A LOOK AT THE RELATIONSHIPS BETWEEN MBTI PSYCHOLOGICAL

TYPES AND MODE CONFLICT STYLES

by

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ABSTRACT

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A Look at the Relationships Between MBTI Psychological

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This study examines the relationship between psychological type as measured by

the Myers-Briggs Type Indicator (MBTI) and conflict style as determined by the

Thomas-Kilmann Conflict MODE Instrument (MODE). Comparing individual scores on

these measures may provide information that can be beneficial to anyone who wishes to

have a clearer understanding of self and others, to reduce misunderstandings between

people which are based on preferences in approach to conflict and create greater choice in

how to deal with such conflicts. Previous research findings indicate a positive correlation

between specific MBTI psychological types and a preference for specific conflict styles

(Johnson, 1997; Marion, 1995; Percival, Smitheram & Kelly, 1992). This study along

with a review of previous research is described in this paper in accordance with the

guidelines set by the American Psychological Association (APA) Publication Manual.

A sample of 66 subjects consisting of 34 undergraduate students taking a course directed at career exploration, 22 graduate students in the field of business and 10 persons employed by a manufacturing company in January/February, 2001 completed the MBTI and the MODE instruments. The MBTI measures preferences on the scales of extraversion/introversion, intuition/sensing, thinking/feeling and judging/perceiving. The raw scores determine a four letter psychological type. This "type" and the raw preference scores for the conflict-handling styles of competing, collaborating, compromising, avoiding and accommodating measured by the MODE were submitted for Pearson chi-square analysis. The statistical analysis examined the relationship between the actual and the expected counts of each individual scale and of every two-scale combination of the MBTI with the five conflict-handling styles of the MODE.

In this study a relationship was shown to exist between psychological type and conflict style. Statistically significant relationships were found between those preferring thinking or feeling and the preference for the conflict styles of competing and avoiding, respectively. Those who prefer thinking were found to significantly favor competing more than those who prefer feeling. Those that prefer feeling were shown to favor avoiding while those who prefer thinking were shown to have a statistically significant low preference for avoiding. The study also showed tendencies (p = .05 <. 1) for those who prefer introversion to favor avoiding and for those who prefer judging to favor competing.

The relationship between the preference for thinking or feeling and the preference for competing as well as the tendency for those preferring introversion to favor avoiding support previous findings (Johnson, 1997; Percival et al., 1992). The findings between

the preference for thinking or feeling and the preference for avoiding as well as the

tendency of those who prefer judging to favor competing appear to be new findings that

could be further studied and analyzed.

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CHAPTER ONE

INTRODUCTION

Introduction

People deal with conflict everyday. The conflict may be internal as in making

decisions. It may be a difference of opinion or possibly a confrontation with another

person or group. One needs only to read the newspaper or turn on the television or radio

to know that conflict is a big issue for individuals as well as for communities and

countries. Conflict has been defined by Rahim in 1992 as an "interactive process

manifested in incompatibility, disagreement, or dissonance within or between social

entities" (as cited in Antonioni, 1998, p.336). Volkema & Bergmann (1995, p. 8) defined

conflict as "a disagreement or controversy in interests, values, goals or ideas". Thomas

(1992) suggested many researchers define conflict by the amount of interdependence

between the parties involved, how much disagreement is perceived and the interaction

taking place. Thomas (as cited in Thomas, 1992, p. 265) defines conflict as " 'the

process which begins when one party perceives that another has frustrated, or is about to

frustrate, some concern of his' (p.891)". He determined this definition covered a broad

range of conflict phenomena but pinpointed when other processes such as discussion and

decision-making became conflict.

In 1964, Blake and Mouton (as cited in Volkema & Bergmann, 1995) introduced

a two-dimensional model of conflict. The dimensions of assertiveness, defined as concern

for self-interests, and cooperativeness, defined as concern for others, were looked at in

terms of five styles. These styles include: collaborating, which is high in both

assertiveness and cooperativeness; competing, which is high on assertiveness and low on

cooperativeness; avoiding, which is low on both dimensions; compromising, which is medium on both dimensions and accommodating which is low on assertiveness and high on cooperativeness. The Thomas-Kilmann Conflict MODE Instrument (MODE), Rahim's Organizational Conflict Inventory (ROCI), and Hall's Conflict Management Survey are designed to measure the relative levels of preference of an individual for each of these five styles. The Thomas-Kilmann Conflict MODE Instrument is referred to as the TKI by its publishers, the Consulting Psychologists Press, and as the MODE in previous research. In the interest of continuity with previous studies, the instrument will be referred to as the MODE in this paper. Kenneth Thomas (1992) contends that the two dimensional model is a way of classifying the five conflict-handling intentions according to the two dimensions of intent. The MODE instrument treats the styles as intentions. Thomas asserted that other versions plotted the modes to dimensions such as values or desires which resulted in more causal models (Thomas, 1992).

Psychological type is a personality theory developed by Carl G. Jung to explain how normal, healthy people differ. Jung determined that people had natural tendencies to use their minds differently and act upon these tendencies. He developed three dimensions of normal behavior types. These consisted of introversion/extroversion (how people prefer to focus their attention and derive their energy); sensing/intuition (how people prefer to take in information from the world); and thinking/feeling (how people prefer to make decisions). Combinations of these three dimensions resulted in eight different patterns of normal behavior types. Isabel Briggs Myers and her mother, Katherine C. Briggs, developed the ideas of Jung and this development added a fourth dimension. This dimension deals with how people prefer to deal with the outer world. It

is the judging/perceiving scale. Consequently, each type in the Myers-Briggs model includes four dynamic preference scales that include introversion/extroversion (I-E), sensing/intuition (S-N), thinking/feeling (T-F) and judging/perceiving (J-P). In the same way that people prefer using one hand over the other for writing or throwing a baseball because one feels more natural, more competent and takes less energy, so people have preferences in the way they use their minds. Combinations of the four preference styles lead to the 16 different psychological types (Briggs Myers, 1998). Myers and Briggs developed an instrument, the Myers-Briggs Type Indicator (MBTI) as a tool for identifying the different psychological types.

The MBTI has been translated into over 30 languages and is administered more than two million times annually in the United States. It has been used in approaches to teaching and learning as well as in the workplace as an aid in leadership training, team building, organizational development and conflict management. It has been used as a developmental tool in learning about oneself as well as in making career choices. It has been used to help to understand others in relationships and to create more choice in how to open and use communication channels. It has also been used in therapy for couples and families (Briggs Myers, 1998). Over the years there has been debate over the validity and reliability of the MBTI. Carlyn, Carlson and Myers & McCaulley report split half and test-retest reliabilities which have been considered satisfactory (as cited in Gardner & Martinko, 1996). Studies done by Johnson (1997) and Percival, Smitheram & Kelly (1992) support construct validity of the MBTI. Construct validity has also generally been supported by best-fit studies (Briggs Myers, McCaulley, Quenk & Hammer, 1998).

Statement of the Problem

The purpose of this study is to determine whether there is a relationship between psychological types, as measured by the MBTI, and preferred conflict style, as measured by the MODE in University of Wisconsin-Stout graduate and undergraduate students as well as in employees of a manufacturing company during January and February, 2001.

To the knowledge of this researcher, only a handful of studies have been done in recent years correlating psychological type as determined by the MBTI with conflict style as measured by the MODE. Since 1990, studies conducted by Johnson (1997), Marion (1995), and Percival, Smitheram & Kelly (1992) suggest that people with different psychological types do indeed report preferences for different approaches to dealing with conflict. It is hoped that this study will contribute to or perhaps solidify or clarify their findings that appear to indicate a positive connection between specific MBTI psychological types and a preference for specific conflict styles as determined by the MODE. The benefits of this type of information are numerous. Natural tendencies or preferences for specific approaches are potential areas of misunderstanding. Misunderstandings based on preferred approach to conflicts with those of different types may lead to quarreling, resentment and even violence. This information can be used as an aid in developing conflict resolution and anger management classes, in marriage and family counseling, in getting along in the workplace and school, in personal relationships and as a tool for personal development in creating greater choice when faced with conflict. The realization that a behavior is related to the preferred way of processing and dealing with the world for another person may keep that behavior from being taken personally. It may reduce defensiveness and thereby promote a more effective means of

dealing with others as a counselor, an employer, a co-worker, a teacher, a spouse, a family member, or a friend because it can create an awareness of other conflict styles. It can also point to areas where interpersonal skills could be developed.

General Research Hypotheses

There is a relationship between psychological types as measured by the MBTI and the way in which each psychological type prefers to deal with conflict as measured by the MODE.

Assumptions and Limitations

In this research it is assumed that the participants have a good working knowledge of the English language and understand the questions and instructions. It is also assumed that the participants have answered the MBTI and the MODE honestly and in accordance with those instructions. It is further assumed that the participants are normal, healthy people, void of mental disease or defect. According to Jung (1990) each person has all sixteen-type components but prefers some to others, however, certain life situations may cause a person to use his/her lesser-preferred style to cope (Quenk, 1993; 1996). For example, excessive stress and life transitions may influence how a participant responds to the questions.

It is possible that some subjects may have been previously exposed to either of these instruments and may attempt to alter their answers to put themselves in a particular type or style. It is possible that the answers may be a reflection of what they think they should be, rather than what they truly are. The MODE has been shown to have a low degree of influence by social desirability (Womack, 1988), however Thomas & Kilmann report social desirability effects have been a source of concern in the development of

conflict style instruments (as cited by Johnson, 1997). What a person would like to do and what they will be observed to do may differ by what that person sees as being acceptable. The answers to the questions in both of these instruments are self-report and therefore the subjective perspective of the participant. Individual perspectives are inherently biased and the judgment by others may be different. In this study behavior has not been observed and although studies have been done linking the MODE intentions or strategies with behaviors, the results of this research will not support or refute those findings.

<center>Sample Limitations</center>

The sample used is relatively small, consisting of 1 undergraduate class, 2 graduate level business classes and 10 persons employed by a manufacturing company. The students in the sample come from classes that are chosen by the students and are not required of all students. They may not be representative of the entire college student population at the University of Wisconsin-Stout or of the college student population in general. They may also not be representative of their age group in general. The working population used in this sample represents various positions throughout the company. The sample number is small and the participants are all from one particular plant. They may not be representative of the entire plant, or their particular occupation or of working adults in general. These factors will limit the generalizability of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter focuses on pertinent topics regarding psychological type as determined by the research of Katherine Cook Briggs and her daughter, Isabel Briggs Myers, based on the ideas of Swiss psychiatrist Carl G. Jung. It will also focus on relevant points in literature regarding conflict style as determined by the research of Kenneth W. Thomas and Ralph H. Kilmann and measured by the Thomas-Kilmann Conflict MODE Instrument (MODE). The chapter will close with a review of current studies correlating the results of both instruments.

Personality Inventory – Myers-Briggs Type Indicator

History

From ancient times there have been numerous attempts to reduce the manifold differences between human individuals to definite categories, and on the other hand to break down the apparent uniformity of mankind by a sharper characterization of certain typical differences (Jung, 1990 p. 510).

A Greek physician, Claudius Galen (2nd century AD) distinguished four basic temperaments; the sanguine, the phlegmatic, the choleric and the melancholic. He determined these after studying the work of Hippocrates (5th century BC). Hippocrates proposed that the human body was made up of air, water, fire and earth and that these corresponded with the body fluids of blood, phlegm, yellow and black bile. Galen suggested that by varying the mixture of these substances, people could be categorized. Blood was equated with sanguine and associated with hopefulness, phlegm with

phlegmatic and associated with being apathetic, yellow bile with choleric, associated with being hot-tempered and black bile with melancholic, associated with being sad (Jung, 1990; Liebert & Speigler, 1978).

Carl G. Jung, a Swiss psychiatrist, developed a theory of personality in which he proposed a typology that differed from the old temperaments. He did not wish to compartmentalize people by how they appear to be. Psychological type is the theory of personality Jung created to explain the way normal people differ. He noticed that an active mind appeared to be involved in taking in information, perceiving it or organizing it and coming to conclusions. He determined that there were two ways of perceiving information, sensation (Myers and Briggs called this sensing) and intuition. He also determined that there were two different ways of coming to conclusions or judging, thinking or feeling. He observed that people tended to either focus their energy on the outer world (extroverted) or to focus their energy on their inner world (introverted). He concluded that the areas of judging and perceiving had their own unique characteristics and that whether a person preferred the external world or internal world impacted how those functions appeared. The combinations of the two orientations (internal or external) in addition to the four functions or processes (sensing/intuition and thinking/feeling) resulted in eight psychological types (Briggs Myers, 1998; Jung, 1990).

Isabel Briggs Myers (1897-1980) and her mother Katharine Cook Briggs (1875-1968) discovered the work of Carl Jung after it was translated into English in 1923. They studied his model extensively and tested it for 20 years on friends, family and other specific populations. During World War II the apparent waste of human potential

through the mismatching of people and jobs prompted Isabel Myers to begin to develop and fine tune the forms for the MBTI (Briggs Myers 1998; McCaulley, 1990).

According to Gough (as cited in McCaulley, 1990), in the 1950s Isabel Myers collected a sample of 5355 medical students and later another sample consisting of 5025 male and 4933 female Pennsylvania high school students. She determined type differences in aptitude and achievements for these samples. In 1962, the Educational Testing Service (ETS) published the MBTI as a research instrument that made it possible to compare the MBTI with other instruments. Researchers began to discover the MBTI and by the end of the 1960s research dissertations using the instrument started to appear.

In 1975, the MBTI was ready for applied use and Consulting Psychologist Press (CPP) became its publisher. Also that year Isabel Myers and Mary McCaulley began the Center for Application of Psychological Type. This is a nonprofit center for MBTI research and training. In 1976, the MBTI appeared in the CPP catalog. In 1977, The Journal of Psychological Type was developed by Thomas Carskadon at Mississippi State University. In 1979, the Association for Psychological Type was created for those interested in the applications of psychological type (McCaulley, 1990).

<u>Applications of Psychological Type Theory</u>

Psychological type as measured by the MBTI has been used in many applications. It has been used in counseling and psychotherapy in helping therapists establish rapport with their clients as well as to help them to understand how their clients may deal with stress, their communication preferences and to discriminate between behaviors that may be preferred for one type but not another (Briggs Myers et al., 1998). It has been effective in working with couples with low to moderate distress and with couples looking

to better understand their relationship (Jones & Sherman, 1997; Williams & Tappan, 1995). In education, type theory can be useful in understanding the processes involved in teaching and learning. In career counseling, the MBTI has been a useful tool in helping people find work that is fulfilling to them. This was one of the main reasons that Isabel Briggs Myers created the instrument. It has been used in private practice, schools and organizations to help locate job titles to look at, to determine preferences in work environments and to find occupations that support compatible values and interests. It is also an aid to help one understand the process of looking for a job, specifically, the exploring and decision making as well as the actions based on those decisions (Briggs Myers, 1998; Briggs Myers et al., 1998).

Type has been shown to have many uses for employee development in organizations. The model helps to explain normal differences in time management, in preferences in supervision style, learning style and communication style as well as preferred work environment. It provides a lens in which to examine organizational functioning as well as culture and other organizational structures. Type theory supports individual workstyles and promotes workers self-esteem, autonomy, adaptability and overall development by accepting and affirming differences. It can benefit the individual by affirming strengths and identifying weaknesses in workstyle. The MBTI has also been shown to be a useful instrument in helping to deal with conflict. Conflicts occur for numerous reasons that are not related to personality type. People differ in their culture, religion, race, gender, social and political views, traditions, backgrounds, education, work and so on. Psychological type explains how individuals differ in making decisions, processing information, communication style and how they prefer to structure their

environment. It can be used as a tool to help people to focus on the processes being used

to deal with the conflict. It is also useful in identifying stress in workers. Such

knowledge can encourage stress management interventions individualized for type

(Briggs Myers, 1998; Briggs Myers et al., 1998).

The MBTI has been used with teams and in leadership development.

Understanding individual differences in a team will help the team identify the particular

talents of each person and potential misunderstanding due to type differences can often

be avoided. The MBTI can be used in leadership development in many ways: to improve

communication, decision making, problem solving, conflict resolution, stress

management and team building (Briggs Myers, 1998; Briggs Myers et al., 1998).

<u>Psychological Type: Nature or Nurture</u>

There is a question as to whether psychological type is genetic or environmental.

Carl Jung believed, and based his personality theory on the premise that psychological

type began so early in life that it was likely innate (Jung, 1990). One of the few available

twin studies suggests a significant genetic link. In a study by Bouchard & Hur (1998), 61

monozygotic and 49 dizygotic twins reared apart and 92 individuals, primarily spouses of

the twins, who have been part of the Minnesota Study of Twins Reared Apart (MISTRA)

from 1979-1995, participated. The participants were all over the age of 17. The

participants were given Form F (166 items) of the MBTI. The areas of

extraversion/introversion and thinking/feeling for monozygotic twins were found to have

heritiabilities of .60. Sensing/intuition and judging/perceiving showed heritabilities of

.40. These results suggest a considerable amount of genetic influence. The correlations

for the spouses and dyzygotic twins were close to zero on all scales except

sensing/intuition where the correlations were .23 and .34 respectively. The sensing/intuition correlations of the dizygotic twins and the spouses are moderately positive and are statistically significant.

In addition to twin studies, topographic brain mapping and EEG recordings may be able to provide more insight as to psychological type differences. Wilson and Languis (as cited in Briggs Myers et al., 1998; Johnson, 1997) found significant and consistent differences when they used typographic brain mapping to compare cortical activity of introverts and extraverts. The results implied that extraverts had less cortical arousal. The greater cortical arousal of the introverts may explain a desire to reduce environmental stimulation. The studies of blood flow by Stenberg (as cited in Briggs Myers et al., 1998) indicate higher activity in anterior temporal lobes for introverts. Again, those who prefer introversion may be attempting to find tranquil surroundings to avoid overarousal whereas those who prefer extraversion may be attempting to avoid underarousal by seeking excitement in their environment.

There is also some evidence concerning physiological differences in sensing and intuition. Studies by Newman as well as Wilson and Languis (as cited in Briggs Myers et al., 1998) found through the use of EEG alpha symmetry ratios that those who prefer intuition as a group showed greater levels of activity in the left hemisphere and those that prefer sensing in the right hemisphere. In a study of middle school students, Laposky and Languis (as cited in Briggs Myers et al., 1998, p.189) found that those preferring intuition had a "pattern of generalized posterior arousal" not evident in those preferring sensing.

Dimensions of Psychological Type: Descriptions

As mentioned previously, Jung, determined eight psychological types and he believed the preferences making up these types to be innate. Jung believed that everyone innately has access to all eight of these processes but as a person prefers his right or left hand when writing, people prefer to use certain functions over others. He proposed that this natural preference for one of the functions over the other would result in particular behaviors and personality patterns. It is the predictable patterns of behavior in interaction with other functions that he said formed psychological types. Jung also recognized that there was a kind of hierarchy in the four functions (S-N, T-F). The favorite function was described as the dominant function followed by the auxiliary, the tertiary and then the inferior (the least preferred). Myers and Briggs developed these ideas and added a component which indicates a persons preference in how they deal with the outside world. This component is the J-P (judging/perceiving) scale. Myers and Briggs refer to the J-P scale and the E-I (extraversion/introversion) scale as the attitude scales. The T-F (thinking/feeling) scale and the S-N (sensing/intuition) scale are referred to as the functions (Briggs Myers 1998). Myers and Briggs added the J-P scale to determine if the judging functions (T-F) or the perceiving functions (S-N) were dominant and/or extraverted (as cited in Gardner & Martinko, 1996). With the addition of this scale, the work of Myers & Briggs determined 16 types.

Each of the preferences is a multifaceted component of a personality but it is the interaction of the preferences that give the most meaning. Every person has the capability of using any of the components. According to the theory, people prefer to

approach things one way or the other. There is no right or wrong in the preferences, only differences. Each type has strengths as well as weaknesses (Briggs Myers, 1998).

<div align="center">The Four MBTI Preference Scales</div>

Introversion vs. Extraversion (Focus of Attention)

People who prefer extroversion attend to the outside world; giving and receiving their energy there by interacting with people and the environment. They are likely to prefer to communicate and work out ideas by talking. They prefer to learn through doing and talking it through with others. They tend to have a wide variety of interests and to take the initiative in work and in relationships. They tend to be sociable and express themselves well. People who prefer introversion focus their energies on their inner world of ideas and experiences. They get their energy from their inner world through reflection. They tend to prefer communication through writing and to work out ideas through reflection. This is also their preferred way to learn. People who prefer introversion tend to be private. They will take the initiative in things that are very important to them.

Sensing vs. Intuition (Taking in Information)

Those that prefer sensing like to take in information that is concrete and tangible. They prefer to think about the present and in terms of facts and specifics. They tend to like a step by step building block approach towards conclusions and rely on experience. They also understand theory best through practical application. Terms that may describe them may include factual, realistic, practical or down-to-earth. People who prefer intuition like to look at the big picture and often miss the details. They focus on the connections and relationships amongst the facts. They tend to be good at seeing patterns and continually look for new possibilities. They rely on inspiration and often move to a

conclusion based on a hunch. They are imaginative and creative and prefer to orient themselves to the future rather than the present. Terms that may describe them may include ingenious, inspired or dreamer.

Thinking vs. Feeling (Making Decisions)

Those who prefer thinking tend to like to look at the logic behind an idea or action. They tend to remove themselves from the situation to look at it objectively. They love to analyze or critique something so that the problem can be solved. They are reasonable and value fairness, as in equality. They are often considered "tough-minded". Terms that can be used to describe thinkers include objective, detached and firm-minded. People who prefer feeling like to look at things in terms of the human factor. They will put themselves in the shoes of another person before arriving at a decision that may impact that person. They strive for harmony and are often considered "tenderhearted". They also value fairness, but in terms of the individual. Other terms that may describe feelers include humane, subjective or involved.

Judging vs. Perceiving (Orientation Toward Outer World)

People who prefer judging like to live in an orderly, structured way. They like to have control over their lives, make decisions, have closure and go on to the next thing. They tend to like schedules and are avid planners. They feel good about getting things done and avoiding last minute stress. Terms that may describe those preferring judging include planned, decided and controlled. Those who prefer the perceiving process like to live in a flexible, spontaneous manner. They seek to experience and understand life. Tight schedules and detailed plans can feel stifling to these people. They tend to wait until the last minute to make decisions in case of the arrival of last minute information.

They often thrive on last minute pressure. Terms that may describe those preferring perception include flexible, adaptive and spontaneous (Briggs Myers, 1998; Kroeger & Thuesen, 1988).

<div align="center">Temperament vs. Type</div>

David Keirsey (1998) found it useful to partition the sixteen types into four groups, SP (sensing/perceiving), SJ (sensing/judging), NT (intuition/thinking) and NF (intuition/feeling) because it was determined that all the types with these combinations (i.e. all types with SP in them) were very much alike. He referred to these groupings as temperaments. These temperaments have been used extensively in matters dealing with the workplace.

Myers (as cited in Keirsey, 1998) described the four temperament types as follows. Those who prefer SP are considered to be very much aware of reality and able to see opportunities and the needs of the moment. Nothing is overlooked when in the search for whatever or whoever may be exciting, satisfying or useful to them. They have little use for theory, are gifted with machines and tools and very sensitive to input affecting their senses such as color and texture. They tend to be easygoing, tolerant, unprejudiced and persuasive. They are practical and effective in getting what they want.

Those who prefer SJ also are very observant but their goal is more for scheduling activities to meet needs and keep behavior within boundaries. They want everything and everyone where they should be, when they should be, doing what they should be doing and getting what they should. They demand that things are done in a proper and acceptable manner. They are a very hardworking, dependable, loyal, committed, patient, sensible and unimpulsive group.

Those who prefer NF have a hard time dealing with conflict. They care very deeply about morale and promoting positive self-images. Harmony is very important to them. They are humane, creative, insightful and sympathetic. Personal growth and meaning are very important to them.

Those who prefer NT are also introspective but are rather tough-minded in finding solutions to problems. They are persistent and rational in decisions. They want things to make sense. They can be described as analytical, abstract or theoretical, intellectual, competent, inventive, curious, scientific and logical.

The combining of the four preference scales creates a richer picture of psychological type. The sixteen psychological types determined by Myers & Briggs combine preferred functions (S-N and T-F scales) and attitudes (I-E and J-P scales), creating "four letter" types. Characteristics of each of these types are described briefly below (Briggs Myers, 1998).

Those who prefer ISTJ (introverted sensing with extroverted thinking) tend to be practical, sensible and realistic. They have great respect for facts and earn success through being thorough and dependable. They tend to be logical, analytical, reasonable and detached, being able to work steadily despite distractions. They may appear calm, reserved, serious, orderly and consistent. They prefer things to be orderly and organized. They value traditions and loyalty.

Those who prefer ISFJ (introverted sensing with extraverted feeling) tend to be practical, loyal and realistic as well as concrete and specific. They can often remember details about those important to them. They are also cooperative and thoughtful, kind and sensitive. They may appear quiet, responsible and considerate. They honor their

commitments and preserve traditions. They are good caretakers. They seek an orderly and harmonious environment to live and work.

Those who prefer ESTP (extraverted sensing with introverted thinking) tend to be very observant. They are practical and realistic and actively involved in things. Theory bores them. They prefer hands on learning.   They tend to be analytical and rational, straightforward and assertive. Others may see them as adventurous, "here and now", flexible and spontaneous as well as pragmatic trouble-shooters. They enjoy material comforts.

Those who prefer ESFP (extraverted sensing with introverted feeling) are practical and realistic as well as generous, optimistic and persuasive. They tend to be warm, sympathetic and tactful and are seen as supportive and resourceful as well as playful and spontaneous. They love life and creature comforts. They adapt well to new people and environments and bring common sense as well as fun into the workplace. They learn best by trying new skills out with others.

Those who prefer INTJ (introverted intuition with extraverted thinking) are insightful and creative long-range thinkers. They are clear and concise, rational, detached and objective. They may appear private, reserved, even aloof as well as original and independent. They tend to be motivated to implement their ideas and meet their goals. When they are committed they will organize a job and see it through. They tend to be skeptical, critical and independent. They hold high standards of competence for themselves and others.

Those who prefer INFJ (introverted intuition with extraverted feeling) tend to be insightful, creative and visionary. They want to understand what motivates people. They

are idealistic and complex as well as symbolic and metaphorical. They are also sensitive, compassionate and empathic and are deeply committed to their values.   Others may see them as private and mysterious or intense and individualistic.

Those who prefer ISTP (introverted thinking with extraverted sensing) tend to be quiet and tolerant observers. They can also be objective critics and analytical and logical problem solvers. They are practical realists who focus on the facts and are interested in cause and effect. They focus on efficiently getting results. Others may see them as adaptable and action oriented as well as confident, independent and self-determined.

Those who prefer ENTP (extroverted intuition with introverted thinking) tend to be spontaneous and adaptable. They are creative, imaginative and witty. They tend to be assertive, independent and energetic. They tend to be good at solving new problems but get bored easily with routine. They are often good at reading others.

Those who prefer ENFP (extroverted intuition with introverted feeling) tend to be curious and enthusiastic, warm and caring, cooperative, supportive, personable and affirming. They want the same in return. They tend to dislike routine and structure but are seen as people who value depth in relationships and put great effort into open and honest communication.   They view life as being full of possibilities.

Those who prefer INTP (introverted thinking with extroverted intuition) tend to be logical, analytical and objectively critical as well as detached and contemplative. They tend to be mentally quick, insightful and ingenious. They are intensely curious about ideas, theories and what makes things work rather than social interaction. They look for logical explanations for everything that interests them. They may appear quiet, contained and detached as well as independent and autonomous.

Those who prefer ESTJ (extraverted thinking with introverted sensing) tend to be logical, analytical and objective, decisive, clear and assertive. They are also likely to be practical, realistic and matter of fact. They may appear conscientious and dependable as well as decisive, outspoken and self-confident. They are able to organize projects and people to get things done in the most efficient way. They tend to be forceful in implementing their ideas.

Those who prefer ENTJ (extraverted thinking with introverted intuition) tend to be decisive, clear and assertive. They are conceptual and global thinkers as well as innovative theorizers and planners. They may appear direct, challenging and objective, fair and stimulating. They quickly see illogical and inefficient procedures and policies. They tend to enjoy long-term planning and goal setting. They are usually well informed, well read and like to pass on what they know.

Those who prefer ISFP (introverted feeling with extraverted sensing) tend to be trusting, kind and considerate. They are observant and realistic. They may appear quiet, reserved and private. They also tend to be spontaneous and tolerant. They like to have their own space and work within their own time limits. They are loyal and committed to their values. They do not like conflict and do not force their opinions or values on others.

Those who prefer INFP (introverted feeling with extraverted intuition) tend to be sensitive and caring. They tend to be idealistic and loyal to their ideas. They are flexible but they want their life to be congruent with their values. They like to be curious and creative and have long range vision. They seek to understand people and help them reach their potential. They may appear introspective and complex, original and sometimes difficult to understand.

Those who prefer ESFJ (extraverted feeling with introverted sensing) tend to be warm sympathetic and helpful. They are personable, cooperative and tactful. They like to work with others to complete tasks correctly and on time. They tend to be very loyal and follow through on even small things. They also tend to be practical realistic and down to earth, decisive, thorough and consistent. Others may see them as sociable and energetic, organized and committed to tradition. They tend to want to be appreciated for who they are and what they do.

Those who prefer ENFJ (extraverted feeling with introverted intuition) tend to be warm, compassionate, and supportive. They are loyal and trustworthy. They tend to be imaginative and creative. They tend to be attuned to those around them and see the potential in everyone. They like variety and new challenges. Others may see them as sociable, personable and gracious. They appear expressive, responsive and persuasive. They tend to facilitate others in a group and provide inspiring leadership.

People use all the different components; their type develops through a natural preference for one of each of the four dichotomies. Of the four functions (the two internal letters in the 4 letter type), one tends to be preferred more than the others. This is referred to as one's dominant function. People tend to use this dominant function in their preferred world (extravert or introvert). The dominant function is what an individual generally uses first. It is generally called upon when final decisions need to be made and it gives overall direction to the personality.

The attitudes (E-I, J-P scales) determine the dominant function and whether it is introverted or extroverted. A judging attitude (J) indicates the function extroverted is the judging function (T-F), A perceiving attitude (P) indicates the function extroverted is the

perceiving function (S-N). If the person prefers introversion the opposing function will be the dominant. Introverts use their dominant function in their internal world. If the person prefers extraversion the function indicated by the J-P scale will be the dominant function. Extraverts use their dominant function in the external world. For example, for someone who prefers INTP, the intuition is extroverted. Because the person prefers introversion, the T is dominant and introverted. For someone who prefers ENTP, the intuition again is extroverted and because the person prefers extraversion, the N is dominant (Briggs Myers et al., 1998; Myers & Kirby, 1994).

The auxiliary function, which is the second highest order function, provides balance. If the dominant function is a perceiving (S-N) one, the auxiliary is a judging one (T-F). Also, if the dominant function is extraverted, the auxiliary will be introverted and visa versa. This gives the individual a reliable and effective means of taking in information, making decisions and dealing with the internal and external world. The tertiary function is considered to be the opposite of the auxiliary function although the attitude (I-E) is not shown to be consistent. The least preferred and least developed function is the inferior function. It is the opposite of the dominant in function and attitude (Myers & Kirby 1994). This function becomes very important when looking at personalities under certain situations and/or conditions such as stress (Quenk, 1993).

The interaction of the four preferences that make up the type of an individual impact the way those type preferences express themselves. Each type has a preference that they tend not to show the world. In introverts it is their dominant function and in extraverts it is their auxiliary function. The way a function is used and expressed is influenced by the other components. So although a lot of information may be obtained

by looking at each preference individually (i.e. each letter), the structure and interaction of the four preferences in each type gives a much richer and clearer picture of each psychological type (Briggs Myers, 1998; Myers & Kirby, 1994). In psychological type theory this interaction of preferences is referred to as type dynamics.

<center>Conflict - Thomas-Kilmann Conflict MODE Instrument</center>

<center><u>History</u></center>

According to Thomas (1992) he came across <u>The Managerial Grid</u> by Blake and Mouton, 1964, in the late 1960s. This publication described five different approaches to conflict that appeared to describe the basic choices one has when faced with conflict better than anything up until that time. He worked to separate the conflict styles from the managerial styles Blake and Mouton described and placed them into a taxonomy based on the two scales Blake and Mouton depicted in their work: a scale on assertiveness (attempting to satisfy self interests) and a scale on cooperativeness (attempting to satisfy other's interests). The interaction of these two scales yields the five MODES. The conflict styles that were tickled out by Thomas were: competing (high on assertiveness and low on cooperativeness), collaborating (high on both assertiveness and cooperativeness), compromising (medium on both assertiveness and cooperativeness), avoiding (low on both assertiveness and cooperativeness) and accommodating (low on assertiveness and high on cooperativeness).

Thomas (Kilmann & Thomas, 1977) noted that in the three instruments available at the time (Blake-Mouton, Lawrence Lorsch and Hall), 80% of variance on specific items and over 90% of variance on the mode scores could be attributed to social desirability biases. It was also observed that how one perceived a quality as socially

good or bad influenced that persons reported conflict-handling preference. The self-reported scores on the more socially desirable modes would be elevated. Because of these problems, the authors decided to give special attention to minimizing the social desirability factor and thereby more validly measure the five modes. Success in achieving low social desirability affects is reported by Kilmann & Thomas (1977) and Womack (1988).

Researchers have not agreed on what the modes or styles are actually describing. They have been interpreted as behaviors, orientations or strategies. Thomas indicated that he believed the modes were best thought of as strategic intentions of someone who is attempting to satisfy their own interests as well as the interests of another (Thomas, 1992). Nonetheless, several studies have linked the intentions with behaviors and there have been mixed results. One such study by Volkema and Bergmann (1995) tested the hypothesis that there was a significant relationship between conflict style preference and behavior in interpersonal relationships. Participants were asked to complete the MODE and a situational conflict questionnaire in which each participant was asked to describe a single interpersonal conflict at work. The participants were to indicate which behaviors from a list of 24 and a category named "other" was their first response, their second response and so on. The MODE measures strategic (large-scale enduring) intentions rather than tactical (small-scale episodic) intentions. The results showed some support for a link between preferences for assertive conflict styles as measured by the MODE and the use of strategic assertiveness in interpersonal relationships. The study also showed a link between the MODE dimensions of assertiveness and cooperativeness and the tactical use of behavior in interpersonal conflict. A preference for assertiveness could be seen in

overall behavior, including their most extreme choice and last choice. A preference for cooperativeness may be expected to show in the last response. The first responses in this study appeared to be influenced by social acceptability. The most common response was discussing the issue with the person. The researchers suggested that the first response may be a socially preprogrammed response and the second choice a response to the reaction of the other person. Changing responses from the first, second and last choices support the idea that individuals will vary their behaviors over the course of a conflict, moving from a seemingly preprogrammed socially acceptable behavior to a possibly preprogrammed response to the reaction of the other party and ending with their preferred style.

There are other models that are based on the Blake and Mouton two-dimensional model such as the Rahim Organizational Conflict Inventory (ROCI) and the Hall Conflict Management Survey. Thomas (1992) asserts that other models place the modes into other dimensions than intentions such as values or desires and are therefore set up to attempt to explain or predict the occurrence of the different modes. The MODE separates the dimensions so that causes for the modes can be investigated apart from the dimensions themselves. The purpose of this study is to determine if personality type as measured by the MBTI can explain or predict the conflict styles preferred. It is then desirable to use a model of conflict style that makes it easier to look at the modes apart from the dimensions. Also, validity and reliability scores appear more favorable for the Thomas-Kilmann Conflict MODE Instrument than most others.

Applications of the MODE

The properties and relationships of the MODE have been investigated by a number of dissertations and it is a widely used instrument in empirical studies of conflict style. Studies have been done using college students as well as business managers and administrators in education, health care, religion and technical fields. The MODE has been used to explore differences in gender. Besides exploring personality characteristics and attitudes, the MODE has been used to determine sex differences in conflict with conflicting results. It has also been used with the organizational factors of position, power, experience and control. This research has indicated that those with higher positions and more power and control tend to choose more assertive conflict styles. Noto (as cited in Womack, 1988) reported that managers were more competitive than support personnel and top managers tended to be more collaborative than middle managers. On the other hand, Jamieson & Thomas (as cited in Womack, 1988) indicated that those who worked for not-for-profit organizations tended to choose more cooperative styles. Students tended to choose avoidance when dealing with teachers regardless of their choices when dealing with other people.

The MODE has been used to study possible relationships between conflict behavior and messages as well as how parental choice of conflict style relates to adolescent adjustment. Womack (1988) cited several studies in which the MODE has been used to assess the effectiveness of a number of training programs. A study by Kilmann, Moreault and Robinson found that the couples in the treatment group of a marriage enrichment seminar decreased their avoiding scores. Another study by Kearns showed a change in MODE scores after a 6 ½ hour marriage enrichment program. Other

studies have shown changes after sessions in self-actualization. Beevers determined a conflict training seminar a success by using the MODE to measure change. Womack notes that these studies must be considered carefully as many researchers have applied statistical methods that are inappropriate for this instrument.

<u>Five Approaches to Conflict</u>

Everyone is capable of using all five conflict-handling modes. Some modes are used more than others, whether it be from practice or personality factors. Each mode, is appropriate in some situations and has strengths and weaknesses (Thomas & Kilmann, 1974).

The mode of competing is both assertive and uncooperative pursuing of personal concerns without concern for the interests of others. It is a power-oriented style geared to winning. Accommodating is on the opposite end of the assertiveness and cooperativeness scale. It is unassertive and cooperative and may result in self-sacrifice to the point of neglect of personal concerns for the interests of another. It may take on the form of generosity, reluctantly obeying orders or just going along with the wishes of another. Avoiding is both unassertive and uncooperative. The concerns of the individual as well as the concerns of others are not addressed immediately, choosing instead to postpone action or response or withdraw from the situation. Collaborating is both assertive and cooperative. Instead of avoiding, collaborating attempts to find a solution that satisfies all parties involved. It is the most time-consuming of the MODEs as it requires identifying the underlying issues of all the parties and finding a creative solution that meets the needs of everyone. Compromising is intermediate on both scales of assertiveness and cooperation. Individuals work toward agreement that involves each

giving up something and gaining something in return. It is not as in-depth as collaboration and does not completely satisfy the needs of both parties. It addresses the issue more than avoiding and gives up less than accommodating. The end result is each party getting part of what they want.

The results of the MODE instrument may be helpful in determining which of the modes may need further development. Each approach can be useful in some settings but very limiting if used in all settings. The mode of competing is beneficial when quick decisive action is necessary or when it is necessary for protection against people who take advantage of those who do not like to compete. Yet, individuals scoring very high on competing may be missing out on important information because people are reluctant to disagree or risk looking incompetent around them. Individuals scoring very low on competing may be losing effectiveness because others may take over and indecisiveness may cause others to be resentful.

The mode of collaborating is useful when working out hard feelings in interpersonal relationships, to gain insights from those with differing perspectives, to learn or to find a solution that involves concerns that are too vital to be compromised on. However, individuals scoring high on collaborating may be taking more time than is feasible for a particular issue. Others may not wish to put their energies into finding this type of solution. Scoring low may reflect a difficulty in seeing the opportunities for mutual satisfaction and result in others being uncommitted to decisions and policies.

The mode of compromising is useful when the goals are moderately important but not requiring the assertiveness of competing or the time of collaboration. Compromising is useful for temporary solutions or as an emergency solution or backup

plan if collaboration or competing fail. Individuals scoring high may have a tendency to lose sight of larger issues such as values, principles and long range goals and/or may see conflict as a game of sorts due to the bargaining involved. Individuals scoring low may have difficulty in making concessions or may feel incompetent or embarrassed in bargaining situations.

The mode of avoiding can be useful when the issue is small, is the responsibility of someone else, when people need to calm down or when more damage will be done by addressing the issue than not. Individuals scoring high may leave decisions to be done by default. Others may not know what to expect because of lack of input. Individuals scoring low may not be tactful in addressing issues, which may be in part a result of feeling overwhelmed.

The mode of accommodating may be useful when the issue is much more important to the other person, when the other person is right, when it is important to preserve harmony or when competing is more damaging than beneficial. Individuals scoring high may tend to defer to the concerns of others so much so that it may result in a lack of respect, influence and recognition and may give the appearance of being undisciplined. Individuals scoring low may have difficulty in creating harmony and building good will. They may give the appearance of being unreasonable, ruthless and/or intolerant (Thomas & Kilmann, 1974).

Studies Correlating Psychological Type (Myers-Briggs) and

Conflict Styles (Thomas-Kilmann)

The studies using the MBTI and the MODE have found relationships that support the construct validity of the four MBTI scales. Type theory dictates that the E-I and T-F

scales would most influence preferences toward handling of conflict. Jung (1990) described the T-F scale as opposing rational ways of putting meaning to perceptions. The thinking function is characterized by objectivity as well as being detached and impersonal. This tendency would be reflected in an impersonal approach to conflict. The most impersonal mode would be competing. On the other hand, those who prefer feeling would most likely choose a style that is personal and interpersonal; accommodating. As those who prefer introversion prefer their inner world rather than the stimulation of the outer world, it follows that they would prefer avoiding, whereas those who prefer extraversion and the stimulation of the outer world would choose a more external means of dealing with conflict such as competition or collaboration (Johnson, 1997). This is also reflected in the cortical arousal models of Wilson & Languis (as cited in Briggs Myers et al., 1998; Johnson, 1997) which indicate that those who prefer introversion seek to minimize the levels of external stimulus whereas those who prefer extraversion actively seek higher levels of environmental stimulus.

There is also support for the J-P scale in these studies as the strength of preference for a conflict style has been shown to be impacted by this scale in the Johnson (1997) study as well as the Percival et al. (1992) study. The most inconsistency has been with the auxiliary T-F function, which has shown greater variation in scores than the dominant function. The dominant function scores appear to be stronger and more replicable (Johnson, 1997).

Prior to 1990 three studies (Chanin & Schneer, 1984; Kilmann & Thomas, 1975; Mills, Robey, & Smith, 1985) correlated the four dimensions of the MBTI with the five styles of the MODE. In all three studies it was found that those who preferred thinking

tended to prefer to be competitive and those who preferred feeling to accommodate. Kilmann and Thomas (1975) and Mills et al. (1985) found those who preferred extraversion preferred to use competition or collaboration and those who preferred introversion preferred accommodation or avoidance. There were no significant correlations between the S-N preferences and any of the MODE preferences or the J-P preferences and any of the MODE preferences. These studies looked at the dimensions separately and therefore did not consider the effects of their interaction. (Percival et al., 1992).

In recent years several more studies have been done using the MBTI and the MODE. In 1992, a study by Percival, Smitheram and Kelly used heterogeneous samples of 160 and 180 adults. The first sample was made up of 86 males and 74 females with an average age of 28.5 years. The sample was made up of university and business students, high school teachers and recreational directors. The second sample was composed of 47 males and 133 females with an average age of 29 years. This sample consisted of university students, elementary teachers, participants in a pre-marriage course and people in the health care field. Percival et al. suggested that a great deal of information may be missing from the previous studies because they looked solely at the MBTI scales individually and did not address the possible impact of interactions between scales. They hypothesized that the separate scales would combine interactively and give a more complete picture of the relationship between the psychological type as determined by the MBTI and the conflict style as determined by the MODE instrument. The results from the individual scales were expected to be similar to the previous studies. It was predicted that those who preferred perceiving, because of their openness to information and

adaptability were more likely to accommodate or compromise than those who preferred judging.

The data was run through two separate analyses. In the first analysis the data was analyzed first by testing the relationship between the preference scores on each MBTI scale by high, medium and low scores on each MODE scale using a chi-square statistic. The two scales showing effects were consistent with results from the previous studies. Those that preferred feeling were more likely to prefer to accommodate than those who preferred thinking. Those that preferred introversion were more likely to prefer to avoid than those who preferred extraversion. The data was also analyzed for interactive combinations of the MBTI preferences by each conflict style preference on the MODE. There were no significant effects found for the S-N scales so this scale was omitted from the data leaving 8 MBTI groups rather than 16 (E-I x T-F x J-P). These 8 groups were then analyzed by high, medium, and low scores on each conflict MODE. The findings for the four MBTI combinations in which thinking or feeling were the dominant function were consistent with earlier findings for the T and F preferences alone; those that preferred extraversion and thinking (ESTJ or ENTJ) preferred competing and those that preferred extraversion and feeling (ESFJ or ENFJ) preferred collaboration, while those that preferred introversion and thinking (ISTP or INTP) preferred compromising and those that preferred introversion and feeling (ISFP or INFP) preferred avoiding. The overall patterns were not predictable using the scales individually. For example, those who preferred feeling individually preferred to accommodate, however, those that preferred E-FJ preferred to collaborate and although it is shown that those who prefer introversion tend to prefer to avoid, those that prefer I-TP favored compromise.

The samples were pooled in the second analysis and any MBTI profiles with scores less than 10 were eliminated, leaving a sample of 138: 25 E-TJs, 13 I-TPs, 8 E-TPs, 26 I-TJs, 19 E-FJs, 10 I-FPs, 19 E-FPs and 18 I-FJs. Each group contained subjects from 2 of the 16 MBTI types, the types within each group differing only on their S-N preference. In this analysis the MODE profiles, using raw MODE scores, were ranked from most to least preferred for each MBTI type. This resulted in a breakdown of nine types rather than eight because men and women who prefer ET-J differed in their ordering. Those who preferred introversion preferred to avoid more than those who preferred extraversion. Those who preferred IF-P chose avoiding with a frequency of 70%, IT-Js 42% and IF-Js tied in choosing avoiding for first or second (44%). Those that preferred IT-P preferred compromise but ranked avoiding second (62%). The ranks were statistically significant, chi-square (138) = 63.15, $\underline{p} <$. 001. Once avoiding was eliminated, there was a consistent interactive pattern in the preferred conflict-handling style. Males who preferred E-TJ showed a preference to compete and those who preferred other thinking combinations showed a preference to compromise. Among those preferring feeling, E-FJs preferred collaboration and the rest, when avoiding was not included, preferred accommodation.

The results showed a distinct order for T and F dominant and auxiliary preferences once the E-I differences in rank of avoiding was removed as well as the first rank effects of competing and collaboration. This left compromise, collaboration and accommodation which were ranked in this order by 75% of the dominant Ts. Auxiliary Ts also ranked compromise first, followed by accommodation and then collaboration (83%). When avoiding and collaboration were removed due to the influence of the E-I

scale for the F dominant and auxiliaries, all those who preferred feeling ranked accommodation first, then compromise and then competing.

In 1995, Marion used the MBTI and the MODE to find a relationship between personality type and preferred conflict management style in community college administrators. The sample consisted of 161 administrators (105 males and 55 females) from 59 different campuses for five different eastern states. Participants were asked to fill out the MBTI (Type G) and the MODE and a respondent survey form which was to provide demographics as well as compare the participants perception of self to the results of the instruments.

Using Pearson correlations this study supported the earlier findings that people who prefer feeling tended to be less assertive and prefer cooperativeness. An analysis of the assertiveness index resulted in a correlation of r = -. 35, p < .001 and on the cooperativeness index of r = .29, p < .001. The preference of feeling is therefore shown to have a statistically significant negative correlation with the MODE dimension of assertiveness and statistically significant positive correlation with the dimension of cooperativeness. This study did not support the earlier findings of a relationship between the extraversion-introversion scale and the assertiveness index. Marion suggested the high proportion of introverts in her study (50.6%) may have skewed the results. Her results indicated a small negative correlation between extraversion and collaboration, r = -. 15, p < .06 indicating that extraverts would prefer to be less cooperative and less assertive. There were no significant correlations for the J-P scale. This study did not use interactive combinations of scales.

A statistically significant negative correlation, $\underline{r}$ = -. 23, $\underline{p}$ < .005 was found between the intuition scale (N) and the conflict style of avoiding which suggests that people who prefer intuition are less avoiding. In addition, this study shows a statistically significant positive correlation of $\underline{r}$ = .20, $\underline{p}$ < .01 between intuition and assertiveness. This significant positive correlation suggests that the higher one scores on the intuition scale, the more one will prefer assertive means of dealing with conflict. A smaller but still statistically significant positive correlation was found between intuition and competing, $\underline{r}$ = .18, $\underline{p}$ < .03. This also supports the positive relationship between intuition and a preference for assertion. These findings on the S-N scale are contrary to previous studies that found no relationship between the S-N scale and the MODE styles. It is also contrary to the findings of the study by Kilmann and Thomas (1975) which found a small positive correlation between intuition and accommodation.

A study by Johnson (1997) investigated the validity of personality type theory by administering the MBTI (Form G) and the MODE to a heterogeneous sample of 102 adults consisting of 40 MBA students, 11 faculty and staff members of the school of business, 13 graduate psychology students, 24 undergraduate business and social science students and 14 associates (mainly spouses) of these participants with an average age of 33. They were predominantly white upper middle class with 51 males and 51 females.

On the individual MBTI scales, the data showed that those who preferred introversion preferred avoiding. This was shown using continuous scores with the degree of introversion being represented by numbers below zero and extraversion being represented by those above zero. Those who preferred introversion showed a statistically significant preference for avoiding, $\underline{r}$ = -. 35, $\underline{p}$ < .0005. There was a statistically

significant positive correlation between MBTI thinking scores and the scores/rank for competition on the MODE, r = .33, p < .0005. Those who preferred thinking preferred to compete. Positive but statistically insignificant correlations indicated that those preferring feeling preferred accommodation and those who preferring extraversion preferred collaboration. No significant relationship was found between the S-N and the J-P scales on the MBTI to the MODE conflict style preferences.

Pearson product-moment correlation coefficients showed a weak but not statistically significant relationship between the preference for introversion and the avoidance MODE style among those preferring thinking, r = -.27. There was a stronger but not statistically significant correlation between a preference for introversion and a preference for avoidance for those preferring feeling, r = -.64. The addition of the E-I scales to the T-F scales resulted in even higher variance than the T-F main effect, F [1,98] = 5.11, p < .026. There was a weak but not significantly significant correlation between extraversion scores and collaboration among those preferring thinking, r = .14 and a stronger but not significantly significant correlation between the extraversion scores and collaboration among those who prefer feeling, r = .37. The interaction of the E-I scores and the T-F scores appears counterbalanced, avoiding being at one end and collaborating at the other in the MODE scales. More specifically, those who preferred IF showed a stronger preference for avoidance and those who preferred EF showed a stronger preference for collaboration. The interaction appeared to have a lesser effect on those who prefer thinking.

So that this sample could be compared to that of Percival et al. (1992), Johnson eliminated subjects with MBTI scores close to the middle. Because of the smaller

sample, he eliminated MBTI profiles with scores less than 8 rather than 10 on any scale. He also used only the E-I, T-F and J-P scales. The average rankings on the MODE made by those participants who preferred thinking or feeling as their dominant function were generally consistent with those found by the Percival et al. study. Men who preferred E-TJ were the only group to choose competition as their most preferred approach to conflict and ranked all five conflict strategies in the same order as found in the Percival et al. study: compete, compromise, collaborate, avoidance, accommodate. Women who preferred E-TJ were found to prefer compromise, which also supported the Percival et al. findings. There were no significant gender differences in the other types in this study. Those who preferred I-FP were the most likely to choose avoidance as their preferred style of dealing with conflict and again, their rankings were consistent with those found by the Percival et al. study. Those who preferred E-FJ in this study ranked compromise a step higher and those who preferred I-TP brought both avoidance and competition up one rank resulting in the following pattern: avoidance or compromise > competition or collaboration > accommodation. There was less agreement for those with thinking or feeling auxiliary functions. In both studies those who preferred E-TP and I-TJ ranked compromise first or second, those who preferred I-TJ ranked competition last or close to last and those who preferred E-FP ranked accommodation first or second and competition last or next to last.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter will describe the subjects under study and how they were selected for inclusion in this study. In addition, the instruments being used to collect information will be discussed as to their content, validity and reliability. Data collection and analysis procedures will then be presented. The chapter will conclude with a discussion of methodological limitations.

Description of Subjects and Sample Selection

The subjects for this study consisted of 34 undergraduate students taking a course directed at career exploration, 22 graduate students in the field of business and 10 persons employed by a manufacturing company in January/February, 2001. As _T_Js, as measured by the MBTI have a tendency to be overrepresented in business fields and _F_Ps have a tendency to be overrepresented in fields of self- discovery, it was hoped that there would be an ample representation of a variety of psychological types. Also, to help reduce costs, the classes were chosen because the students in them were required to take the MBTI. To participate in this study, the participants were asked to provide their MBTI 4 letter type as well as their raw scores, their gender and their age on a paper attached to the inside of the cover of the MODE. Consent was implied by filling out the paper and instrument as instructed and turning it in. To ensure confidentiality the participants were instructed not to write their names on the paper or instrument and the instruments were not coded in any way.

Instrumentation

<u>Myers Briggs Type Indicator</u>

<u>Description of Instrument</u>

The Myers Briggs Type Indicator is a self-administering questionnaire in forced-choice format. There were two research forms of the MBTI: Form F (166 items, published in 1971) and Form J (290 items) that include additional questions to individualize reports. Form G (94 self-scored items and 126 computer scored items published in 1976) was the standard form used until recently. Form M, a 93 item self-scorable instrument was published in 1998 and is now the standard form. (Briggs Myers et al., 1998; CPP Product Catalog 2000; Cummings III, 1995; McCaulley, 1990). Form M (self-scorable) is used in this study.

According to Myers & McCaulley (as cited in McCaulley, 1990), the MBTI is used for sixth graders through adults. It generates four basic scores. In the Form M each response carries a weight of one point. Social desirability is taken into account. Adding the sums of each pole "voted" for determines the resulting preference that consists of a letter indicating the direction of the scale as well as a numerical score indicating how strong that preference is.

To make statistical analysis more convenient, continuous scores can be made by setting a midpoint at 100 and adding the numerical preference score if the preference is I, N, F or P or subtracting if the preference is E, S, T or J. A continuous score for E20 and I20 would then be 80 and 120, respectively. Myers provided continuous scores to ensure consistency of data for researchers wishing to use continuous scoring. It should be noted that correlational methods go against the assumptions of the type theory and the

psychometrics of the MBTI (McCaulley, 1990). Jungian theory assumes within any one scale that two distinct types of people with opposing preferences exist and can be measured. When a dependent variable (one that would be primarily characteristic of one preference apart from the influence of others) can show disparity between the preferences on a scale it supports the hypothesis that the scale is a dichotomy. If characteristics are shown to be true of a dichotomy, that is, typical of one or the other preference then the theory and the validity of the MBTI is supported (Briggs Myers et al., 1998). Myers used the points or preference scores only to determine type. Variations in the scores are important in determining strength of preference (McCaulley, 1990).

A tie-breaker formula was developed by Frederick R. Kling of Educational Testing Service to be used with Form F. This formula was also used with Form G and a somewhat simplified tie-breaker is used with Form M. All ties on Form M go to the I, N, F or P scales. Ties go in favor of the N and P scales because these are less frequent types and it is thought that external pressure may have resulted in the choice of one or more responses favoring the majority preference rather than the true individual preference. The division of introverts and extraverts is approximately the same. However, it is suggested that there may be pressure to behave more like an extravert. Therefore the tie goes to the I. On the T-F scale, men are more pressured to give T answers and therefore a tie results in a point going to the F. For consistency sake and in keeping with the old tie-breaker formula, women are given an F point as well (Briggs Myers et al., 1998). These procedures have been followed in this study.

Reliability

Internal consistency.

The internal consistency reliability of the MBTI has improved with form M. On Form G, continuous scores based on split-half correlations were .82 (E-I), .84 (S-N), .83 (T-F) and .86 (J-P). The correlations for Form M went from a low of .89 to a high of .94. When looking at the internal consistency reliability scores of form M by age, given the age groups of 18-21, 22-25, 26-30, 31-40, 41-50, 51-60, 61-70 and over 70, the lowest correlation was .89 on the T-F scales for the 18-21 group and the over 70 group. The highest correlation was .94 on the J-P scales for the 18-21 age group. For ethnic groups, college students samples showed correlations of .80 on the S-N scale to .91 on the E-I scale, Latino/Latina/Hispanic showed .84 on the E-I scale to .90 on the J-P scale, Native Americans .86 on the S-N scale to .96 on the E-I scale and Asian or Pacific Islanders from .82 on the S-N scale to .91 on the E-I scale. The internal consistency of the four MBTI scales was also estimated using coefficient alpha, which is the average of all of the item correlations. There showed little or no difference for coefficients determined by the split-half and coefficient alpha methods and there were no differences in reliabilities for gender (Briggs Myers et al., 1998).

Test-retest reliability.

Johnson (as cited in Briggs Myers et al., 1998) reported a study in which participants using Form J showed test-retest reliabilities of scales over a two1/2 year period. The results are as follows: T-F males .57, T-F females .70, E-I males .78, E-I females .81, S-N males .85, S-N females .80, J-P males .83 and J-P females .81. Form M has not been used in this long of a study as yet. In comparing it with form G in a retest

after 4 weeks, the test-retest reliabilities of form M are higher. The same is true of test-retest reliabilities for dichotomous scores (Briggs Myers et al., 1998). Another study worth noting is one in which Isabel Myers administered one of the first forms of the MBTI to 87 members of the Swarthmore high school class of 1943. At the students 50th class reunion Katherine Myers administered form G to 39 of these same people. After fifty years, 21% had the same type, 33% had changed one letter, 41% had changed two letters, 5% had changed three letters and none had changed all four letters. Overall in fifty years 54% changed either no letters or just one letter. The chance that the same letters would be chosen is 6.25% suggesting that these preferences are relatively stable over long periods of time although some change occurs (Note that the test instruments were different forms and this may explain some changes at least in part; Briggs Myers et al., 1998).

Validity

Those who do not accept the tenets of type theory often reject or ignore the magnitude of evidence concerning validity (Briggs Myers et al., 1998). Another problem cited is that of ipsative, self-report data rather than observed behavior (Gardner & Martinko, 1996; Johnson, 1997). Studies such as those done by Johnson (1997) and Percival et al. (1992) support construct validity.

Criterion and construct validity questions have been raised due to the connection of the MBTI to Jung's theory. The MBTI was designed to implement Carl G. Jung's theory of psychological types. To determine validity the MBTI must verify the relationships and outcomes predicted by the theory. The theory suggests that people are or develop into different type. Individuals have preferences as to how they perceive their

world (S-N) which leads to different interests. What they do with those interests is addressed by their judgment preference (T-F). The MBTI attempts to classify people according to the type that best fits them. Values, behaviors and motivations would be considered indications of these preferences (Briggs Myers et al., 1998).

If Jung's theory describes preferences that do exist, and if the MBTI adequately indicates those preferences, then surface behaviors should be in the directions predicted by the theory, with allowances, of course, for measurement error in the instrument, stage of development of the person, and overriding environmental pressures that interfere with expression of type preferences (Briggs Myers et al., 1998, p. 171).

Validity – individual preference scales.

The issue of validity can be seen from two different perspectives; the individual preference scales and the whole type (all four interacting scales). Exploratory and confirmatory factor analysis can be performed on the MBTI to determine the individual preference scales. Exploratory studies such as those done by Harvey, Murry and Stamoulis, Thompson and Borrello and Tzeng, Outcalt, Boyer, Ware and Lnadis (as cited in Briggs Myers et al., 1998) have nearly identical results to the proposed four factor model. Tischler analyzed a large sample and stated that there was strong evidence that MBTI items correlate with their intended scales and determined that the scales were "almost factorially pure" (as cited in Briggs Myers et al., p. 172). On the other hand, Briggs Myers et al. cited studies using a five factor model by Comrey and Sipps, Alexander, and Friedt that did not produce the predicted results.

Confirmatory factor analysis is better than the exploratory approach in indicating whether the proposed factorial structure is likely, especially when comparing competing models. Several confirmatory factor analyses have been conducted on the MBTI and cited by Briggs Myers et al. (1998). Johnson and Saunders analyzed the subscales produced by the Step II scoring system of Form J that supported the predicted hierarchical structure of the instrument. Harvey et al. tested three competing views of the latent structure of the MBTI, a four-factor model and the two five-factor models developed by Sipps et al. and Comrey in their exploratory factor analyses. The results of the Harvey et al. study strongly supported the validity of the predicted four-factor model. According to Briggs Myers et al., the Sipps et al. and Comrey five-factor models showed flaws severe enough to question what they measured.

Harvey (as cited in Briggs Myers et al., 1998) indicated that exploratory and confirmatory factor analytic results together show strong support for four factor structures nearly identical to those hypothesized. Several confirmatory studies of both Form G and Form M have supported the validity of the hypothesized factor structure. According to Briggs Myers et al., one of these cases conclusively rejected the finding in the studies by Sipp et al. and Comrey.

Validity – whole type and type dynamics.

The MBTI is designed to help people identify their whole type. In order to be valid, evidence must be obtained that the four dichotomies combine in a way that, as a whole, are greater than the sum of the parts. One way is to compare the results of the MBTI with self-assessment of type preferences. In this way the individual picks their best fit. The chance of picking the correct type at random is 6.25%. There are two

categories of these best-fit type assessments. One is based on agreement with written

descriptions of type. The other category varies by study but primarily uses brief,

unstandardized descriptions of the individual preferences. Construct validity has

generally been supported by best-fit studies indicating whole type agreements ranging

from 53% to 85%. The percentage agreements from best-fit studies are consistently far

above the chance value of 6.25% (Briggs Myers et al., 1998).

There is abundant support for the construct validity of the MBTI based on type

tables especially in the area of occupational choice. It has been shown across subgroups

within an occupation, across tasks throughout an organization and across occupations in

various cultures in which there is a translation form of the MBTI, that particular types, as

predicted by type theory, would be interested in and be more likely to be part of an area

of occupational choice (Briggs Myers, 1998; Briggs Myers et al., 1998; Kiersey, 1998;

Kroeger & Thueson, 1988). For example, a study comparing male small business owners

to a male national representative sample showed over 25% of small business owners

prefer ISTJ and just under 25% prefer ESTJ. Of those preferring the NF functions, 3 out

of the 4 types represented less than 1% and ENFP was represented at 2.48%. It appears

obvious from this data that –STJ types (over other types) tend to be drawn to owning

their own small businesses. The statistics comparing women in the same manner resulted

in similar findings. ISTJ was also highest amongst librarians followed by preferences for

other I—J combinations, least reported was the preference for –S-P which averaged only

1.5%, thus showing very little interest in this type of occupation (Briggs Myers et al.,

1998).

The studies using the MBTI and the MODE instruments have found relationships that support the construct validity of the four MBTI scales. Type theory dictates that the E-I and T-F scales would most influence preferences toward handling of conflict. The majority of studies have supported type theory on the E-I and T-F scales. All three of the studies described here support the theory on the dominant T-F scales. There is also support for the J-P scale as the strength of preference for a conflict style has been shown to be impacted by this scale in the Johnson (1997) study as well as the Percival et al. (1992) study. Again, the most inconsistency has been with the auxiliary T-F function. The dominant function appears to be stronger and more replicable and the auxiliary functions have shown greater variation in scores (Johnson, 1997).

<div align="center">Thomas-Kilmann Conflict MODE Instrument</div>

Description of Instrument

The Thomas-Kilmann Conflict MODE (Management of Difference Exercise) Instrument (1974) consists of 30 sets of paired items, with each item describing one of the conflict styles. An individuals score for each style is the number of times that style is chosen. The scores range from 0 (very low use) to 12 (very high use). In competing, low scores range from 0 to 3, medium scores from 4 to 7 and high scores 8 and above, in collaborating, low scores fall from 0 to 5, medium from 6 to 9 and high from 9 to 12, in compromising, low scores fall from 0 to 4, medium scores from 5 to 8 and high from 9 to 12, in avoiding, low scores fall from 0 to 4, medium scores from 5 to 7 and high scores from 8 to 12 and in accommodating, low scores fall from 0 to 3, medium scores from 3 to 6 and high scores from 6 to 12. The scores in the medium range reflect the average (the middle 50%). Low scores (low preferences) fall in the bottom 25% and high scores (high

preferences) fall in the top 25% as represented by the original norm group. The norm group was composed of managers at middle and upper levels of business and government organizations. There are no right or wrong answers. Very high or very low scores are not necessarily bad as life situations sometimes call for greater or minimal use of one conflict-handling mode over another. All five modes are beneficial in some situations. Each of us is capable of using all five conflict-handling modes, however, each of us tend to use some modes more than others and to use them more effectively than others whether from practice or a personality preference (Thomas & Kilmann, 1974).

<u>Reliability</u>

Internal consistency coefficients were reported by the authors to be .43 accommodating, .62 avoiding, .58 compromising, .65 collaborating, .71 competing. The average alpha coefficient was reported at .60 for the MODE. The Hall Instrument reported .55 and the Lawrence-Lorsch .45. Test retest reliability for the MODE was reported at .64, the Lawrence-Lorsch .50, the Blake Mouton .39 and the Hall .55 (Kilmann & Thomas, 1977). Test-retest reliability for the Rahim Organizational Conflict Inventory (ROCI) has been reported at .76 and internal consistency has been shown to be .74 (Van De Vliert & Kabanoff, 1990). All of these instruments fall below the Cronbach alpha coefficient minimum of .80 that Nunnally (as cited in Womach, 1988) proposed to be adequate for research.

Low social desirability contamination is considered one of the strengths of the Thomas-Kilmann, lowering the amount of variance from social desirability from the 90% on instruments such as Blake and Moutin, Lawrence & Lorsch and Hall to 17% of the variance across Mode scores (Kilmann & Thomas, 1977; Womack, 1988).

Johnson (1997) reported that the data in his study supported the two-dimensional conflict-mode model of the MODE. Intercorrelations among MODE scales, expected with ipsative testing instruments, were consistent with MODE theory. For example, the tendency for those who prefer introversion to prefer avoidance is also shown by the tendency of those who prefer extraversion to prefer a mode from the opposite end of the assertiveness-cooperativeness matrix, collaboration. It is also reflected in that those who prefer feeling are shown to prefer accommodation and those that prefer thinking prefer competition. Johnson (1997) found when comparing MODE total scores with item choices, internal consistency was about .74, which is significantly higher than previous estimates based on the Cronbach alpha method.

The Johnson (1997) study was the sixth sample of test subjects (Chanin & Schneer, 1984; Kilmann & Thomas, 1975; Mills, Robey & Smith, 1985; Percival et al., 1992x2) tested for effects between the MBTI and the MODE instruments and was the sixth sample showing an association between the feeling preference and high scores for MODE accommodation. It was the fifth sample to show that those who prefer introversion have significantly higher scores for the MODE avoidance scale than those who prefer extraversion and that those who prefer thinking tend to prefer competing more than those who prefer feeling. This consistency of findings appears to be strong evidence for the MODE and MBTI relationships.

Validity

Ruble & Thomas (as cited in Womack, 1988) determined that the validity of the MODE is supported by correlations shown between the five styles and the two dimensions. It is also supported by correlations between the MODE scores and other

related instruments (Kilmann & Thomas 1977; Womack, 1988). On the other hand, Kabanoff (1987), when using peer ratings of conflict behavior failed to find evidence of external or predictive validity (Van De Vliert & Kabanoff, 1990), a frequent problem with self-report instruments.

<div align="center">Data Collection - Research Design</div>

To test the hypotheses the data included the four-letter type and raw scores from the MBTI (Form M), the modes and raw scores from the MODE, and the age and the gender of the subject. The MBTI whole type (all four letters) was to be run with the five Thomas-Kilmann conflict-handling styles to derive preference strengths which were to be rank ordered as well as divided into the categories of high, medium or low as determined by the MODE instrument (Thomas & Kilmann, 1974). In the Percival et al. (1992) study any scores less than 10 on the MBTI were dropped from the analysis as low scores indicate a weak preference. In the Johnson (1997) study scores under 8 on the MBTI were dropped due to the smaller size of the study. As this study also is of small size, any score less than 8 on the MBTI scales was to be dropped. Subsequent runs consisted of the individual scales (I-E, S-N, T-F, J-P) the temperament scales (SJ, SP, NF, NT), the attitude scales (IJ, IP, EJ, EP), the function scales, (ST, SF, NF, NT), the quadrants (IS, IN, ES, EN) and the remaining combinations (IT, IF, ET, EF, NJ, NP, TJ, TP, FJ, FP). These scales were run with the MODE styles for strength of preferences that were categorized by high, medium or low. It was hoped that in running these pairs that influences of type dynamics, particularly dominant and auxiliary functions on conflict-handling choice would be more clearly expressed. Gender and age breakdowns were to be run to check for any patterns in these areas.

These finding were then looked at in comparison to the findings of Johnson (1997), Marion (1995) and Percival et al. (1992). The Johnson study and the Percival et al. study eliminated the S-N scale from their analysis due to finding a lack of significance for that scale. Marion however, did find a statistically significant negative correlation between the N scale and avoiding, r = -. 23, p < .005 and a statistically significant positive correlation between intuition (N) and assertiveness, r =. 20, p < .01. In this study the S-N scale was included so results can be compared to her findings.

The categories of high, medium and low were run as defined by the authors of the MODE and explained previously. This study is primarily interested in scores that fall into the high and low score categories, which indicate a strong preference for or against a style.

<div align="center">Hypotheses</div>

To test the general research hypothesis, the following hypotheses were to be tested in this study. These hypotheses are constructed based on the findings of previous studies.

1) Whole types will tend toward specific conflict-handling styles. More specifically, those types who contain the feeling component will more likely prefer accommodating. The addition of the perceiving component is likely to increase the strength of that choice. For those types that are introverted, the preference for avoiding is likely to be high.

2) The scales of I-E and T-F are likely to have the strongest correlation to conflict-handling styles, particularly the I and F preferences.

3) Based on most research that indicates little/no significant finding on the S-N scale, it is hypothesized that there will be no statistically significant relationship between temperaments (SP, SJ, NF, NT) and conflict-handling modes.

4) It is hypothesized that the TJ, FJ, TP and FP preference combinations will show a statistical relationship with specific conflict-handling modes, that feelers will prefer cooperative styles over assertive styles and that the opposite will be true for thinkers. It is also hypothesized that the J-P scale will influence the strength of the relationship, in particular that the P preference will strengthen the relationship between feeling and accommodation.

5) There will be no statistically significant gender difference within MBTI type and conflict mode preference.

Data Analysis

All appropriate descriptive statistics were run on the data. In addition a Chi-square analysis was done to test the hypotheses under study. The Chi-square analysis is in keeping the statistical analysis used by Marion (1995) and Percival et al. (1992)and is in line with the recommended statistical methods to be used with ipsative data (Womack, 1988).

Limitations

This study can only be as good as the instruments being used. In this study the reliability and validity questions on both instruments, particularly the MODE must be noted. Aside from the limitations that the instruments themselves bring into the study, this study has the limitations of being small. Due to the small size there are likely to be

MBTI types that are not represented well enough to be significant or not represented at all. The significance of the relationship may also be influenced by weak preferences in the whole type run. In the sample, several assumptions are made; that the subjects are answering the questions in an honest manner; that the subjects have working knowledge of the terminology used in the tests (a good grasp of the English language) and that they are without excessive stress or mental dysfunction at the time they take the test. It is assumed that the instructions for reporting the raw scores and MBTI four letter types were followed and that the MBTI form M was used in the classrooms in which the students were required to provide and score their own.

CHAPTER FOUR

FINDINGS

Introduction

This study shows support for the general research hypothesis that there is a

relationship between psychological types as measured by the MBTI and the way in which

different psychological types prefer to deal with conflict as measured by the MODE.

This chapter focuses on the results of this study. It will begin with a description of the

characteristics of the sample and the possible impact of these characteristics on the study.

The findings in relation to the five hypotheses stated in Chapter Three will then be

presented. The chapter will conclude with a summary of these findings.

Sample Characteristics

The sample in this study consisted of 66 subjects, 41 females and 25 males

ranging in age from 18 to 55 years of age with 51.6% age 22 or younger. There are 16

MBTI psychological types and due to the small number of subjects 6 of the 16 types were

represented by fewer than three people. It was determined that too many of the types

were underrepresented and therefore age, gender and whole type preferences were not

analyzed statistically. A raw score cut off of 8 on the individual MBTI scales was not

implemented as it was determined that eliminating any subjects due to low preference

scores would result in a lack of data. The small sample size affected the significance of

the statistics on a number of tests as many cross tabulation cells were left blank or with

numbers too small to be significant thus rendering the entire test insignificant.

The sample consisted primarily of University of Wisconsin Stout students (56).

Many of the subjects were from classes that required them to purchase, administer and

score their own MBTI instrument. For this study it was then necessary to assume that all students used the form "M" they were asked to purchase and that the instrument was understood and scored correctly. It was also assumed that the subjects copied their four-letter type and raw scores correctly onto the request form provided to them. There were 9 MBTI request forms in which raw scores were not properly provided. This impacted how the data could be run. To use the 8 cut off on MBTI raw scores as proposed in Chapter Three, these types would have to be dropped and that would further reduce an already small sample.

One of the classes that participated in this study consisted primarily of international students. This class made up 18.2% of the sample. Cultural background was not requested of the participants in this study so an accurate account of diversity was not available and the impact on scores by culture could not be analyzed.

The sample appears to consist of rather skewed MBTI preferences. In the general population 75% prefer sensing and 25 % prefer intuition. In this sample, 57.6% showed a preference for intuition and 42.4% showed a preference for sensing. The sample was also skewed toward feeling with 68.2% preferring feeling and 31.8% preferring thinking, a breakdown typical of the female population (Briggs Myers et al., 1998). In this study, males represented 38% of those preferring feeling, 38% of those preferring thinking and 38% of the subject population.

<center>Major Conclusions</center>

<center><u>Hypothesis 1</u></center>

Hypothesis 1 states that whole types will tend toward specific conflict-handling styles and that three particular relationships would be indicated: (a) Types that contain

the feeling component will more likely prefer accommodating than the types that contain the thinking component; (b) the addition of the perceiving component will increase the strength of the feeling-accommodation relationship and (c) those types that have a preference for introversion will likely have a high preference for avoiding. A statistical analysis on whole types could not be accomplished as 6 of the 16 MBTI types were represented by fewer than three people.

<p style="text-align:center">Hypothesis 2</p>

Hypothesis 2 states that preferences on the I-E and the T-F scales are likely to have the strongest correlation with conflict-handling styles, particularly the I and F preferences. This study showed no statistically significant relationship between subjects preference for extraversion or introversion and the conflict styles preference of competing, collaborating, compromising or accommodating. There was a tendency of introversion towards avoiding, Pearson chi-square 5.098, $\underline{p}$=. 078 (See Table 1).

The relationship between the actual count and the expected count is tested by Pearson chi-square. The level of statistical significance is $\underline{p}$ = .05. A tendency is indicated when $\underline{p}$ = .05 < .01. Table 1 shows 39 (59%) of the subjects indicated a preference for extraversion and 27 (41%) of the subjects indicated a preference for introversion. A total of 24 subjects selected avoiding as a high preference. The expected count for those with a preference for extraversion who have a high preference for avoiding would be 14.2 (24 x 59%). Similarly, a total of 9 subjects selected avoiding as a low preference yielding an expected count for those with a preference for extraversion who have a low preference for avoiding of 5.3 (9 x 59%).

Of the 27 who prefer introversion 14 (51.9%) preferred the conflict style of avoiding whereas 10 out of 39 (25.6%) of those preferring extraversion indicated a preference for avoiding. The expected response for those preferring introversion with a preference for avoiding is 9.8 (27 x 36.4%). The expected response for those preferring extraversion and indicating a preference for avoiding is 14.2 (39 x 36.4%).

Although this finding is not statistically significant ($\underline{p}$ = .78) it indicates there is a tendency for more of those preferring introversion to favor avoiding than expected. There is also a tendency for fewer of those preferring extraversion to favor avoiding than expected.

Table 1.

Cross Tabulation of MBTI Scale of Extraversion and Introversion with the MODE Conflict-Handling Style of Avoiding

			VOID_CAT THOMAS-KILMANN CONFLICT MODE CATEGORY: AVOIDING			
			1 low	2 medium	3 high	Total
TYPE_EI MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (E/I)	E Extraversion	Count	7	22	10	39
		Expected Count	5.3	19.5	14.2	39.0
		% within TYPE_EI MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (E/I)	17.9%	56.4%	25.6%	100.0%
	I Introversion	Count	2	11	14	27
		Expected Count	3.7	13.5	9.8	27.0
		% within TYPE_EI MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (E/I)	7.4%	40.7%	51.9%	100.0%
Total		Count	9	33	24	66
		Expected Count	9.0	33.0	24.0	66.0
		% within TYPE_EI MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (E/I)	13.6%	50.0%	36.4%	100.0%

This study did find a statistically significant relationship between preferences for thinking or feeling and the strength of preference for competing, Pearson chi-square 26.838, p = .001 (See Table 2). Of the 45 subjects who indicated a preference for feeling, 28 (62.2%) indicated a low preference for competing while the expected response would be 21 (45 x 47%). Only 1 (2.2%) of those with a preference for feeling showed a strong preference for competing, much lower than the expected response of 8.2 (45 x 18.2%). For those preferring thinking the opposite is indicated in this study. Of the 21 who prefer thinking, 11 (52.4%) showed a strong preference for competing. The expected count for those who prefer thinking and a strong preference for competing is 3.8 (21 x 18.2%).

Table 2.

Cross Tabulations of MBTI Scale of Thinking and Feeling with the MODE Conflict-Handling Style of Competing

			PETE_CAT THOMAS-KILMANN CONFLICT MODE CATEGORY: COMPETING			
			1 low	2 medium	3 high	Total
TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	F Feeling	Count	28	16	1	45
		Expected Count	21.1	15.7	8.2	45.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	62.2%	35.6%	2.2%	100.0%
	T Thinking	Count	3	7	11	21
		Expected Count	9.9	7.3	3.8	21.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	14.3%	33.3%	52.4%	100.0%
Total		Count	31	23	12	66
		Expected Count	31.0	23.0	12.0	66.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	47.0%	34.8%	18.2%	100.0%

Of those preferring thinking only 3 (14.3%) indicated a low preference for competing compared with an expected response of 9.9 (21 x 47%).

The results of this study thus show that significantly more of those preferring thinking favored competing than expected. Significantly fewer of those preferring feeling favored competing than expected. Significantly more of those preferring feeling indicated a low preference for competing than expected and significantly fewer of those preferring thinking showed a low preference for competing than expected.

This study indicated a statistically significant relationship between the preference of thinking or feeling and the strength of preference for avoiding, Pearson chi-square

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Table 3.

Cross Tabulation of MBTI Scale of Thinking and Feeling with the MODE Conflict-Handling Style of Avoiding.

| | | | VOID_CAT THOMAS-KILMANN CONFLICT MODE CATEGORY: AVOIDING | | | |
			1 low	2 medium	3 high	Total
TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	F Feeling	Count	2	25	18	45
		Expected Count	6.1	22.5	16.4	45.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	4.4%	55.6%	40.0%	100.0%
	T Thinking	Count	7	8	6	21
		Expected Count	2.9	10.5	7.6	21.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	33.3%	38.1%	28.6%	100.0%
Total		Count	9	33	24	66
		Expected Count	9.0	33.0	24.0	66.0
		% within TYPE_TF MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (T/F)	13.6%	50.0%	36.4%	100.0%

10.150, p = .01 (See Table 3). Only 2 of the 45 participants indicating a preference for feeling showed a low preference on the conflict style of avoiding compared to the expected response of 6.1 (45 x 13.6%). Therefore 43 out of 45 (95.6%) of those who prefer feeling had a moderate or strong preference for avoiding. Of the 21 participants who preferred thinking, 7 (33.3%) indicated a low preference for avoiding compared to the expected response of 2.9 (21 x 13.6%). Significantly fewer of those preferring feeling indicated a low preference for avoiding than expected. Significantly more of those preferring thinking indicated a low preference for avoiding than expected. There were no statistically significant findings for the conflict-handling modes of collaborating, compromising or accommodating and the preference for thinking or feeling.

In this study there were no statistically significant relationships between the S-N scales and any of the conflict-handling modes. There was a tendency for those who preferred judging to prefer the conflict-handling style of competing more than those who prefer perceiving, Pearson chi-square 5.661, p = .059. Table 4 shows that 8 out of the 25 (32%) subjects who indicated a preference for judging showed a preference for competing, compared to the expected response of 4.5 (25 x 18.2%). The opposite tendency is shown for those who preferred perceiving. A high preference for competing was indicated by only 4 of 41 (9.8%) of those subjects who prefer perceiving, about half of the expected response of 7.5 (41x 18.2%). Although these findings are not statistically significant (p = .059) they indicate strong tendencies. More of those who indicated a preference for judging showed a high preference for competing than expected. Fewer of those who indicated a preference for perceiving showed a high preference for competing than expected.

In this study the preference for introversion has been shown to have a moderately strong but statistically insignificant tendency ($\underline{p}$ = .078) to favor the conflict style of

Table 4. Cross tabulation of MBTI scale of Judging and Perceiving with the MODE conflict-handling style of Competing

			PETE_CAT THOMAS-KILMANN CONFLICT MODE CATEGORY: COMPETING			
			1 low	2 medium	3 high	Total
TYPE_JP MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (J/P)	J Judging	Count	11	6	8	25
		Expected Count	11.7	8.7	4.5	25.0
		% within TYPE_JP MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (J/P)	44.0%	24.0%	32.0%	100.0%
	P Perceiving	Count	20	17	4	41
		Expected Count	19.3	14.3	7.5	41.0
		% within TYPE_JP MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (J/P)	48.8%	41.5%	9.8%	100.0%
Total		Count	31	23	12	66
		Expected Count	31.0	23.0	12.0	66.0
		% within TYPE_JP MYERS-BRIGGS TYPE INDICATOR -- 1-letter type (J/P)	47.0%	34.8%	18.2%	100.0%

avoiding. There appears to be a stronger, although not statistically significant, tendency for those preferring judging to prefer competing ($\underline{p}$ = .059) than the tendency for those preferring introversion to prefer avoiding ($\underline{p}$ =. 078). Preferences on the T-F scales have been shown to have statistically significant relationships with the conflict modes of competing and avoiding. The T-F scale preferences show a stronger relationship to particular conflict styles than any of the other scales. Those who prefer feeling have a statistically significant preference for avoiding. Those who prefer thinking have an

equally statistically high preference for competing. For these reasons hypothesis two is only partially supported.

Hypothesis 3

Based on previous research that indicates little to no statistically significant findings on the S-N scale (Johnson, 1997; Percival et al., 1992), hypothesis three states that there will be no statistically significant relationship between the temperaments (NT, NF, SJ, SP) and conflict-handling modes. No statistically significant relationships were found between the temperaments and the conflict modes in this study. Hypothesis three is therefore supported.

Hypothesis 4

Hypothesis 4 states that the TJ, FJ, TP and FP preference combinations will show a statistical relationship with specific conflict-handling modes and that three particular relationships would be indicated: (a) Those who prefer feeling will prefer cooperative styles over assertive styles and the opposite will be true for thinkers; (b) the J-P scales will influence the strength of the relationships and (c) a perceiving preference will strengthen the relationship between feeling and accommodating. In this study no statistically significant relationships between TJ, FJ, TP and FP preferences and specific conflict-handling modes were found. Hypothesis 4 is therefore not supported.

Hypothesis 5

Hypothesis 5 states that there will be no statistically significant gender differences within MBTI type and conflict mode preferences. It was determined after the initial statistical analysis that there was not enough data to show statistical significance or

tendency when further dividing it by gender. Hypothesis 5 therefore was not statistically

tested.

Summary

In summary, the following findings were made in this study in relation to the five

hypotheses. The sample size was determined to be too small to test hypothesis 1, which

asked for a statistical analysis of the "whole" type, and hypothesis 5, which asked for a

breakdown of gender preferences. Hypothesis 2 is partially supported as those with the

preference for thinking or feeling in this study are shown to have statistically significant

preferences in regards to competing and avoiding, respectively. Those that preferred

feeling preferred to avoid more than those that preferred thinking and to prefer competing

less than those that preferred thinking. Conversely those that prefer thinking preferred to

compete more than those that preferred feeling. There were no statistically significant

findings between the preferences of feeling and accommodating. In this study, those that

preferred introversion showed a tendency to prefer to avoid and those that preferred

judging were shown to have a tendency to prefer to compete. There were no statistically

significant relationships found in this study between the temperament scales (NT, NF, SJ,

SP) and the conflict-handling styles. This lack of a statistically significant relationship

supports hypothesis 3. Those preferring the combinations TJ, TP, FJ and FP were not

found to have statistically significant relationships with any specific conflict-handling

styles as proposed in hypothesis 4. Hypothesis 4 is therefore not supported.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary of Study

The purpose of this study is to determine whether there is a relationship between psychological types, as measured by the MBTI, and preferred conflict style, as measured by the MODE in University of Wisconsin-Stout students as well as employees of a manufacturing company during January and February, 2001. The studies of Johnson (1997), Marion (1995), and Percival et al. (1992) suggest a relationship exists. This information could be beneficial in relationships of any type to enhance communication and understanding of self and others and to create greater choice when faced with conflict.

The 66 participants completed the Myers-Briggs Type Indicator (MBTI) and the Thomas-Kilmann conflict MODE Instrument (MODE). The MBTI determines personal preferences on the scales of extraversion/introversion (I-E), sensing/intuition (S-N), thinking/feeling (T-F) and judging/perceiving (J-P). The resulting four-letter MBTI type and raw scores were compared with MODE raw scores in competing, collaborating, compromising, avoiding and accommodating.   A Pearson chi-square was used to analyze the individual MBTI type scales, as well as the temperaments (SJ, SP, NF, NT), the attitudes (IJ, IP, EJ, EP), the quadrants (IS, IN, ES, EN), the functions (ST, NT, SF, NF) and the remaining two letter combinations against the five conflict-handling styles of the MODE.

Major Conclusions

This study supports the hypothesis that there is a relationship between psychological types as measured by the MBTI and the way in which each psychological type prefers to deal with conflict as measured by the MODE. The MBTI dimensions of thinking and feeling are shown to have the most significant part in this relationship. Those that prefer thinking were shown to have a statistically significant preference for competing. The opposite is also true. Those that prefer feeling were shown to have statistically significant low preferences for competing. This finding supports previous research findings that those that prefer thinking favor competition more than those that prefer feeling (Johnson, 1997; Percival et al., 1992). Those that prefer feeling showed a statistically significant preference toward avoiding. A statistically high number of thinkers scored low in avoiding indicating their preference in conflict handling to be with other styles.

The results of this study also showed a tendency for those who prefer introversion to prefer the conflict-handling style of avoiding. This supports the previous research finding that those who prefer introversion favor avoiding more than those that prefer extraversion (Johnson, 1997; Percival et al., 1992). A statistically significant relationship was found between the preference for feeling and the conflict style of avoiding as well as a tendency for those who prefer judging to favor competing.

Ancillary Findings

One of the significant findings of previous research and probably the most notorious finding has been the positive relationship between the MBTI dimension of feeling and the conflict-handling style of accommodating. This relationship was not

statistically significant in this study. The results in this study provide a number of pieces

of data indicating that a high percentage of those who prefer feeling and those who prefer

extraversion choose accommodating as a preferred conflict style. In a cross tabulation of

the T-F scale with low, medium and high preferences for accommodating, 86.7% of those

who prefer feeling (39 out of 45 individuals) showed a high preference for

accommodating. Only 4.4% (2 out of 45) of those preferring feeling showed a low

preference for accommodating. In comparison, 66.7% (14 out of 21) of those preferring

thinking showed a high preference for accommodating and 23.8% (5 out of 21) showed a

low preference. The number of people represented in some of the cells (i.e. F x low

preference, F x medium preference, F x high preference, T x low preference etc.) was too

low to make the analysis significant. This was also the case in the following information.

In the FJ, FP, TJ and TP scales, similar results occurred. A preference for

accommodating was made by 84.6% (11 out of 13) FJs, and 87.5% (28 out of 32) FPs

compared to 66.7% of both TJs and TPs. The opposite was also true. A low percentage

of FJs and FPs showed little preference for accommodating (0% and 6.3% respectively)

while higher percentages of TJs and TPs showed a low preference for accommodating

(25% and 22.2% respectively).

When comparing the NF, NT, SF and ST preferences, the F combinations again

scored higher in their preference for accommodating than the T combinations. Strong

preferences for accommodating were made by 87.1% of NFs (27 out of 31) and 85.7% of

SFs (12 out of 14). A small percentage of NFs and SFs had a low preference for

accommodating (6.5% and 0%, respectively). A lower percentage of NTs and STs scored

high in their preference for accommodating (57.1% and 71.4%, respectively) and showed

less of a preference with higher low scores, specifically NTs showed 28.6% and STs showed 21.4%. Although the data was not statistically significant, the numbers of those preferring feeling who chose accommodating was consistently and notably higher than those who prefer thinking. This is consistent with previous research findings (Johnson, 1997; Percival et al., 1992).

Interestingly, the same appears to be true for the I-F scale and the mode of accommodating. Again, this data was not statistically significant. The data in many of the cells was not sufficient thus rendering the findings of the whole test insignificant. The results of the cross tabulation of the I-E scale with low, medium and high scores of accommodating showed the scale of extraversion to have a much higher percentage of high scores (92.3% or 36 out of 39 individuals). Of those that prefer introversion, 63% or 17 out of 27 showed a high preference for accommodating.

The cross tabulation of the EN, ES, IN and IS scales with accommodating shows a very high number of scores for accommodating by the E combination scales. Specifically, 87% of ENs (20 out of 23) and 100% of ESs (16 out of 16) preferred accommodating. Of the I combinations, 73.3% (11 out of 15) of INs and 50% (6 out of 12) of ISs preferred accommodating.

The cross tabulation of the EJ, EP, IJ and IP scales with accommodating also shows a very high percentage of those preferring extraversion to favor accommodating, Specifically, 100% (11 out of 11) of EJs and 89.3% (25 out of 28) of EPs scored high in accommodating. The I combinations showed a lower percentage of high scores, 57.1% (8 out of 14) of IJs and 69.2% (9 out of 13) of IPs.

The cross tabulations of EF, ET, IF and IT show similar results for extraversion. In the extraversion combinations EF and ET, 92.6% and 91.7%, respectively, preferred accommodating. A somewhat lower percentage of IFs preferred accommodating (77.8%) and a much lower percentage of ITs preferred accommodating (33.3%).

These differences in the high scores that can be observed between the preferences for thinking or feeling and the preference for accommodating as well as the preference for extraversion or introversion and the preference for accommodating appear to be too large and too consistent to be ignored. This is an area that perhaps warrants further investigation.

There are several other areas that the sample size in this study was not large enough to analyze that could be considered for further study. Most research to date has not shown any statistically significant findings on the S-N scale and this study was too small to detect any statistically significant relationship between preference for S-N and preference for any particular conflict mode. There have been several studies (Johnson, 1997; Percival et al., 1992) that looked at "whole" type minus the S-N scale. To the knowledge of this researcher no analysis of "whole" type and MODE conflict style has ever been done. To the knowledge of this author, this is the first study to analyze the two letter combinations with the conflict modes. A much larger sample would be necessary to provide an ample number of subjects in each of the sixteen MBTI types for statistical analysis. Another area of interest is the impact of culture on psychological type and choice of conflict style. Over 18% of the participants in this study were in a class consisting primarily of international students and that percentage may be higher as the

individuals were not required to provide this information in this study. Again the small number of subjects in the study prohibited further analysis by culture.

Implications

The results of this study show support for several relationships between MBTI type preferences and conflict-handling preferences. The statistically significant relationship of the preference for thinking and the preference for competing as well as the tendency for introverts to prefer to avoid supports the findings of other studies (Johnson, 1997; Marion, 1995; Percival et al., 1992). The accumulation of similar findings is creating an undeniable relationship between psychological type preference and conflict mode preference. The knowledge of such relationships can be beneficial as an aid in opening doors of communication and creating greater choice through increased understanding of self and others when dealing with conflict.

In this study it was shown that those that prefer feeling preferred to avoid more than those who prefer thinking, that those who prefer introversion tend to prefer avoiding more than those who prefer extraversion and that those who prefer judging tended to prefer to compete more than those who prefer perceiving. With this information, conceivably someone who prefers introversion with feeling and perceiving would more likely choose to avoid as an approach to conflict than someone who prefers extraversion with thinking and judging, who from these findings, would likely prefer to compete. This is consistent with the findings of Johnson (1997) and Percival et al. (1992).

Persons who understand that a type different from themselves tends to approach conflict differently can understand that the behavior of the other person is a matter of their preferred way of processing and dealing with the world. This can help keep that

behavior from being taken personally and reduce defensiveness. A choice can be made to choose to deal with conflict in a style that may not be a preferred style but a style that may be more suitable for dealing with a person with a different type. This information is beneficial to counselors, managers and supervisors, co-workers, teachers, family members and friends as it creates an awareness of others as well as increases the awareness of areas where interpersonal skills could be developed within oneself.

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