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PERSONALITY DIFFERENCES BETWEEN MEN AND WOMEN

by
Lori K. Ingoldsby

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree in School Psychology
of Rowan College of New Jersey.

May 1, 1995

Approved by _____

Date Approved 5/1/95

ABSTRACT

Lori K. Ingoldsby
Personality Differences Between Men and Women, 1995
Dr. Klanderman & Dr. Dihoff
School Psychology

The purpose of this study was to compare personality types of men and women and to examine if Jung's predictions of certain personality types occurring more frequently in males is supported. Subjects were 20 male and 20 female undergraduate volunteers, ranging in age from 18-26 years. Personality types were measured using the Myers-Briggs Type Indicator, form G. A chi-square test for independence showed support that personality type is dependent on gender. A significant difference was found for the following personality attitudes and functions: introversion and extraversion, and thinking and feeling. Men were found to be more likely to be introverted and thinking, while women were more likely to be extraverted and feeling in this study. However, no significant difference was found for sensing and intuition or judging and perceiving between the men and women in this sample.

MINI-ABSTRACT

Lori Ingoldsby
Personality Differences Between Men and Women, 1995
Dr. Klanderman & Dr. Dihoff
School Psychology

This purpose of this study was to find if men and women exhibit personality types that are differentiated by sex. The subjects consisted of 40 undergraduate volunteers. All were given the Myers-Briggs Type Indicator. A chi-square test for independent samples showed a significant gender difference for introversion-extraversion and thinking-feeling, but not for sensing-intuition and judging-perceiving.

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CHAPTER 1

NEED

Recently, there have been many debates about inherent differences between men and women. Books such as the best selling Men are From Mars, Women are From Venus, have popularized contrasting men and women as being vastly different. Differences in self-esteem, self-perception, and self-concepts between the sexes have been noted in many studies. In school aged children, females seem to be falling behind in traditionally "male" subjects. To further understand this gender gap, it is important to analyze whether or not women and men have varying personality types which may be influencing these gender differences.

Although there have been many changes in the role of women in society in recent years, many women still fall into conventional patterns of low self-esteem and poor self concepts. A study conducted by the American Association of University Women (AAUW) discovered a remarkable gender difference between boys and girls self-

perception of competence. "Boys are more likely than girls to say they are "pretty good at a lot of things" and are twice as likely to name their talents as the thing they like most about themselves. Girls, meanwhile cite an aspect of their appearance." (Orenstein, p xvi)

Teenage girls often feel they aren't intelligent enough or worthy enough of achieving their dreams.

Within the classroom, there is a distinction between the way male and female students are treated. Many studies show that gender bias occurs in the classroom. It has been found that boys receive a majority of the teachers attention in a variety of ways. Boys are more likely to argue with teachers and speak out in class. The educational system may be propagating a belief in female students that they are not as capable as their male peers.

Another intriguing finding is that girls show a more eminent drop in their interest in math and science as they advance through school. Even girls who enjoy these subjects are, by age 15, "only half as likely to feel competent in them. Researchers have long understood that a loss in confidence in math usually *precedes* a drop in achievement, rather than vice versa." (Orenstein, p xvii) It seems that females do not have a lesser ability in these subjects but rather they have less confidence in these traditionally male subjects.

Findings of gender variation in areas such as self-esteem, self-concepts of confidence and attention seeking behavior can be traced to many factors such as hereditary, social mores and social learning such as modeling. However, this study focuses on personality differences between men and women as possible implications of

why such contrast between the sexes is found. Perhaps inherent differences in personality between the sexes as Carl Jung postulated in the early 1900's are influential in the findings of this gender gap. This study will examine if Jung's premise that certain personality types are more likely to occur in males remains true almost over 70 years after he had originally published his theory of personality types. Also, this study will examine if differences in personality is different for men and women.

PURPOSE

The purpose of this study is to determine if college aged men and women exhibit differences in personality types. Carl Jung postulated that people have one of two fundamental attitudes: Extraversion and Introversion which make up the personality type. Along with these elemental attitudes, four additional ectopsychic (inner) functions: sensation, thinking, feeling, and intuition make up the personality typeology.

Jung believed that men are often classified as Introverted-Sensing, Extraverted-Sensing, Introverted-Thinking, and Introverted-Intuitive types.

The Myers-Briggs Type Indicator was created as a useful tool for applying Jung's theory of personality typeology by Isabel Briggs Myers and Katherine C. Briggs. This questionnaire added two more ectopsychic (inner) functions: judging and perceiving to Jung's existing functions.

In this study will specifically compare men's scores on the Myers-Briggs Type Indicator to women's scores to determine if there are differences in personality type. Also,

this study will examine if male students at a state-funded, coeducational institution are more likely to have personality types that have been stated by Carl Jung to occur more frequently in men than their female peers.

HYPOTHESIS

The hypothesis of this study is that male and female subjects tested will have different personality types.

THEORY

For the purpose of this study it is important that the theory behind the use of the Myers-Briggs Type Indicator (MBTI) is understood. Carl Jung, a neofreudian personality therapist, had theorized about two different attitudes, and four different functions, that together make up a person's personality type. Later, Katherine C. Briggs and Isabel Briggs Myers created the Myers-Briggs Type Indicator as a functional way of incorporating Jung's types into a useable psychological test.

The Myers-Briggs Type Indicator (MBTI) contains four separate indices, reflecting one of four basic preferences. The preferences affect both what people attend to in a given situation, but also how they draw conclusions about what they perceive. The four preferences of the MBTI are shown in Table 1.1.

E I	Extraversion or Introversion (Attitude)
S N	Sensing or Intuitive (Function)
T F	Thinking or Feeling (Function)
J P	Judging or Perceiving (Function)

Table 1.1

The indices EI, SN, TF, and JP are designed to point in one direction or the other. The theory of the MBTI is that people are expected to develop greater skill with the functions and attitudes they prefer to use. Every person is presumed to use both poles of each of the four indices, but respond most often with the preferred functions and attitudes.

The MBTI yields sixteen possible combinations called "types" denoted by the four letters of the preferences (i.e., ENFP, ISTJ). The characteristics of each type follow the interplay of the processes and attitudes an individual prefers.

THE TWO ATTITUDE TYPES

The two attitudinal types that a person will exhibit are Extraverted or Introverted. These attitudes are created by the person's attempt to evolve towards selfhood. Each of these attitudes are guided by the psychic energy of the libido. "Both of these attitudes involve complex variations, including **dominant characteristics** (conscious) and **inferior characteristics** (unconscious). The dominant side is compensated by the inferior side and

vice versa." (Jung, 1923)

THE EXTRAVERT

The extraverted type directs their energy towards the outer world. Jung described the extravert in the following manner: "If a man thinks, feels, acts, and actually lives in a way that is directly correlated with the objective conditions and their demands, then he is extraverted." (Jung, 1923 p 183)

The extravert easily makes attachments and has an outgoing and candid personality. The important aspect of the extravert's personality is that they prefer to focus on the outer world of people and things.

THE INTROVERT

The other basic attitude type is the introvert. The introvert prefers to focus on the inner world of ideas and impressions. The introvert can be described as reflective, vacillating, retiring nature that is self-reflective. The introvert is more concerned with internal thoughts and feelings and is not as outwardly social as the introvert. "The introvert is distinguished from the extravert by the fact that he does not, like the latter, orient himself by the object and objective data, but by subjective factors." (Jung, 1923)

THE FOUR FUNCTIONS

Along with the two opposing attitude types Jung describes four functions of the personality. These functions are : Feeling, Sensing, Thinking, and Intuition. Feeling types tend to base decisions primarily on subjective evaluation of person-centered concerns and their personal values. People who are sensing tend to focus on the present and concrete information gained from their senses. Thinking types are considered logical and use objective analysis of cause and effect when making decisions. Finally, intuitive types focus on inner impressions and ideas.

THE TYPES

Using the two basic attitudes of introversion and extraversion along with the four basic functions, Jung created eight possible combinations, which he classified as the Theory of Psychological Types. There are actually 16 possible personality types because each of the types contains a superior function, which is the most highly differentiated, followed by the axillary pair; the axillary pair as least differentiated, "if, we consider that either member of the axillary pair can exist in a somewhat differentiated and conscious form."(Jung, 1923) Jung centers on these following eight possibilities. For purposes of this study, types Jung theorized as being predominantly "male" types will be listed first, followed by the remaining four types.

THE "MALE" TYPES

1. **The introverted thinking type** is strongly influenced by ideas but his ideas have their origins in his subjective foundation. The introverted-thinker will follow their ideas inwardly as opposed to outwardly like the extravert. The collective unconscious is the foundation of the introverted thinker. It is from the collective unconscious that creative ideas and traditional moral authority are created. Because this type of person focuses on internal forces they appear aloof, cold, and inconsiderate of others. Difficulty in communicating ideas and being socially inept are also characteristics of this type. "This type-the majority appear to be in men-naturally does not think he is at the "mercy" of sensation." (Jung, 1923 p 217)

2. **The extraverted sensing type** is another predominantly male type according to Jung. Because they have a pull towards the outer experience of objects and also a desire to satisfy the senses, this type is continually experiencing new sensations. This type of person can be described as jolly, outgoing, and fun-loving. Often the extraverted-sensing type is concerned with matters of good taste in literature, arts, painting, sculpting, physical appearance and fine foods. If a person becomes too involved in a particular object such as food, they can develop negatively into crude pleasure seekers who overeat.

3. **The introverted sensing type** like the extravert is also in tune with sensations, but his type is guided by subjective sensations and excited by the objective stimulus. This

personality type seems to be overly sensitive to outside stimuli. "They may take innocuous comments from others and interpret them in imaginative or bizarre ways. They may appear rational and in complete control of their actions because of their inability to relate to objects in the environment, including other people." (Rychman, p 83) External reality (the objective world) may be seen as a "joke" to this type.

4. **The introverted-intuitive type** is the final type which Jung theorized as predominantly occurring in males. This type is not understood easily because they have great difficulty communicating their thoughts and ideas. They are often intensely intuitive, which can cause alienation from external reality. Close friends may consider the introverted-intuitive type to be mysterious. They have potential to become great visionaries and mystics, or conversely, to become artistic grouches.

THE REMAINING TYPES

1. **The extraverted thinking type** is characterized by a need to live by an intellectual formula. "By this formula are good and evil measured and beauty and ugliness determined...If the formula is wide enough, this type may play a very useful role in social life, either as a reformer or a ventilator of public wrongs...or as the propagator of important innovations. But the more rigid the formula, the more does he develop into a grumbler, a crafty reasoner, and a self-righteous critic." (Jung, 1923) This personality

type tends to repress feelings and denies feelings of the senses such as: taste, artistic sense, cultivation of friends etc. These types may outwardly appear to be concerned about the welfare of others but is in reality, more involved in their personal pursuit of attainment of goals. For example, this person may be exploiting friendships to further serve his own aims.

2. **The extraverted feeling type's** feelings and subsequent behavior is controlled by social norms. These types are highly influenced by the opinion of others. Following this premise, these types frequently change their feelings from situation to situation and person to person. Jung felt this type was found more frequently in females than males. "A prime example of would be a college woman who breaks her engagement because her parents object to the man. Her feelings toward the young man are based on her parent's judgements. If they like him, fine, if they do not she feels compelled to reject him." (Rychman, p 82) In contrast, however, Jung believed this personality type to be capable of making quite acceptable marriages. Jung stated "These women are good companions and excellent mothers, so long as their husbands and children are blessed with the conventional psychic constitution." (Jung, p 357) Conventional psychic constitution in his description is meant to mean conformity to social norms and mores of the traditional, well adjusted family.

3. **The introverted feeling type** may appear as being cold or unfeeling towards others, but they are able to possess an intensity of emotion which could be expressed in

religious or poetic form. Their intense feelings of emotion derive from the collective unconscious according to Jung. Jung describes the introverted-feeling type in the following way: "They are mostly silent, inaccessible, and hard to understand; often they hide behind a childish or banal mask, and their temperament is inclined to melancholy. They neither shine nor reveal themselves."(Jung, p 389) This personality type is inclined to occur more frequently in females.

4. **Extraverted intuitive type** has the main concern of exploitation of external opportunities. Occupations of this personality type include: politicians, merchants, contractors, and speculators. Although women are under-represented in these fields, Jung believed women to have this orientation more than men. Characteristics of this type may include: being impatient, encouraging, inspirational, initiators and the ability to promote promising enterprises. On the downside, this type is so busy seeking new possibilities and encouraging others that they rarely finish any project.

DEFINITIONS

1. **Introversion**: An attitude style defined by the desire for quiet and concentration. Introverts tend to be careful with details, and often are satisfied spending quiet, reflective time alone. This type of person is more likely to be creative and serious.

2. **Extraversion**: The opposite attitudinal pole of introversion, this attitude type is

characterized as more social and outgoing. Extraverts are able to easily talk about their experiences and feelings. While the introvert focuses on the inner world of ideas and impressions, the extravert prefers to focus on the outer world of persons and things.

3. Sensation: Sensation refers to a function of a person's personality, the opposite pole being intuition, which will be explained below. People who are sensing often focus on the present and on concrete information gained from their senses. Usually they have an established way of doing things, and often reach a conclusion step by step.

4. Intuition: This functional style focuses on the future, with a view towards patterns or possibilities. Intuitive types like solving new problems, and they generally follow their inspirations, good or bad.

5. Thinking: The thinking style is characterized by the preference to make decisions based on logic and on objective analysis of cause and effect. This type of person would not show emotion readily and are often uncomfortable dealing with people's feelings. Being more analytically oriented, they respond more easily to people's thoughts and tend to be firm-minded.

6. Feeling: Feeling is the opposite functional style of the thinking style. Feeling types base their decisions on subjective evaluation of person-centered concerns. Feeling types like pleasing people, and enjoy harmony. These people tend to be sympathetic.

7. Judging: The feeling personality function is defined as enjoying a planned and organized approach to life and prefer to have things settled. These types work best when they can plan their work and follow the plan.

8. Perceiving: Opposite of the judging type, the perceiver likes a flexible and spontaneous approach to life and prefers to keep things open. This type adapts well to changing situations, but has the tendency to start too many projects and may have difficulty finishing them.

ASSUMPTIONS

This study assumes the following:

(1) The Myers Briggs Type Indicator (MBTI) form G is a true measure of a person's predominant attitude and functions;

(2) The volunteers chosen as subjects are truly representative of the two groups measured, that being male or female; and

(3) That all 40 subjects will answer the MBTI as honestly as possible being foretold that the results will be held in total confidentiality and anonymity (unless the subject indicated that he/she would like their score reported to them, thus eliminating the

ability to remain anonymous).

LIMITATIONS

The following limitations of this study should be taken into account by all readers:

(1) The study will be limited to only 40 subjects (20 males and 20 females) who are volunteers from introductory psychology class;

(2) The study is limited to generalize findings of only 20 subjects of each gender, and make inferences about characteristics of men and women using this limited number of subjects; and

(3) Only one measurement of personality, the MBTI, was utilized for this study. Since personality is such a broad, hypothetical concept, it is necessary to note the limitations of using only one source of measurement.

OVERVIEW

The focus of Chapter 2 is a review of the relevant literature pertaining to differences in men and women's personality types. The review of literature is characterized into four parts. First, behavioral gender differences are reviewed. Then a

review of a comprehensive study of declining levels of self-esteem in adolescent school girls will be addressed. Next, a review of literature of gender bias in the classroom as well as the benefits of attending a single-sex institution. Finally, Chapter 2 will include information regarding the nature and use of the Myers-Brigs Type Indicator as a valid measure of personality types.

Chapter 3 will be a description of the design of the study. A description of the sample utilized for this study, the measures used, the design, the hypothesis and analysis, and a summary of procedures used will be the focus of Chapter 3.

Analysis of the results can be found in Chapter 4. The data will be presented, including tables and diagrams to further organize the data, a discussion of the results, and a summary of the statistical analysis.

Chapter 5 incorporates a summary of the purpose of the study and it's findings. Also included in Chapter 5 is implications for further research and a final conclusion of the study.

The following Chapter is designated to review the relevant literature regarding differences between male and female personality types.

CHAPTER 2

REVIEW OF LITERATURE

Review of literature regarding gender differences is classified into four distinct parts for the purpose of this study. First, a review of a comprehensive analysis of gender differences of topics such as cognitive abilities, social behavior and brain organization will be examined. Secondly, an analysis of previous findings on self-esteem, self-concept, and confidence will be highlighted. In addition studies of gender bias occurring in the classroom will be reviewed. Finally, review of the uses of the Myers-Briggs Type Indicator as a valid tool for discovering personality types, as well as previous findings of personality differences between men and women will be included.

STUDIES OF BEHAVIORAL GENDER DIFFERENCES

A tremendous amount of information exists on behavioral disparities between females and males. This review will focus on the following behavioral topics: cognitive

abilities, environmental origins of gender differences, and biological differences of men and women. From the many studies of gender differences, it seems clear that behavioral differences do exist, but often stereotypes exaggerate these discrepancies.

In regards to cognition, the following gender differences are well documented. Macoby and Jacklin (1974) concluded that verbal ability, quantitative ability, and visual-spatial ability in humans are different for females and males. Men, it was found, seem to have an advantage at mathematical ability, and they scored higher in tests of visio-spatial ability. Women scored higher in tasks of verbal ability.

Other follow-up studies such as a meta-analysis conducted by Hyde, (1981) questioned how large these "well-established" differences were. By reviewing a plethora of gender studies of cognitive functions, Hyde (1981) concluded through meta-analysis that gender differences in verbal ability, quantitative ability, visio-spatial ability and field articulation reported by Macoby and Jacklin (1974) are all small. Gender difference appear to account for no more than 1%-5% of the population variance. Studies such as Hyde (1981) which examine Macoby and Jacklin's concluded "well-established" gender differences are important because Macoby and Jacklin are so often cited in introductory psychology books and may tend to inadvertently increase gender-based stereotypes.

Environmental influences upon gender differences are well documented. The socialization process, that is the acquisition of behaviors expected of people, has influenced differences found between men and women. In a study of the effects of observational learning, Perry and Bussey (1979) found evidence to support that children are more likely to imitate same-sex role models, that opposite-sex role models. Obviously,

a great deal of the learned gender socialization occurs within the family. Young boys may be encouraged to play with "masculine" toys such as trucks, while girls are reinforced when playing traditionally "feminine" games such as house.

Richardson & Simpson (1982) in an interesting study analyzing children's letters to Santa Claus, found evidence to support gender socialization. For example, boys were more than 4 times more likely to request a vehicle toy from Santa than the girls studied. Unsurprisingly, girls were much more likely to ask for dolls or dollhouses than the boys sampled.

Studies of gender differentiation on the aspect of aggression show that there is a difference between males and females and level of aggression, with males being more likely to exhibit aggression (Tieger, 1980; Hyde, 1984; and Macoby and Jacklin, 1974) but these studies argue how large these differences are. For example, Hyde (1984) conducted a meta-analysis of many studies and found less significant differences between males and females than previously cited by Macoby & Jacklin in 1974. Hyde (1984) concluded that while males appear to be more aggressive than females, "within-gender variation is far larger than between-gender variation." Also, Hyde (1984) found that a negative relationship occurs with the variables of age and aggression, as age increases, aggression decreases. This is inconsistent with Tieger's argument at a 1980 debate with Macoby and Jacklin (Hyde, 1984) that among preschoolers gender differences are smaller and nonsignificant, but may become larger later, as a result of cumulative effects of socialization.

Studies of the brain organization of men and women have generated the theory

that cerebral specialization is linked to gender differences in mental abilities. Yet this link is highly speculative due to the difficulties in finding consistent evidence to support a biological difference between male and female brains. McGlone (1980) in a comprehensive review article found an impressive accumulation of evidence suggesting that the male brain may be more asymmetrically organized than the female brain, both for verbal and non-verbal functions. These trends are more often significant in adult men and women than children. Interestingly, this was observed as far back as 1880, by J. Crichton-Browne in his book, *Brain*. He wrote, "it would appear that the tendency to symmetry in the two halves of the cerebrum is stronger in women than in men."

STUDIES OF SELF-ESTEEM, SELF-CONCEPT, AND LAGGING CONFIDENCE IN FEMALES

In a comprehensive, year-long study naturalistic observation and interviews of young schoolgirls, Peggy Orenstein found significant drops in feelings of self-esteem and measures of self-confidence among female adolescents in America. A vital problem among female adolescents in our society is the visibly increasing confidence gap between boys and girls in schools. Also evident is a lower self-esteem found in females, which has many implications for the future of these adolescent females. "Without a strong sense of self, girls will enter adulthood at a deficit; they will be less able to fulfill their potential, less willing to take on challenges, less willing to defy tradition in their career choices, which means sacrificing economic equity." (Orenstein, p xxvii)

Beginning at a young age, this epidemic of a loss of self is further propagated by society for females. "Science toys are still marketed almost exclusively towards boys, with boys featured on packages (or, worse still, *girls watching boys*) and the world of video games seems constructed with an entirely male audience in mind." (Orenstein, p 23) A circular relationship between girl's attitude towards science, their self-esteem, and their career plans exists. Girls are much less likely to pursue a career in science than boys in a society where sciences are considered a stepping stone for economic success.

GENDER BIAS IN THE CLASSROOM

Schools tend to contribute to the socialization of gender roles. A survey was conducted on 134 readers (*Women in Words and Images, 1972*) found that while girls were typically found in the kitchen doing domestic chores, boys were usually represented as heroic, adventurous and clever. These grade-school readers influence youngsters' ideas about what is suitable behavior of what is suitable behavior for boys and girls, at a time when children are very vulnerable to stereotypical thinking.

Studies like Macoby and Jacklin's (1974) which show distinctions between male and female abilities in quantitative reasoning support stereotypes of scientific superiority among males. This feeling of inequality among females in regards to science is further exacerbated by the role of teachers in the field of science. In her observations of a science classroom Orenstein noted the girls had become "passive observers rather than competent participants." (p 26) Amount of interaction between teacher and student were different

for male pupils than female pupils. In the school where Orenstein observed, she found boys received a majority of the teacher's attention "boys grab the questions, boys are rewarded for aggressiveness, boys (who remain the key to control) get whatever limited attention the teacher may offer. A study by French (1984) found similar patterns of attention seeking behavior in boys. French found that among 10-11 year old students male students received a greater portion of teacher's attention than their female peers. French concluded this imbalance may be attributed to the inclination to engage in attention securing strategies by male pupils.

Other studies have found similarly discouraging evidence of female student's lagging self-esteem and poor self concepts in the classroom. Female students have been found to internalize their failures and externalize their successes. Richman (1985) found that this is particularly true of white females, "high achieving white girls in particular are subject to unrealistic standards of success. When they fell short, they overgeneralized failures with an intense self-punitiveness; by late adolescence, their self-esteem had spiraled downward." Richman also noted an unusual relationship between popularity and academic success for female adolescents. "High academic achievement may affect females' social life negatively. Their academic abilities may interfere with their popularity, especially with boys. Consequently, the academically oriented female may perceive her achievements as a barrier to her social status and may begin to view herself less positively."

Girls may be receiving less attention in the classroom because they are less likely to attempt to compete with males for the teachers attention. In single-sex institutions,

however, girls become more competitive. In a study by Lee and Byrk (1986) indicated that girls are well served by the emphasis placed on competition and a more academic environment which is found at single-sex institutions. Although there are less than 100 women's colleges remaining in the United States, research has found a great deal of evidence supporting these institutions as beneficial to women.

Miller-Bernal (1993) cites Elizabeth Tidball's study utilizing secondary data sources such as the Doctorate Records and Who's Who of American Women. Tidball found that "women who have graduated from coeducational colleges are about two times more likely than women who have graduated from coeducational college to receive their doctorates, enter medical school, or become recognized leaders in their fields."

Although the debate over the effects of single-sex colleges for women continues, the implication that many coeducational colleges provide a climate that is "chilly" for women has been noted. (Sandler, 1986) Other studies have also concluded that female college students perceive a less encouraging or more chilly climate than do male students (Banks, 1988; Blankenship, 1985; Schnellman & Gibbons, 1984) This perception of a "chilly" environment may have more to do with students' academic performance, than their gender. Researchers have suggested that student's perceived as "good" may be exposed to more positive learning environments than those perceived as "poor" (Good, 1981, 1987) In a related study Fischer and Good (1994) reported women as having detected significantly more sex bias and discrimination in their campus environment.

Differences in perceptions of college environment may stem from personality differences between men and women. This study hopes to identify if men and women

have significant differences on personality type, and to see if evidence to support Jung's original premise of male/female types exists today at a coeducational college.

USES OF THE MYERS-BRIGGS TYPE INDICATOR

The MBTI is a measurement of varied subjects, including education, counseling, career guidance, situations requiring teamwork and cooperation, and communications.

The Myers Briggs Type Indicator is concerned with individual differences in basic attitudes and functions and a broad range of activities are applicable to the MBTI.

Previous data collection has reviewed sex differences among attitude types. In the Myers-Briggs Atlas of Type Tables (Myers and McCauley, 1985), researchers compiled statistics of introversion-extraversion scales for men and women. Findings show that among male's age 18-20 52.17% were extraverted, 47.83% introverted. Female's age 18-20 more likely to be extraverted, here 60.84% were found to be extraverted, and 39.16% introverted (summary of tables).

Among sensing-intuition functions males age 18-20 were more likely to be sensing (58.86%) as compared to intuitive (41.14%). Women also tended to be more sensing (62.20%) than intuitive (37.80%). Thinking-feeling functions for men age 18-20 show men more likely to be thinking (62.30%), than feeling (37.70%). Women, however, were more likely to be feeling (68.98%) than thinking (31.02%) For the final function of judgment-perception, men are slightly more likely to be judging (51.79%) as compared to (48.21%) perceiving. Females also showed a tendency toward judgment (56.91%) as

opposed to perception (43.09%). All of the data was compiled by statistics from a huge sample: 13,716 females age 18-20 and 11,897 males age 18-20 made up the sample size.

In summary the review of literature has focused on four different aspects of gender differences of personality as found using the MBTI. Past studies have shown some differences between men and women's scoring on the MBTI. In addition, an enormous amount of studies have been conducted to try and understand sex differences including: cognitive abilities, social behavior and brain organization. Also, studies of the differences of self-esteem and self-concept between gender groups have been highlighted. Students at the college level have shown differences in perception of the college climate. When viewing differences among the sexes, many influencing factors such as possible personality differences should be considered.

CHAPTER 3

SAMPLE

The participants in this study were all volunteers from introductory psychology class at a college in New Jersey. A total of 52 students were tested, of these 52, 20 males and 20 females were chosen for scoring to ensure equal representation from each group.

The college is a state-supported college in Southern New Jersey with 9,500 full and part-time students with 28 majors offered. The college has a rich diversity of student backgrounds and provides a broad liberal arts education for its undergraduates.

The 40 students utilized for this study were all undergraduates ranging in age from 17-26 years.

MEASURES

The Myers-Briggs Type Indicator (MBTI) was utilized for this particular study

(see appendix). The MBTI is used for assessing personality and has a variety of functions. For example, the test has been used in counselling, academic advising, career development, and for research.

The test was developed by Katherine C. Briggs and Isabel Briggs Myers and is based on the theory of Carl Jung. It assesses personality across dominant functions: Introversion and Extraversion and also auxiliary function; Sensing-Intuition, Thinking-Feeling, and Judging-Perceiving. Within this framework a persons typeology can be predominantly Extraverted or Introverted (E or I), Sensing or Intuitive (S or N), Thinking or Feeling (T or F), and Judging or Perceiving (J or P) .

The MBTI is based on the theory that one pole of each of the functions is preferred over the other pole for each of the sixteen MBTI types. Since each preference on each of the four indexes are independent of the other three, the MBTI yields sixteen possible outcomes, or personality types. For example, a person may score as an INFP meaning they are introverted (I), intuitive (N), feeling (F), and perceiving (P).

According to this theory people tend to develop greater skill in the processes and attitudes that they use more frequently. For example, a person who is predominantly introverted may be more artistic and creative than a peer whose dominant attitude is extroverted.

For this study the Myers Briggs Type Indicator form G was utilized. The test consists of 92 forced choice questions such as "Do you normally get along better with (A) imaginative people, or (B) realistic people?" and "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?" Each question measures an attitude or function. The students were given 45 minutes to complete the test and were able to ask questions freely. All 92 questions were answered. Subjects indicated their gender on the answer sheets. Subjects were allowed to decide if they would like their MBTI type returned to them after scoring. Those subjects who requested their score indicated their name and address on the answer sheets, otherwise they remained anonymous.

The MBTI form G contains 92 forced-choice questions which offer choices between the poles of a particular index, such as introversion-extraversion. Each of the responses for a question are weighted 0, 1, or 2 points. A weight of 2 points is awarded to those questions which have a predictive ratio of 72% or greater. Items that predict to type with a prediction ratio of 63%-71% carry a weight of 1 point. Over popular responses carry a weight of 0. For each of the poles measured, the subject's points were added to determine which attitude or function they had developed greater. For example, if a person had more points for I than E, they are considered Introverts. The four letter "code" each subject scores indicates their preferred attitude and functions.

The MBTI form G was utilized for this study for many reasons. It is considered a generally reliable test. Using the Spearman Brown formula reliability on the four indexes ranged from .73-.89 on internal consistency measurements, and .51 to .93 in the Test/Retest measurements. Also, the test is easy to take and is not time consuming. The MBTI has been widely accepted for use in both the academic and counselling professions.

DESIGN

The design is a simple correlational study. Two groups (Men) and (Women) were given the Myers Briggs Type Indicator form G and scored. The subjects were given 45 minutes to complete the questionnaire. They were asked to answer as honestly as possible and to not dwell too long on any one question. 20 male subjects and 20 female subject's tests were scored and compared.

TESTABLE HYPOTHESIS

Null Hypothesis: For the population of subjects, personality is independent of sex.

Alternate Hypothesis: There is the expectation that men and women exhibit personality types that are distinct from each other. That is, personality is dependent on gender.

ANALYSIS

Results from this study were analyzed through a variety of measures. The Chi-Square Test for Independence was used to determine whether or not there is a relationship between gender and personality attitude and functions. The two variables of gender and personality are independent when the frequency distribution for personality (variable 1) is not related to (or dependent on) gender (variable 2).

Since the Myers Briggs Type Indicator measures personality along 4 poles: Introversion-Extraversion, Sensing-Intuition, Thinking-Feeling, and Judging-Perceiving each of the poles were analyzed using the Chi-Square formula to determine if a

relationship between gender and personality exists.

In addition, the subject's types which were found using the MBTI was categorized for interpretation of Carl Jung's predictions. Data was organized in a fashion to compare the subjects in this study to Jung's predicted "male" types in Chapter 4.

SUMMARY

40 subjects were tested for this study, 20 males and 20 females. All subjects were volunteers, enrolled in introductory psychology class, ranging in age from 17-26 years. Subjects were given the MBTI form G and were asked to answer all questions honestly. They were given 45 minutes to complete this questionnaire. Then the MBTI was graded and each subject received a four letter typeology. These groups (male) and (female) were compared using the Chi-Square Test for Independence to determine if men and women have significantly different personality types. Also, Jung's predictions of typically "male" personality types are compared. In Chapter 4 an analysis of the data will be addressed which provide a clear interpretation of the findings.

CHAPTER 4

PRESENTATION OF DATA

The hypothesis to be tested in this study is twofold. First, the intention of this study was to determine if men and women exhibit different personality types. Secondly, an analysis of Carl Jung's prediction of gender specific personality types was conducted to see if his tentative assumptions regarding "male" types are still valid 70 years after his theory was created.

To test the original hypothesis that men and women have personality types that are distinct from each other the Chi-Square Test for Independence was conducted on each of the four poles for the male subjects and female subjects. Data from both the male and female scores on the MBTI has been organized in Table 4.1 and the Graph 4.1.

To determine if there is a relationship between the variables of gender and personality the expected frequencies were calculated for each of the attitudes and functions measured using the Myers-Briggs Type Indicator. Then the observed frequencies were tallied and compared to the expected frequencies. Table 1 illustrates the

observed frequencies for this sample. For the purposes of this study alpha was set at .05 and degrees of freedom = 1.

For the attitude of introversion-extraversion the obtained chi-square value exceeded the critical value at the .05 level, therefore the null hypothesis can be rejected. This supports the author's prediction that introversion occurs more frequently in males, and extraversion occurs more frequently in females. This sample showed 65% of the females tested were extraverted, while only 30% of the males sampled were extraverts. Men in this sample were highly introverted (70% of the sample) compared to 35% of the women.

The thinking-feeling function showed even more striking results. Men in this study were much more likely to prefer the thinking style over the feeling style. Men preferred thinking (90%) over their female peers (35%), while women preferred feeling functional style (65%) over men (10%). The obtained chi-square for the function of thinking-feeling exceeded the critical value, therefore the null hypothesis can be rejected, supporting the theory that men and women have distinct personality traits.

For the remaining functions of sensing-intuition and judging-perceiving no significant difference between the males and females in this sample was found. On the sensing-intuition pole men and women did not differ very much. Men were slightly more likely to be sensing (55%) than women (35%), while women were slightly more intuitive (65%) than men (45%).

Along the judging-perceiving pole women were more likely to be judging (65%) than men (50%), while men are more likely to be perceiving (50%) than women (35%).

After analyzing the obtained and expected frequencies of these functions occurring, it is clear that there is not ample evidence to warrant rejecting the null hypothesis.

It is evident that the most significant differences between men and women were found in the thinking-feeling function. Also, it is apparent that the attitudes of men and women varied in this study. Extraversion seems to be a trait found more frequently in the women of this study. Introversion, however, was found more frequently in the male subjects suggesting that some significant differences exist in the personality types of men and women.

To further comprehend the second purpose of this study it is necessary to review Jung's predicted "male" types. Working to create a theory of personality types, Jung found that certain characteristics (attitudes and functions) were more likely to be found in males than females. These types are: Introverted-thinking, Extraverted-sensing, Introverted-sensing, and Introverted-intuitive. In chapter one his theory is further explained, including a description of each of the types Jung assumed to occur more frequently in males.

The remaining types are assumed to occur more often in women. These types include: Extraverted-thinking, Extraverted-feeling, Introverted-feeling, and Extraverted-intuitive.

Using the Myers-Briggs Type Indicator, a comparison of Jung's original assumptions regarding gender specific types to this sample of 40 undergraduate students was conducted. Organization of this comparison can be viewed in table 4.2. It can be seen that 60% of the males in this study were characterized as Introverted-thinking, which

lend support to his assumptions. Also, evidence to support his hypothesis that women are more likely to prefer the feeling function was found. 65% of the women sampled scored as feelers, 20% of those were introverted, while the remaining 45% of these preferred the extraversion attitude style.

DISCUSSION

Many studies on varying subjects (cognitive abilities, aggression, brain organization and so on) have found significant differences between men and women. This study lent support to the hypothesis that men and women have personality types that are dependent on gender. Two poles measured by the Myers-Briggs Type Indicator showed significant differences: Extraversion-introversion and thinking-feeling.

Researchers working on the MBTI Atlas of Type Tables compiled scores on each of the poles measured using the MBTI. The population was 13,716 females and 11,897 males aged 18-20. Among these subjects 52.17% of males were extraverted, and 47.83% were introverted. Of the female subjects, this sample had more extraverts (60.84%) and 39.16% were introverts.

The sample of female undergraduates used for his study had similar results on the introversion-extraversion attitude. The women scored as 65% extraverted, and 35 % introverted. Interestingly, the males in this study were far more introverted (70%) than extraverted (30%). This could be due to a variety of factors. First, this sample consisted of only 20 males as compared to 11,897 males in the Atlas of MBTI types. It seems

evident that as the sample size increases, a probable phenomenon called regression to the mean would occur. Also, the subjects utilized for this study ranged in age from 18-26, while subjects from the atlas were age 18-20. Perhaps the students that were older altered the results.

The other significant difference between the men and women in this study was found in the thinking-feeling pole. Men predominantly use the thinking style (90%) only 10% used the feeling function in this study. The opposite effect was found in the females, 35% used the thinking preference, while a majority used the feeling preference (65%).

The MBTI Atlas of Types Tables showed a similar, but not as striking gender difference along this function. Men in the sample were more likely to be thinking (62.30%) than women sampled (31.02%). Women, on the other hand, were more likely to use their feeling style (68.98%) than men (37.70%).

McGlone (1980) found evidence to support that men's brains are more asymmetrically organized than females, which may play a part in the greater likelihood of men to use their thinking style. Further, cerebral specialization in men may be responsible for verbal and spatial abilities discrepancies between men and women. (McGlone, 1980)

Jung's predictions that men were more likely to be classified as Introverted-sensing, Extraverted-sensing, Introverted-thinking, and Introverted-intuitive was somewhat supported. 60% of the males sampled were found to be introverted-thinking. However, some interpretive difficulties exist when comparing Jung's predictions to scores found using the MBTI personality questionnaire. When Jung created his theory of psychological types in 1923, he acknowledged 8 possible combinations. Later, when

Katherine Briggs and Isabel Myers teamed up to create the Myers-Briggs Type Indicator based on his theory, they created a total of 16 possible combinations. This discrepancy may effect results of a comparison between Jung's types and scores found in this study. For example, a single male could score as Introverted, Sensing, Thinking, and Judging (ISTJ) therefore, this male would fall into 3 of Jung's predicted male types. Evidence was found to support that men are more likely to be introverted as Jung predicted, so the study did lend some support to his idea of gender specific traits.

SUMMARY

The purpose of Chapter 4 was an analysis of data and a discussion of the study's findings. Scores of male and female subjects on the MBTI form G were compared to see if significant gender differences exist. Using a simple correlational test called the Chi-square Test for Independence a comparison of men and women was conducted. The degrees of freedom = 1 and the critical value = 3.84. Alpha was set at .05. When the critical value was exceeded by the obtained value, the null hypothesis was rejected.

A significant gender difference was evident along 2 of 4 poles measured. Support was lent to the belief that men and women vary significantly along the introversion-extraversion attitudinal style, and the function of thinking-feeling. Along the poles of sensing-intuition and judging-perceiving, no significant difference was found.

TABLE 4.1

	INTROVERTS		EXTROVERTS	
	# in sample	percentage	# in sample	percentage
Male	14	70%	6	30%
Female	7	35%	13	65%

*** showed significant gender difference**

	SENSING		INTUITION	
	# in sample	percentage	# in sample	percentage
Male	11	55%	9	45%
Female	7	35%	13	65%

	THINKING		FEELING	
	# in sample	percentage	# in sample	percentage
Male	18	90%	2	10%
Female	8	35%	13	65%

*** showed significant gender difference**

	JUDGING		PERCEIVING	
	# in sample	percentage	# in sample	percentage
Male	10	50%	10	50%
Female	13	65%	7	35%

TABLE 4.2

Jung's Predicted Male Type:	# of males in sample	Percentage
1. Introverted - Thinking	12	60%
2. Extroverted - Sensing	3	15%
3. Introverted - Sensing	8	40%
4. Introverted - Intuitive	6	30%

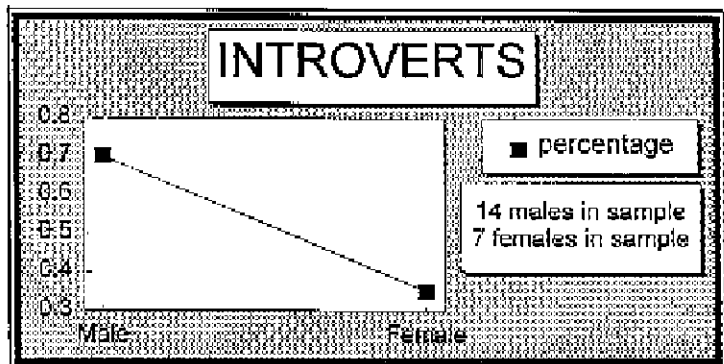
Remaining Types (female)	# of females in sample	Percentage
1. Extroverted - Thinking	4	20%
2. Extroverted - Feeling	9	45%
3. Introverted - Feeling	4	20%
4. Extroverted - Intuitive	9	45%

Graph 4.1

INTROVERTS

percentage

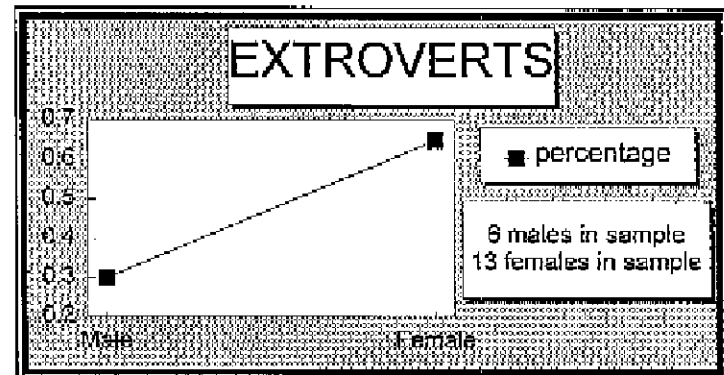
Male 70%
Female 35%



EXTROVERTS

percentage

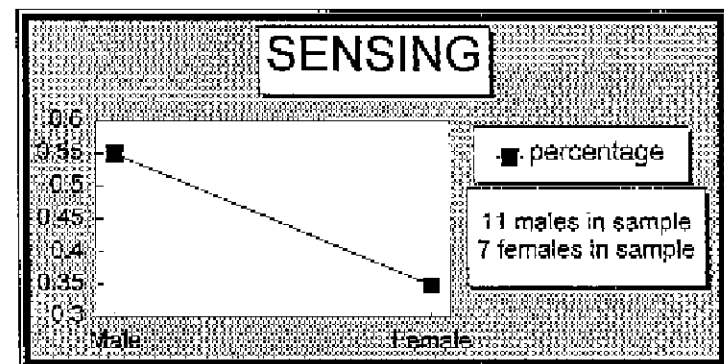
Male 30%
Female 65%



SENSING

percentage

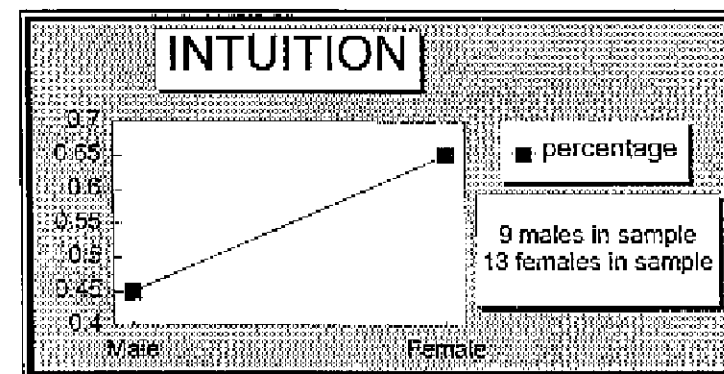
Male 55%
Female 35%



INTUITION

percentage

Male 45%
Female 65%

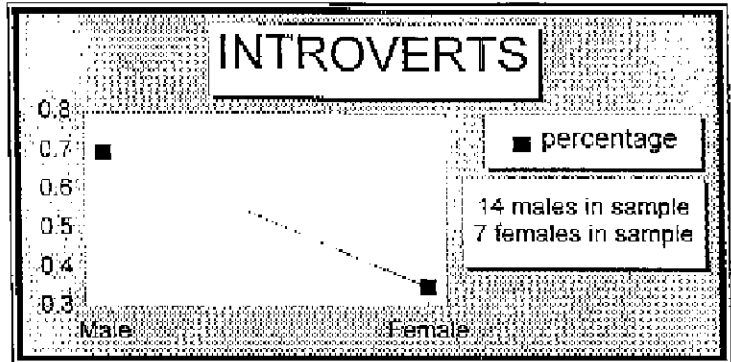


Graph 4.1

INTROVERTS

percentage

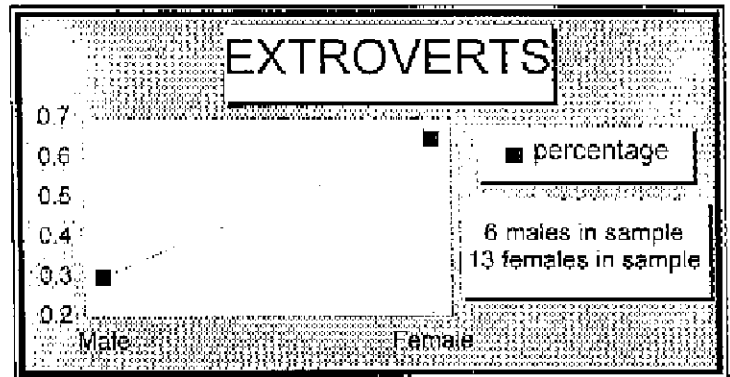
Male 70%
Female 35%



EXTROVERTS

percentage

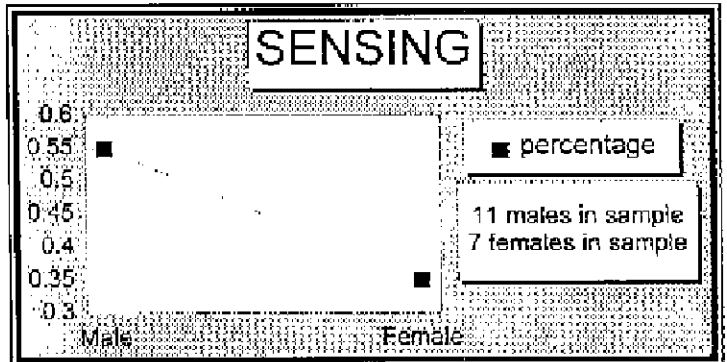
Male 30%
Female 65%



SENSING

percentage

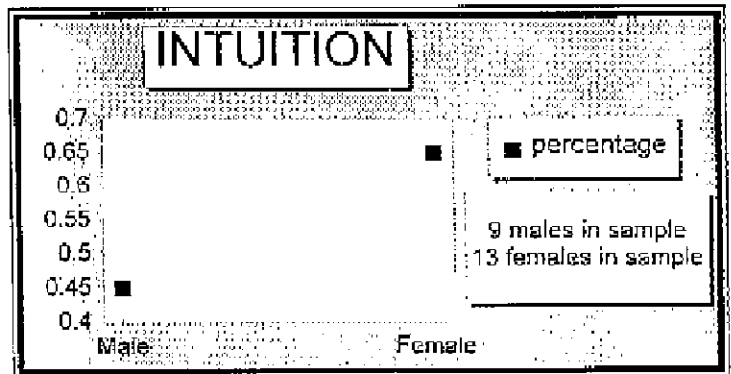
Male 55%
Female 35%



INTUITION

percentage

Male 45%
Female 65%

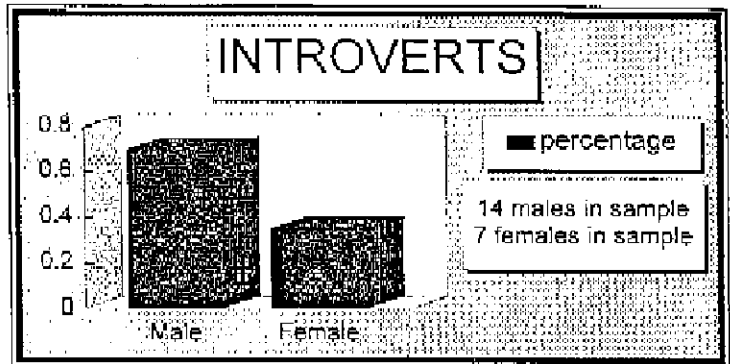


Graph 4.1

INTROVERTS

percentage

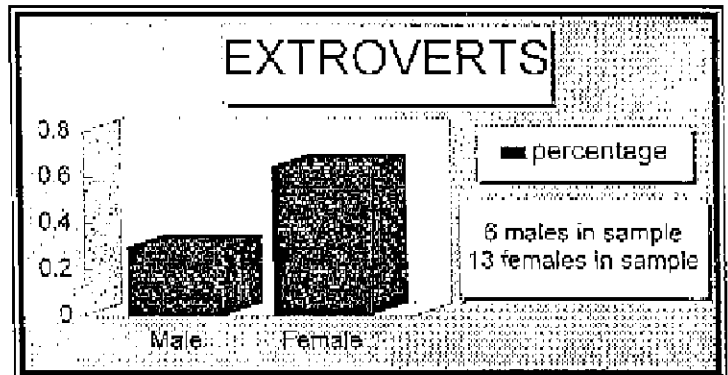
Male	70%
Female	35%



EXTROVERTS

percentage

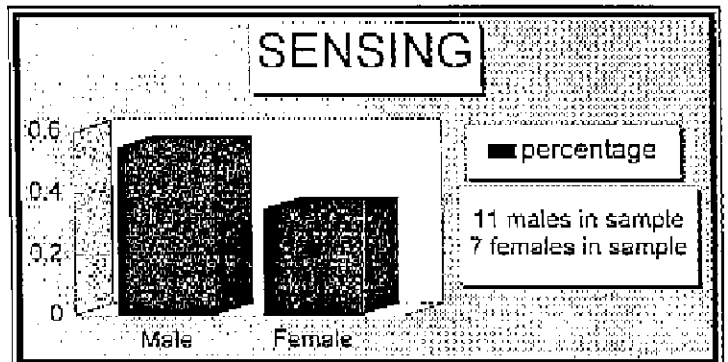
Male	30%
Female	65%



SENSING

percentage

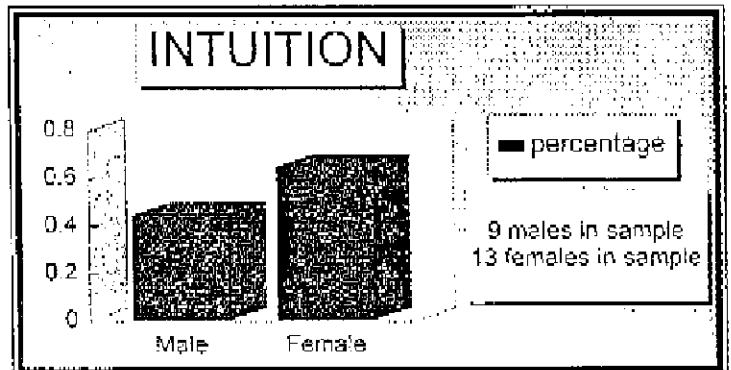
Male	55%
Female	35%



INTUITION

percentage

Male	45%
Female	65%

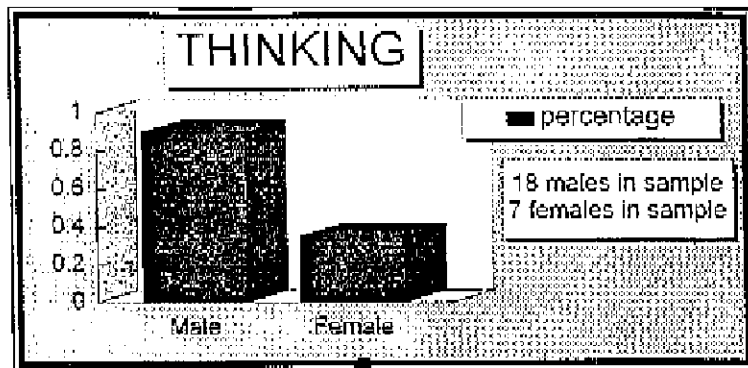


Graph 4.1

THINKING

percentage

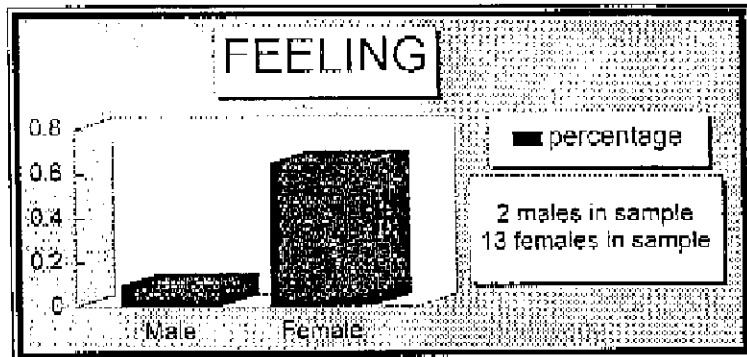
Male 90%
Female 35%



FEELING

percentage

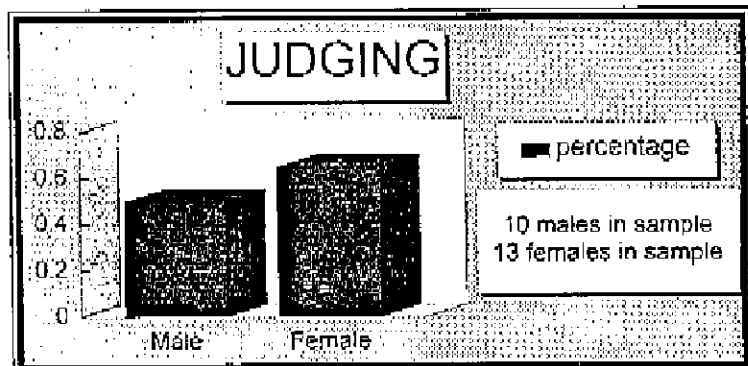
Male 10%
Female 65%



JUDGING

percentage

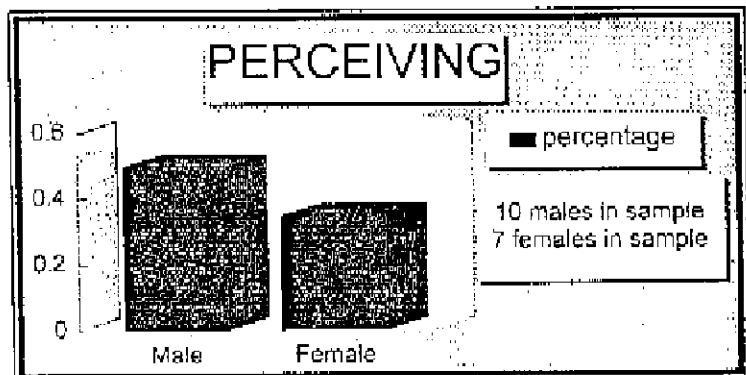
Male 50%
Female 65%



PERCEIVING

percentage

Male 50%
Female 35%



CHAPTER 5

SUMMARY

The focus of this study was to examine if men and women exhibit distinct personality types and to see if Carl Jung's original prediction regarding gender specific types was supported using these subjects.

Subjects were volunteers from undergraduate psychology courses. 20 male subjects and 20 female subjects were utilized for this study. All subjects were given a 92 question test for personality types, called the Myers-Briggs Type Indicator. This psychological test measures personality along 4 poles; Introversion-extraversion, Sensing-Intuition, Thinking-Feeling, and Judging-perceiving. Each subject received a 4-letter "code" indicating their preference along each of the four poles. Subject's scores were collected and analyzed using a correlational comparison to see if gender and personality were dependent on each other. The statistical test applied was the Chi-Square Test for Independence. Degrees of freedom was set to equal 1 and alpha was set at .05, meaning that there is a 5% chance that any difference occurred by chance.

A comparison of Jung's predictions regarding gender specific personality types was also organized for interpretation (table 4.2). Because of interpretation difficulties due to differences between Jung's types and types found using the MBTI, this data was organized for individual interpretation (no statistical manipulation was conducted.)

Findings from this study lend support to the hypothesis that men and women have distinct personality types; significant gender differences were evident on extraversion-introversion and thinking-feeling. However, on two personality poles, sensing-intuition and judging-perceiving no significant differences between the sexes were found.

IMPLICATIONS FOR FUTURE RESEARCH

This study's finding showed support that men and women have distinct personality types dependent on gender. This finding could have occurred for a variety of reasons, as explained in Chapter 4.

For future research the following modifications should be considered before beginning. First, a larger sample size should be utilized in order to more accurately represent the gender groups. For the purposes of this study, undergraduate volunteer members of introductory psychology class were suitable subjects. A more diverse subject pool, with varying ages represented would probably show more applicable results.

The subject of personality is multi-faceted. The test used in this study, the Myers-Briggs Type Indicator, is well regarded as a measure of personality. Since personality is such a broad, hypothetical construct, adding more measures of personality such as the

MMPI (Minnesota Multiphasic Personality Inventory) and Cattell's 16PF (Personality Factor) Questionnaire would increase the validity.

The complex issue of gender differences will continue to motivate researchers to understand how these differences develop. Presently, it is a period of transition in our society for gender roles. Many men and women are rebelling against traditional gender based role expectations. Parents and teachers struggle to raise a generation free of the preconceived notions about how boys and girls "should" be. If there truly is genuine behavioral differences between the sexes as this study implies, future researchers should focus on finding why these differences exist and how do they develop?

CONCLUSION

This study was an investigation into the question of whether or not men and women exhibit different personality types. The scores of 20 males and 20 females on the Myers-Briggs Type Indicator were compared using the Chi-square Test for Independence. Findings lend support to the notion that men and women have different personality types along 2 scales: Introversion-Extraversion and Thinking-Feeling.

The males in this study were more likely to be introverted and use the thinking style. The females in this study were more likely to be introverted, and to use the feeling style. There was no significant gender difference found for Judging-Perceiving and Sensing-Intuition.

REFERENCES

- Bakan, P. (1971). The eyes have it. *Psychology Today*, (4), 3, 64-69.
- Banks, T.L. (1988). Gender bias in the classroom. *Journal of Legal Education*, 38, 137-146.
- Blankenship, L.L. (1985). Examining gender differences: The campus environment survey. Unpublished Master's Thesis, University of Maryland, College Park, MD.
- Briggs, K. & Myers, I. (1990). *Myers-Briggs Type Indicator*, 7th edition. Palo, Atlo, CA: Consulting Psychological Press.
- Browne, J. C. (1880). *Brain*. London, England: London Press
- Fischer, A.R. & Good, G.E. (1994). Gender, self, and others: Perceptions of the campus environment. *Journal of Counseling Psychology*, (38), 4, 343-355.
- French, J. (1984). Gender imbalances in the primary classroom: An interracial account. *Educational Research*, (26), 2, 127-136.

- Good, T. (1981). Teacher expectations and student perceptions: A decade of research. *Educational Leadership*, 38, 415-521.
- Good, T. (1987). Two decades of research on teacher expectation: findings and future directions. *Journal of Teacher Education*, (38), 4, 32-47.
- Gray, J. (1992). *Men are from mars, women are from venus*. New York, Harper Collins Publishers.
- Hyde, J.S. (1981). How large are cognitive gender differences?: A meta-analysis using w^2 and d^2 . *American Psychologist*, (36), 8, 892-901.
- Hyde, J.S. (1984). How large are gender differences in aggression: A developmental meta-analysis. *Developmental Psychology*, (20), 4, 722-736.
- Jacobi, J. (1962). *The psycholgy of Jung*. New Haven, CT, Yale University Press.
- Jung, C. (1923). *Psychological types*. New York; Harcourt Press.
- Lee, V.E. & Byrk, A.S. (1986). Effects of single-sex secondary schools on student achievement and attitudes. *Journal of Educational Psychology*, 78, 381-395.

Macoby, E.E. & Jacklin, C.N. (1974). *The psychology of sex differences*. Stanford, CA; Stanford University Press.

McGlone, J. (1980). Sex differences in human brain assymetry: A critical survey. *The Behavioral and Brain Sciences*, 3, 215-263.

Miller-Bernal, L. (1993). Single-sex verses coeducational environments: A comparison of women student experiences at four colleges. *American Journal of Education*, 102, 23-52.

Myers, I. & McCauley, M.H. (1985). *A guide to the development and use of the Myers-Briggs Type Indicator*. Palo Alto, CA; Consulting Psychologist Press.

Orenstein, P. (1994). *Schoolgirls: Young women, self-esteem and the confidence gap*. New York; Harper Collins Publishers.

Perry, D.G. & Bussey, K. (1979). The social learning theory of sex differences: Imitation is alive and well. *Journal of Personality and Social Psychology*, 37, 1699-1712.

Richardson, J.G. & Simpson, C.H. (1982). Children, gender, and social structure: An analysis of the contents of letters written to Santa Claus. *Child Development*, 53, 429-436.

Richman, C.L., Clark, M.L. & Browne, K. (1985). General and specific self-esteem in late adolescent students: Race x gender x SES effects. *Adolescence*, (20), 79, 555-566.

Rychman, R. (1993). *Theories of personality*. Pacific Grove, CA; Brooks/Cole Publishing Co.

Sandler, B.R. & Hall, R.M. (1986). The campus climate revisited: Chilly climate for women faculty, administrators and graduate students. Washington DC: Project on the Status and Education of Women, Association of American Colleges. (ERIC Document Reproduction Service No. ED 282-462).

Schnellman, J. & Gibbons, J.L. (1984). Microinequities in the classroom: the perception of minorities and women of a less favorable climate in the classroom. Paper presented at the 92nd Annual Convention of the American Psychological Association, Toronto, Ontario, Canada. (ERIC Document Reproduction Service No. ED 251-769).

Women on Words and Images. (1972). *Dick and Jane as victims: Sex stereotyping in children's readers*. Princeton, NJ: Author

Zenhausen, R. (1978). Imagery, cerebral dominance, and style of thinking: A unified field model. *Bulletin of the Psychonomic Society*, 12, 381-384.