in relation to people or goals:

people 1 2 3 4 5 goals

E. In regard to real life moral dilemma:

1. Does the interviewee perceive the conflict in situation as people/based or object/based:

people 1 2 3 4 5 object

2. Were the stated considerations people-oriented or object/goal-oriented:

people 1 2 3 4 5 object/goal

3. Was the decision based on care for other people or self goal:

other people 1 2 3 4 5 self goal

4. In deciding if she had made the best choice did the interviewee weigh the outcome(s) in terms of care and concern or objectivity and fairness:

care 1 2 3 4 5 fairness

5. In learning from the process of working through the dilemma did the interviewee expand her understanding of interdependence or roles:

interdependence 1 2 3 4 5 roles

F. In concerns of learning and education:

1. In thinking about what will stay with her about her experiences in higher education does the interviewee emphasize a recognition of the interconnectedness of people or emphasize a recognition of roles which come from duties of obligation and commitment:

interconnectedness 1 2 3 4 5 duties

2. Does the interviewee see changes in how she thinks about self or the world as having been initiated by people within the institution or regulations of the institution:

people 1 2 3 4 5 regulations

3. Has the interviewee come across an idea which made her see things differently primarily through specific people or through process and reading:

people 1 2 3 4 5 process/reading

4. Does the interviewee feel that important things which are not provided by the educational institution are more people oriented or object oriented:

personnel 1 2 3 4 5 documents

5. Does the interviewee feel that important things which are not provided by the educational institution are more people-oriented or object-oriented:

people-oriented 1 2 3 4 5 object-oriented

6. Does the interviewee feel that her most powerful learning experience was initiated through interconnectedness with others or interconnectedness with ideas:

others 1 2 3 4 5 ideas

F.A. In regard to educational barriers and problems: `

1. Are the perceived barriers and problems more people related or institutional related:

people 1 2 3 4 5 institutional

2. Did the interviewee solve each problem through a sense of interconnectedness with self and others or through a sense of separateness:

interconnectedness 1 2 3 4 5 separateness

3. Does the interviewee feel her successes have been related to a sense of connectedness or a sense of separateness:

connectedness 1 2 3 4 5 separateness

I. In relation to the future:

1. Does the interviewee see her future as people-oriented or goal-oriented:

people-oriented 1 2 3 4 5 goal-oriented

APPENDIX F

LETTER TO PARTICIPANT

Date

Dear (Name):

I would like to thank you for taking the time to consider being a participant in my research on female, adult students and the processing of educational barriers.

The purpose of my research is to determine if methods of processing information in regards to working through educational barriers (situational, financial, psychological) is related to distinct personality types.

I know that as an adult student you have many responsibilities and time commitments. Your participation in this research would require about two hours of your time. About one hour will be spent at the University Counseling Center completing the Myers-Briggs. The MBTI is a personality typing paper and pencil questionnaire. The questions concern themselves with your preference for behaving in a certain way. For example one question is: Do you (a) rather prefer to do things at the last minute; or (b) find that hard on the nerves?

A second hour will be spent with myself, participating in an interview about your ideas and feelings regarding education. An example of one of the questions is: What stands out for you in your life over the past few years?

All participation is strictly voluntary and you may choose to discontinue the experiment at any time without penalty.

All test results and interview answers will be treated with strict confidence and as a participant you will remain anonymous in any report of research findings. I will be glad to make the results available to you upon request and within these restrictions.

If you have any further questions or concerns regarding the research project I shall be glad to talk with you.

Thank you for your time and interest.

Sincerely,

Joyce A. Carter

You indicate your voluntary agreement to participate by signing your name below.

Name

Phone Number

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