A DETERMINATION AND COMPARISON OF THE PERSONALITY TYPE PROFILES OF OKLAHOMA COOPERATIVE EXTENSION SERVICE FIELD STAFF AS MEASURED BY THE MYERS-BRIGGS TYPE INDICATOR

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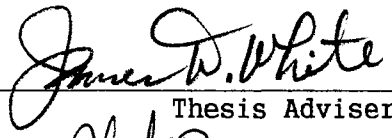

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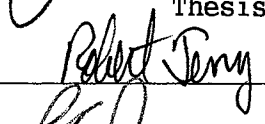

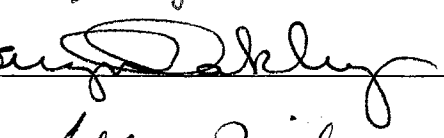

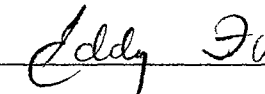

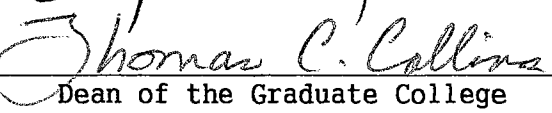

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CHAPTER I

INTRODUCTION

The Cooperative Extension Service nationwide is encountering problems commonly associated with large organizations: limited financial resources, changing demographics of clientele, diverse needs of clientele, organizational identification of purposes, organizational prioritization of goals, and interpersonal communication and collaboration among employees. Many variables influence how an organization addresses these broad concerns, including ramifications of personality characteristics of its members.

The recognition and study of personality characteristics and their influence on human behavior is an ancient endeavor (Keirsey, 1987). A large number of theories describing personality characteristics and instruments attempting to measure these characteristics, particularly in the area described as "learning style," have also evolved (Jensen, 1987). However, as society and its structures have become more complex and interrelated, more recognition and research has been focused on the study of personality characteristics and preferences in organizational settings. The Myers-Briggs Type Indicator (MBTI) has become one of the most popular assessments for the discernment of personality characteristics concerning an individual's preferences for information processing and communication. Personality type profiles attained by use of the MBTI have been applied to strategies to enhance communication and

understanding among colleagues, and to enhance understanding and communication between individuals and the populations they serve (Hirsh, 1991).

The Myers-Briggs Type Indicator has been used in a wide variety of settings in both private and public organizations to determine personality type trends, promote the concept of improved communications, and understanding through recognition of individual differences (Hirsh, 1991). A limited number of studies have been conducted among different agricultural groups and organizations, with most of these groups consisting of postsecondary agricultural students and pre-service agricultural teachers (Barrett, 1991; Raven, Cano, Garton, & Shelhamer, 1993). Very few studies involving the application of the MBTI in Cooperative Extension situations have been published. The themes of those few studies, however, suggest potential uses of determination of personality type of Cooperative Extension personnel in the areas of communication, professional development, and organizational activities (Earnest, McCaslin, & Jones, 1993; Ishaya, Henderson, & McCracken, 1992; McKenna & Martin, 1992).

Statement of Problem

As previously stated, the Oklahoma Cooperative Extension Service (OCES) must confront many problems common to large organizations. The duties of Extension field staff include not only administration and operational concerns, but also have the critical educational responsibilities of information dissemination and instruction to a diverse clientele.

The ability of the OCES to efficiently operate internally as well

as to deliver expected educational programming and services to its clientele is crucial to its continuing prosperity. Professionals must be able to blend supported theories with practice to more effectively meet the needs and goals of the organization. The theory behind the MBTI and its potential application in both organizational and educational situations could provide useful information toward planning and delivery of services.

The personality types as measured by the MBTI of Oklahoma Cooperative Extension Service field staff were currently unknown. Although it would be difficult to gather the necessary data on all clientele to reveal each individual's preferences, Extension professionals can be evaluated. Used in an organizational situation such as OCES, the MBTI can assist in meeting an objective of self-assessment of managerial skills by "providing a method of examining decision-making, problem solving, assertiveness delegation, interpersonal communication, listening, and leadership approaches" (Hirsh, 1991, p. 66). Another pertinent use for personality type knowledge is in the development of content, approaches, and activities to address differences in terms of personality preferences between the instructor and the clientele/learner (Lawrence, 1979; Jensen, 1987; Provost, Carson, & Beidler, 1987).

By compiling the personality type profile for each individual and for the overall field staff group, the opportunity to use the MBTI as a planning tool would no longer be missed. The results would provide data to identify individual preferences, to recognize different preference styles of both colleagues and clientele, and indicate preference commonalities among district, area, and county field staff. This

identification could then be channeled into specific activities regarding organizational and instructional concerns such as time management, team building, preferred people environment and work environment, interpersonal communication, and conflict resolution as provided by MBTI supporting publications (Hirsh, 1991; Jensen, 1987).

Purpose of the Study

The purpose of this study was to determine and compare the personality type profiles as measured by the Myers-Briggs Type Indicator of the Oklahoma Cooperative Extension Service field staff in Oklahoma.

Objectives of the Study

In order to accomplish the intent of this study, the following objectives are outlined:

1. To describe demographic characteristics of Cooperative Extension Service field staff in Oklahoma.
2. To determine and describe the personality type profile of OCES field staff for each individual and as an overall group in terms of MBTI psychological types.
3. To compare the personality type profile of male OCES field staff as a group to the type profile representing the male general population in the United States who have been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).
4. To compare the personality type profile of the female OCES field staff as a group to the type profile representing the female general population in the United States who have

been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).

5. To compare the personality type profile for OCES field staff as an overall group to those of related career groups as identified by the MBTI manual (Myers & McCaulley, 1985).

Rationale for the Study

Limited research has been conducted to determine the personality types of Cooperative Extension field staff, and this specific data as measured by the MBTI has not been previously collected and compiled for Cooperative Extension Service field staff in Oklahoma. By conducting this study, data will be obtained to determine the personality profiles of OCES field staff. Collection of the data should increase awareness and communication between Extension field staff and other agricultural professionals as a result of a better understanding of the implications of typological differences on behaviors and work styles. The study further allows for additional comparing of the data of the study population and clientele groups, which may be used in the development of programming as described previously.

Assumptions of the Study

The following assumptions were made for the purposes of this study:

1. The individual Cooperative Extension professionals identified were the total population employed by the State of Oklahoma at the time of the study.

2. The responses of the Extension professionals were accurate and sincere.
3. The data gathering instruments used adequately measured the Extension field staff's responses concerning the study.

Scope of the Study

The scope of this study included all Cooperative Extension field staff in Oklahoma. State Program Area Specialists did not participate in this study.

Definition of Terms

For better understanding of certain items presented in this study, the following terms were defined:

1. Attitudes: The dichotomous pair of extraversion and introversion (E-I) in Jung's theory. The attitudes refer to the individual's source and direction of energy.

2. Cooperative Extension Service: Created by the Smith-Lever Act of 1914, this organization is a cooperative function between the United States Department of Agriculture (USDA), the land grant university of each state, and local county government.

3. Extraversion: The attitude that orients attention toward and gains energy from the outer world.

4. Feeling: One of the two judging functions of thinking (T) and feeling (F), the feeling function prefers making decisions by ordering choices in terms of personal values.

5. Field staff: Employees of the Oklahoma Cooperative Extension Service assigned to the positions of District Director, Area Specialist,

or County Field staff.

6. Functions: The four basic mental processes of sensing (S), intuition (N), thinking (T), and feeling (F). These processes refer to how an individual interprets all aspects of their environment.

7. Introversion: The attitude that orients attention toward and gains energy from their own inner world.

8. Intuition: One of the two perceptive functions of sensing (S) and intuition (N), the preference of intuition attends to meanings, relationships, symbols, and possibilities.

9. Judgement: A term referring to one of the two judging functions, thinking and feeling (T-F). Judgement describes how thinking and feeling preferences appear in observable behavior.

10. MBTI: The Myers-Briggs Type Indicator.

11. Perception: A term referring to the two perceptive functions, sensing and intuition (S-N). Perception describes how sensing and intuition preferences appear in observable behavior.

12. Personality type profile: Synonymous to the terms type, personality type, preference profile, or personality type preference, the combination of one of each of the four basic dichotomies of extraversion-introversion (E-I), sensing-intuition (S-N), thinking-feeling (T-F), and judgement-perception (J-P) representing the structure of the individual's personality.

13. Process: Defined the same as function.

14. Sensing: One of the two perceptive functions of sensing (S) and intuition (N), the sensing preference attends to experiences available to the five senses of smell, taste, hearing, sight, and touch.

15. Thinking: One of the two judging functions of thinking (T)

and feeling (F), the thinking function prefers making decisions by ordering choices in terms of cause and effect or impersonal logical analysis.

16. Type: One of sixteen combinations from the four basic dichotomies of extraversion-introversion (E-I), sensing-intuition (S-N), thinking-feeling (T-F), and judgment-perception (J-P), each with specific characteristics derived from the dynamics of typology theory. Type is not used to denote a single preference.

17. Type table: A display of the sixteen types in the format developed by Isabel Briggs Myers.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this chapter is to present and familiarize the reader with the information related to the topic of this study. The literature review was conducted in a way that attempted to identify previous use and resulting data of the Myers-Briggs Type Indicator (MBTI) in activities relevant to Cooperative Extension field staff responsibilities and duties. To do so, the following major areas will be reviewed: 1) Jungian typology, 2) the description of the Myers-Briggs Type Indicator (MBTI), 3) the identification of influences of personality type on the individual, 4) the identification of MBTI research relevant to the duties of Cooperative Extension field staff, 5) identification of beneficial uses of the MBTI in Cooperative Extension situations, and 6) a summary.

Personality Type Theory

Jungian Typology

The recognition of personality types and their influences on human behavior is an ancient endeavor. An analogy of four distinct habitual

behaviors of human beings was first recorded by the Greek physician, Hippocrates, in approximately 450 BC (Keirsey, 1987; Leigh, 1986). However, this concept was dormant until Carl Jung, a Swiss psychiatrist, published his in-depth views of personality types in 1921 (Leigh, 1986).

Jung disagreed with the ideas of his contemporaries, Freud, Adler, and Fromm, who described all individuals as being fundamentally alike, that is, having some kind of controlling primary instinct common to every man. He believed individual preferences, what he termed psychological types, directed how people function, resulting in people to be different in fundamental ways (Keirsey & Bates, 1978). Jung described personality as not being random, but orderly, consistent, and having an observable pattern. Jung was more interested in the actual behaviors of the individual rather than the causes of behavior (Leigh, 1986).

The framework of Jung's theories is the belief that four basic mental functions, labeled S (sensing) and N (intuition), T (thinking) and F (feeling), are used by all individuals. These functions are paired opposites, reflecting the opposite approaches responsible for the direction of conscious mental activity toward different goals (Myers & McCaulley, 1988). The sensing function is described as the preference to rely on the five senses of taste, touch, sight, smell, and hearing when processing information, while the opposing preference, intuition, prefers to use hunches or "gut feelings." The thinking function is described as making decisions and judgements based on impersonal analysis or principle, while the opposing preference, feeling, makes the same decisions based on likes, dislikes, and values (Sharp, 1987).

Jung further described two opposing personality attitude

preferences, E (extraversion) and I (introversion), determine a person's modes of adaptation to the outer or inner world when using the mental functions. The (E) extraverted attitude is described as finding energy with all things in the world outside, and these external forces are the predominate motivator for the use of the function preferences. The I (introverted) attitude, however, is described as finding energy within the inner world of ideas, abstractions, and concepts (Hirsh, 1991; Sharp, 1987).

Although Jung spoke of a fourth preference type, judgement and perception, his definition was not clear (Keirsey & Bates, 1978). In their work, Katherine Briggs and Isabel Briggs Myers further defined the J-P (judging-perception) dichotomy as the method of actually dealing with the world around us (Myers & Myers, 1990). These also are paired opposites, as the J (judging) function favors organization, structure, and decisiveness (Kroeger, 1992), whereas the P (perceptive) function prefers spontaneity, flexibility, and responsiveness to needs as they arise (Hirsh, 1991).

The Myers-Briggs Type Indicator

Typology was not recognized as useful until the work of Katherine Briggs and her daughter, Isabel Briggs Myers. Katherine Briggs was interested in human behavior, and developed her own original way of describing four personality types. However, upon discovering the in depth work of Jung, she, and later her daughter, Isabel, developed the first measurement instrument for individuals based on his theories and named it the Myers-Briggs Type Indicator (MBTI). Initially, by developing a pencil and pen inventory to facilitate Jungian typology

theory into a practical tool, Katherine and Isabel hoped to help the war effort of the 1940s by assisting individuals to better understand their own preferences when making occupational choices.

Description of the MBTI Instrument

The MBTI is a forced-choice inventory. It was designed to facilitate Jungian typology theory into a practical tool to assist individuals to better understand their own preferences. Items in the instrument were purposefully composed to appeal to individuals of one preference, but not the other. As an indicator of preferences, it does not measure, but sorts individuals into sixteen possible personality type combinations generated from the Jungian preferences of E-I (extraversion-introversion), S-N (sensing-intuition), T-F (thinking-feeling), and J-P (judging-perceptive) (Myers & McCaulley, 1985).

The construction of the MBTI was based on the hypothesis that "certain valuable differences in normal people result from their preferred ways of using perception and judgement" (Myers & McCaulley, 1985, p. 140). Each of these preferred ways became a choice between opposites; that is, a dichotomy. The MBTI contained four separate indices designed to ascertain a respondent's status within four dichotomies: E-I (extraversion-introversion), S-N (sensing-intuition), T-F (thinking-feeling), and J-P (judgement-perception). Therefore, each dichotomy sorted people into two categories, with the respondent belonging to one or the other of these categories as determined by his or her inclinations and preferences. The purpose of the MBTI became to ascertain, as correctly as possible at the time of administration, the status of a respondent within the four dichotomies (Myers &

McCaulley, 1985).

Preferences Associated with the MBTI Types

Several authors have produced brief to lengthy descriptions of the characteristics associated with each of the sixteen personality types from a very broad view to that of specific situations (Keirsey & Bates, 1979; Lawerence, 1982; Myers, 1962; Kroeger; 1992). Table 1 contains a commonly used, broadly descriptive matrix describing the sixteen type categories as published in the MBTI manual (Myers & McCaulley, 1985).

Although each of the sixteen type categories have independent characterisitics, there are also characterisitics held in common. In particular, the combinations of perception and judgement functions have been found to be useful in predicting how individuals prefer to gather and interpret information in the environment around them (Kroeger, 1992). These combinations of SJ (sensing-judgement), SP (sensing-perception), NF (intutive-feeling), and NT (intuitive-thinking), referred to as "the temperaments" by Keirsey & Bates (1978), "produce a different set of characteristics, ... different interests, values, needs, abilities, habits of mind, and surface traits" (Myers & McCaulley, 1985, p. 54). Therefore, those types sharing the same temperament, such as ESTJ, ISTJ, ESFJ, and ISFJ all sharing the sensing-judgement (SJ) temperament, tend to prefer similar behaviors. Table II briefly outlines similarities of the four temperaments (Kroeger, 1992).

Question rationale

The rationale for all questions used by the MBTI was to be able to "do justice to quite opposite viewpoints" (Myers & McCaulley, 1985,

TABLE I

DESCRIPTION OF THE GENERAL CHARACTERISTICS ASSOCIATED WITH INDIVIDUALS IN EACH OF THE SIXTEEN MBTI TYPES

Sensing Types

ISTJ Serious, quiet, earn success by concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic, and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions.	**ISFJ** Quiet, friendly, responsible, and conscientious. Work devotedly to meet their obligations. Lend stability to any project or group. Thorough, painstaking, accurate. Their interests are usually not technical. Can be patient with necessary details. Loyal, considerate, perceptive, concerned with how other people feel.
ISTP Cool onlookers—quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in cause and effect, how and why mechanical things work, and in organizing facts using logical principles. Excel at getting to the core of a practical problem and finding the solution.	**ISFP** Retiring, quietly friendly, sensitive, kind, modest about their abilities. Shun disagreements, do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. Often relaxed about getting things done because they enjoy the present moment and do not want to spoil it by undue haste or exertion.
ESTP Good at on-the-spot problem solving. Like action, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. Adaptable, tolerant, pragmatic; focused on getting results. Dislike long explanations. Are best with real things that can be worked, handled, taken apart, or put together.	**ESFP** Outgoing, accepting, friendly, enjoy everything and make things more fun for others by their enjoyment. Like action and making things happen. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people.
ESTJ Practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in abstract theories; want learning to have direct and immediate application. Like to organize and run activities. Often make good administrators; are decisive, quickly move to implement decisions; take care of routine details.	**ESFJ** Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Need harmony and may be good at creating it. Always doing something nice for someone. Work best with encouragement and praise. Main interest is in things that directly and visibly affect people's lives.

Introverts

Extraverts

TABLE I (Continued)

Intuitive Types

INFJ Succeed by perseverance, originality, and desire to do whatever is needed or wanted. Put their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear visions as to how best to serve the common good.	**INTJ** Have original minds and great drive for their own ideas and purposes. Have long-range vision and quickly find meaningful patterns in external events. In fields that appeal to them, they have a fine power to organize a job and carry it through. Skeptical, critical, independent, determined, have high standards of competence and performance.
INFP Quiet observers, idealistic, loyal. Important that outer life be congruent with inner values. Curious, quick to see possibilities, often serve as catalysts to implement ideas. Adaptable, flexible, and accepting unless a value is threatened. Want to understand people and ways of fulfilling human potential. Little concern with possessions or surroundings.	**INTP** Quiet and reserved. Especially enjoy theoretical or scientific pursuits. Like solving problems with logic and analysis. Interested mainly in ideas, with little liking for parties or small talk. Tend to have sharply defined interests. Need careers where some strong interest can be used and useful.
ENFP Warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution for any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can usually find compelling reasons for whatever they want.	**ENTP** Quick, ingenious, good at many things. Stimulating company, alert and outspoken. May argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Apt to turn to one new interest after another. Skillful in finding logical reasons for what they want.
ENFJ Responsive and responsible. Feel real concern for what others think or want, and try to handle things with due regard for the other's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, sympathetic. Responsive to praise and criticism. Like to facilitate others and enable people to achieve their potential.	**ENTJ** Frank, decisive, leaders in activities. Develop and implement comprehensive systems to solve organizational problems. Good in anything that requires reasoning and intelligent talk, such as public speaking. Are usually well informed and enjoy adding to their fund of knowledge.

Introverts

Extraverts

From: Myers, I. B., & McCaulley, M. H. (1985). Manual: A guide to the development and use of the Myers Briggs Type Indicator. Palo Alto, CA: Consulting Psychological Press, Inc.

TABLE II

CHARACTERISTICS ASSOCIATED WITH THE FOUR TEMPERAMENT COMBINATIONS

The Intuitive-Feeling (NF) Temperament:

* Tends to have a strong and unwavering desire to help others
* Tends to be persuasive, warm, and can articulate a cause
* Tends to be positive and affirming of others
* Has the capability to draw out the best of others

The Intuitive-Thinking (NT) Temperament:

* Tends to be able to see "the big picture"
* Has insight into underlying principles and internal logic of organizations
* Has natural abilities and interest in strategic planning
* Tends to communicate with clarity and precision

The Sensing-Judgement (SJ) Temperament:

* Tends to prefer organization, structure, and procedure
* Is known for dependability, stability, loyalty, reliability
* Tends to possess natural administrative capabilities
* Knows who is in charge, and has the ability to take charge

The Sensing-Perceptive (SP) Temperament:

* Tends to prefer hands-on tasks, and are adept users of tools
* Prefer practicality
* Is known for problem-solving skills and resourcefulness
* Has a sense for immediate needs

Adapted from: Kroeger, O. (1992). Type talk at work. New York: Delacorte Press.

p. 141). Therefore, questions were developed that give a choice between equally legitimate alternatives. Questions had no intrinsic value of wrong or right, with no implications of inferiorities or superiorities. Also, questions were developed that were not extremes, as accuracy near the middle of the distribution for each dichotomy was more important that at the ends. Ultimately, questions were developed not so much for meaning as to indicate the preferences "that influences the respondent to give it" (Myers & McCalley, 1985, p. 141).

Development of the MBTI Inventory Forms

The MBTI instrument was refined, revised and further developed over a twenty year period. The MBTI question items were developed in distinct, thoroughly analyzed stages, resulting in a progression of instrument forms containing those items.

Initial development. The initial questions formulated were tested on a small criterion group of relatives and friends whose types seemed to be fairly evident to the authors. This process resulted in a large number of potential items being written, validated, and arranged into a set of scales Briggs and Myers called Form A, with a rearrangement of the same items called Form B. These forms were tested on progressively larger groups of adults, as it was believed that adults would have reached a greater level of type development and be more able to clearly report their preferences (Myers & McCaulley, 1985).

Form C. From analysis of the data collected through the use of Forms A and B, a third form, Form C, was then produced from those items found to have three important properties.

The first property was that items chosen should only have a high validity for one index. It was considered essential to keep the index scales as uncorrelated as possible, otherwise, a strong preference for one scale would distort evidence from another scale. Items not meeting this criterion were eliminated (Myers & McCaulley, 1985).

A second property concerned detection of responses that differ in popularity. Responses were weighed, and a prediction ratio formula was used to indicate the social desirability of each item response. Those items not meeting the desired criteria were given a zero weight, with a number of these remaining in the form as counters to weighted responses (Myers & McCaulley, 1985).

The third property was whether each item had the ability to better differentiate individuals scoring near zero, that is, showing very weak preference toward a category. In 1947, items were weighted as a function of the prediction ratio to increase this differentiation (Myers & McCaulley, 1985).

Form D. A second major period of development occurred from 1956 to 1958, in preparation for the formal publication of the MBTI in 1962. Over two hundred new items, including word-pair questions, were submitted to a small group of people familiar with the previous indicator and of known type (Myers & McCaulley, 1985).

The addition of word-pair questions was considered an important new feature. The authors realized a number of advantages of using this word pair strategy: 1) word pairs are less distracting, 2) the respondent's concentration on desired key words is enhanced, 3) word pairs are less subject to varied interpretation, and 4) are less subject

to personal reticence, conscious or unconscious censorship. The addition of word pairs resulted in the doubling of the number of valid items in Form D (Myers & McCaulley, 1985).

Form F. Further development of the MBTI continued with internal consistency analysis. The surviving items of this analysis became Forms E and F. Form F contained unscored experimental items, and was used in large samples in preparation for publication of the MBTI by the Educational Testing Service in 1962.

The next phase of Form F was a new standardization of items between 1975 and 1977 to ensure that cultural changes had not decreased the usefulness of the instrument. However, the subjects used for this restandardization consisted largely of college preparation students from above average socioeconomic status. It also was at this time that serious investigation was begun to try and ascertain at what age the MBTI could be validly administered to children, as its design and use had been tested specifically for adults. The restandardization resulted in modifications to Form F, which has remained the standard MBTI form for research (Myers & McCaulley, 1985).

During the years of development, Isabel Briggs Myers made contacts ultimately resulting in the acquisition of rights for the publication and distribution of Forms F and G in 1975 by the current publisher of the MBTI, Consulting Psychological Press.

Criticisms of the MBTI

The MBTI is not without critics. Skeptics question the effectiveness of the MBTI to actually change individual behaviors. A

common complaint is that the MBTI is mistaken for some kind of easy answer for behavioral or organizational problems, and that individuals will categorize others and use "type based" excuses for certain undesirable behaviors (Zemke, 1992).

Other critics directly challenged the statistical properties of the MBTI. Pittenger (1993) identified the MBTI as not a true psychometric test in that it is not statistically valid or reliable.

The argument supporting the lack of statistical validity concerns the design of the MBTI scoring scales. Although the instrument design treats the midpoint of each dichotomy as a true zero, data has suggested that each scale represents a continuous function, not one that is bimodal. However, scoring and interpretation of each scale is derived from a bimodal assumption. In effect, the ability of the instrument to accurately determine difference of preference within one standard deviation to each side of the midpoint may be considered questionable (Pittenger, 1993). Further, more recent standards of validity have stated that the validation process is dependent on the specific context in which the test is used, and that validity cannot be assumed by any single validation procedure showing criterion-related, construct, or content validity alone. The validation process has been suggested as an approach of many sources of collaboration. MBTI research has been criticized for containing a large body of sometimes conflicting data validated mainly by single procedures (Pittenger, 1993).

Questions of reliability have centered on test-retest results of the MBTI more often than not indicating individuals as having one or more preferences differing. However, advocates of Jung's theory have stated that an individual's preferences are not static, and that the

MBTI is designed as an indicator of preferences only under the individual circumstances it was given (Myers & McCaulley, 1985).

To a certain extent, the MBTI undoubtedly has become a victim of its own success. The test's popularity along with the enthusiasm of many MBTI practitioners have made it a highly publicized and visible measurement. MBTI associates have contended that critics are holding the instrument and its uses to standards beyond those for other career development instruments (Zemke, 1992). Supporters have claimed the MBTI as one of the most well researched tests, as there are over 600 dissertations, 900 articles, and 1,600 bibliographic entries on file at the Center for Applications of Psychological Type, the research center for the MBTI (Hirsh, 1991).

Research Concerning Assessment of Personality Type Using the Myers-Briggs Type Indicator

The Influence of Personality Type on the Individual

As Jungian based type theory evolved, observations of individual differences became the target of behavioral research. Studies concerning the typing of different populations as measured by the MBTI under varying situations have supported that personality preferences distinctly influence human relationships, performance and behavior at the work place, approaches to problem solving and learning, educational and occupational choice, reaction to stress and conflict, and even sense of humor (Keirsey & Bates, 1978; Kroeger, 1992; Lawrence, 1982; Myers & Myers, 1990).

It should be noted that there is disagreement among Jungian

typology authorities as to whether type is inborn and permanent or develops during infancy, childhood, or throughout one's lifetime. Jung's writings inferred that type is inborn, but other opinions vary (Keirsey & Bates, 1978). The most recent publications have suggested that individual's attitudes are inborn, while their functions may develop or shift during one's lifetime and experiences (Murphy, 1992), although definitive research results have not yet been generated.

As the results from these kinds of studies have become available, the MBTI has particularly enjoyed rapid popularity as the instrument of choice for personality typing, and it continues to be tested for practical application in a seemingly limitless range of possibilities. The publisher of the MBTI, Consulting Psychologists Press, reported that the MBTI was administered to over two million individuals by 1990 (Kroeger, 1992). A relatively condensed list of examples of the many applications for the MBTI reported in the research literature reviewed for this study included: conflict resolution in organizations (Chanin & Schneer, 1984; Earnest, McCaslin, & Jones, 1993), educational choice and career counseling (Edmunds & Schultz, 1989; Golden & Provost, 1987; Rowe, Waters, Thompson, & Hanson, 1992), writing styles and technical communication (Gladis, 1993; Sides, 1989), teacher feedback content in written assignments (Jensen, 1987; Thompson, 1992), personality preferences of agriculture students competing on livestock judging teams (McCann, Heird, & Roberts, 1991), team building and staff development in organizations (Hirsh, 1991; McKenna & Martin, 1992, Rome, 1990), teacher and student preferences at different educational levels and in different content areas (Barrett, Sorensen, & Hartung, 1985; Kalsbeek, 1986; Raven, Cano, Garton, & Shelhamer, 1993; Rojewski & Holder, 1990), and

relationship between grade point average and personality type (Cooper & Miller, 1991, Kalsbeek, 1986; Van, 1992).

MBTI Research Relevant to Cooperative Extension

Much of the research literature studying applications of the MBTI concern issues in education. Because a major function of Cooperative Extension is planning and delivery of educational programs, and as many of the field staff have received postsecondary education degrees, results of these studies have potential relevance for Extension professionals.

As educators, Extension field staff could be likened in similar terms as faculty at educational institutions by the mature clientele "learner." As Extension field staff are actively involved in the attraction and retention of clientele into their voluntarily attended programs, findings concerning the many influences of educator's personality type in the learning environment could prove beneficial. Further, the knowledge of MBTI personality type trends of students, particularly agricultural students which is a population resembling Extension clientele, could provide insights toward the determination, design, and delivery of information. Because many Extension field staff have received education degrees and may be pursuing graduate degrees, results concerning teacher educators and teacher education programs could be useful toward understanding and planning their own educational, occupational, and professional development and assignment choices. MBTI affiliates have produced numerous supporting materials outlining specific activities to accomplish these various objective, such as Sandra Hirsh's (1991) Using the Myers-Briggs Type Indicator in

Organizations, and Applications of the Myers-Briggs Type Indicator in Higher Education (Provost & Anchors, 1987).

It is important to point out that the sixteen type combinations as described by the MBTI are not equally distributed throughout the general population. As an example, those preferring I (introversion) are outnumbered approximately three to one by those preferring E (extraversion) attitudes in American society (Kroeger, 1992). Different populations have been found to have differing composition trends (Myers & McCaulley, 1988). Therefore, many of the previous research studies have focused on the identifying the trends in personality types of differing populations, or the contrasts between a studied population and the general population rather than just identifying percentages of type combinations.

In reviewing the literature concerning the application of the MBTI in educational situations, the information relevant to Extension field staff was categorized into the following areas: the influence of teacher personality type as perceived by students, personality type and teacher effectiveness, personality type trends of students, and personality type and teacher education.

Teacher Personality Type

Proponents of the MBTI in educational settings indicate that the most successful and least successful teachers as perceived by students have distinctly different personality types (Barrett, 1991; Rojewski & Holder, 1990). Findings have supported that the teacher's personality is a significant variable in the classroom (Hinton & Stockburger, 1991). As an example, Roberts and Lee (1977) reported that college students and

faculty rank "instructor's personality" as the number one factor they considered important toward classroom learning. However, as reported by Provost, Carson, & Beidler (1987), master teachers capitalize on their strengths/natural preferences, can speak to other types, and are able to appreciate diversity of others rather than being of any one personality type. In other words, good type development has been found as a primary influence on teaching contributions (Provost, et al, 1987).

Teacher Effectiveness

The criteria used by the researcher to describe teacher effectiveness is any combination of variables attributed to teachers that results in student learning. Much of the literature concerning the research and application of the MBTI is centered on teacher effectiveness in the classroom. Interaction between the teacher and learner is emphasized, as so much time is spent by the learner in school (Murphy, 1991). Important issues concerning the healthy mental and physical development of the child, and the role of the teacher and their understanding of the dynamics of personality type, have been the focus of these studies. By understanding themselves, it is believed that teachers can better understand and more effectively serve the learning needs of their students (Barrett & Horner, 1986; McCann, Heird, & Roberts, 1989; Murphy, 1992; Raven, et al., 1993; Roberts & Lee, 1977; Rojewski & Holder, 1990; Sorensen & Hartung, 1987; Van, 1992).

Personality type has been found to influence the way teachers plan, modify curriculum, select instructional strategies, perceive student learning behaviors, construct and measure student achievement, and manage the environment of the classroom (Barrett, 1991, Leafgren,

1987; Murphy, 1992; Van, 1992). The resulting influence played a key role of how students react, how they participate, and how they perform in achievement measuring situations (Lawrence, 1982; McCann, et al., 1989; Murphy, 1992; Rojewski & Holder, 1990; Thompson, 1992).

The susceptibility of educator "burnout" has been found to be influenced by personality type. A study of dysfunctional stress among university faculty supported the conclusion that personality traits play a significant role in an individual's reaction to stress (Hughes, McNeils, & Hoggard, 1987). Just as classroom teachers are faced with many problems, such as increase in community discontent with the operation of its schools and the threat of job security as student populations decrease, Cooperative Extension field staff similarly face the threat of a shrinking constituency and public perception of its service being unimportant. As Hughes, et al. (1987) alluded to the notion that stress and burnout greatly reduce an educator's effectiveness, knowledge of potential vulnerability could be used toward determining personal coping strategies.

Personality Type Trends of Students

Extension field staff have a vested interest in serving the needs of clientele spanning from youth to senior citizens through various informational and educational programs. Therefore, understanding how students process information and perceive the learning environment as influenced by personality type could potentially be useful.

General student population preferences. In the general postsecondary student population, personality type trends have been

identified in different educational programs. More students enrolled in liberal arts programs are found to prefer the NF (intuitive-feeling) functions, whereas students enrolled in the sciences and engineering heavily prefer ST (sensing-thinking) functions (Rojewski & Holder, 1990; Van, 1991). In recent years, there has been a reported increase in students measuring as the S (sensing) type enrolling in postsecondary programs, and it is thought that the majority of students now measure as the S (sensing) type (Cooper & Miller, 1991).

Agriculture student preferences. Studies of postsecondary agriculture students were reviewed, as this group is representitive of much of the clientele group with which Extension field staff interact, and is from which experience many of the Extension field staff originated themselves. Unrelated research studies conducted with populations of agriculture students attending universities in Nebraska, Texas, and jointly between Montana and Ohio, reported similar results. Agriculture students, whether in the Animal Sciences, Agronomy, or Agricultural Economics, were predominately of the ST (sensing-thinking) type combination (Barrett & Horner, 1986; McCann, et al., 1989; McCann, et al., 1991; Raven, et al., 1993). I (introversion) in combination with ST (sensing-thinking) or SF (sensing-feeling) preferences were found to be significantly more predominate than in the general population (Barrett, et al., 1985).

Student satisfaction and retention. Further research examining the matching or mismatching of students' preferences with those of instructors has indicated a significant influence of personality preferences toward student satisfaction or dissatisfaction with school,

and the retention of both students and educators at the postsecondary level (Cooper & Miller, 1991; Kalsbeek, 1986; Leafgren, 1987; Sorensen & Hartung, 1987). In these studies, the majority of college faculty were found to prefer the N (intuition) function rather than the S (sensing) function preferred by most students, which results in a mismatch between faculty and student personality types (Barrett, 1985, 1991; Barrett, et al., 1985; Cooper & Miller, 1991; Roberts & Lee, 1977). The kind of learning environment preferred by ST (sensing-thinking) students is somewhat structured, practical, and involving action learning rather than learning presented by means of abstractions, concepts, and the open-ended or spontaneous activities preferred by N (intuition) faculty (Lawrence, 1992; Jensen, 1987). This mismatch unintentionally gave students the impression that the teacher doesn't respect their differences and decreased their motivation (Cooper & Miller, 1991). However, Jung (as reported by Jensen, 1987) cautioned that attempting to teach from one's weaknesses rather than one's strengths was ill-advised. As students are required to mature and function in an adult world, they should learn to adapt to others' differences. However, the teacher can be more flexible in how they teach without falsifying their own type by providing enough variation of instruction to address differing student personality types (Jensen, 1987).

Teacher education

Considerable studies using the MBTI have been conducted concerning the ramifications of personality type on the recruitment, selection, and training of teachers (Barrett, 1991; Hinton & Stockburger, 1991; Pratt, DeLucia, & Roberts, 1982; Schurr, Ruble, Henriksen, & Alcorn, 1989).

Teachers possessing certain personality types have been found to be attracted to different levels of teaching and different subject matter (Rojewski & Holder, 1990). Furthermore, established postsecondary agricultural education instructors of differing temperament types appear to gravitate to specific professional assignments (Foster & Horner, 1988). It is recommended that planning and incorporation of different teacher preparation strategies and in-service programs should occur to meet diverse strengths and weaknesses of preservice teachers as identified by personality type to better assist all (Barrett, 1991; Lawrence, 1982).

Those promoting the use of the MBTI have advocated the instructing of pre-service teachers in the use and benefits of typology. This concept has followed the logic that "the key to managing others effectively is to manage yourself first" (Kroeger, 1992, p. 14). Purkey observed that (as quoted in Roberts & Lee, 1977, p. 1022) "Little has been done to equip teachers... with simple clinical techniques and instruments which would make them more sensitive to their students." To compound the problem, many strategies specifically designed to improve teaching effectiveness have only been found to superficially improve effectiveness (Barrett, et al., 1985) Therefore, if teacher educators were to provide ample opportunities to use different kinds of learning strategies to strengthen weaker preferences, preservice teachers would likely have a better understanding of the dynamics of how personality type effects classroom interaction (Rojewski & Holder, 1990).

The Benefits of MBTI Assessment in Cooperative Extension

Although the MBTI has been used in conjunction with many areas

relevant to the functions and duties of Extension field staff, limited studies have been reported concerning the application of the MBTI and identification of personality type trends in Cooperative Extension nationwide. Of the few studies published, the research was found to concentrate on the following themes: 1) the benefits of understanding personality preferences, and 2) the benefits of understanding personality preferences in organizational activities (Earnest, et al., 1993; Ishaya, Henderson, & McCracken, 1992; McKenna & Martin, 1992).

Benefits of Understanding Personality Preferences of Clientele

The basic interest in the use of typology has hinged on the concept of understanding of one's own persona and the human pursuit of self-actualization. Recognized typology authorities have suggested that to know one's preferences is not only to appreciate one's own unique characteristics, but that it is also the beginning of recognizing and appreciating characteristics of other individuals as well (Jung, 1939; Keirsey & Bates, 1978; Kroeger, 1992; Lawrence, 1982; Leigh, 1986; Murphy, 1992; Myers & McCaulley, 1988, Myers & Myers, 1990).

Extension field staff are unequivocally embedded in a "people business." They are required to function amongst colleagues in organizational planning and collaboration, and also to develop and facilitate a wide variety of activities for a diverse clientele. Although typing of clientele may not be feasible in terms of cost and time, the MBTI principles can be used as a powerful theory to understanding these clients. Communication in particular has been found to improve through understanding what is meaningful to clientele (McKenna & Martin, 1992). This concept has been repeatedly affirmed in

many recent studies, as "The more we understand about how individuals prefer to function, the better able we are to work with them; the more we understand about how we, ourselves, prefer to function, the more productive we will be in our own work" (Sides, 1989, p. 122). Considering the substantial educational responsibilities of Cooperative Extension, the recognizing of preferences displayed by the differing clientele groups can be employed toward appropriate instructional planning to increase learning, develop decision-making skills, and inspire fuller involvement of each individual in life's choices (McKenna & Martin, 1992).

Benefits of Understanding Personality Preferences in Organizational Activities

As Cooperative Extension in every state is a large organization comprised of many individuals working together to prioritize goals and deliver multiple services, the MBTI has been found to be useful in the following organizational activities: the development of educational programs, planning of conferences, and working with advisory councils (McKenna & Martin, 1992). The use of the MBTI in organizations has also been found advantageous for human relations. Examples cited in the literature include conflict management, team building, and collaboration activities (Chanin & Schneer, 1984; Earnest, et al., 1993; Kroeger, 1992). Lastly, the MBTI has been tested as a supplemental tool to professional assessment measures of Extension personnel in Ohio to expand profiles for individualized professional development and in-service activities (Ishaya, et al., 1992).

Summary

The review of literature has clearly indicated a growing research base of exploring how and where use of the MBTI might be advantageous, particularly in educational settings. The future use of the results of measuring the types of field staff in Oklahoma Cooperative Extension Service by means of the MBTI could presumably result in the same benefits as indicated by the relevant studies. The focus of future use of typology and its potential benefits by Oklahoma Cooperative Extension could be summarized in the following quote (Murphy, 1992, p. 90):

> Type awareness has strengths allowing it to be a good and easily acquired tool. It requires no change in curriculum or goals, as it is not focused on content. It does not replace good teaching strategies, but can enhance the effective use of teaching strategies and help design further strategies that transcend content fields. It creates no extra paperwork. It positively enhances perception of human behaviors. Its application can be introduced in stages. Individuals can learn to accommodate each other based on situational demands, and type can help provide a framework for understanding these needs.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to determine and compare the personality type profiles as measured by the Myers-Briggs Type Indicator of the Oklahoma Cooperative Extension Service field staff in Oklahoma. Therefore, the purpose of this chapter was to describe the procedure and methodology used in conducting the study to accomplish the following objectives:

1. To describe demographic characteristics of Cooperative Extension Service field staff in Oklahoma.
2. To determine and describe the personality type profile of OCES field staff for each individual and as an overall group in terms of MBTI psychological types.
3. To compare the personality type profile of male OCES field staff as a group to the type profile representing the male general population in the United States who have been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).
4. To compare the personality type profile of the female OCES field staff as a group to the type profile representing the female general population in the United States who have

been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).

5. To compare the personality type profile for OCES field staff as an overall group to those of related career groups as identified by the MBTI manual (Myers & McCaulley, 1985).

As a means to complete the comparisons of personality type profiles of OCES respondents and those representative of the general population groups who had been previously measured by the MBTI, hypotheses statements were developed and the respective null hypotheses tested.

This chapter also identified and explained the research instrumentation, explained the procedures in obtaining data, and discussed the statistical treatment used to analyzed the data. Information for this study was collected during the summer months of 1994.

Institutional Review Board (IRB) Statement

Federal regulations and Oklahoma State University policy require review and approval of all research studies that involve human subjects before investigators can begin their research. The Oklahoma State University Office of University Research Services and the Institutional Review Board conduct this review to protect the rights and welfare of human subjects involved in biomedical and behavioral research. In compliance with the aforementioned policy, this study received the proper surveillance and was granted permission to continue, IRB#: AG-94-032.

Population

The population of this study was comprised all District Directors, Area Specialists, and County Field staff currently employed by the Oklahoma Cooperative Extension Service as identified in the 1994 Personnel Directory of the Division of Agricultural Sciences and Natural Resources for Oklahoma State University. Due to the differences in duties associated with their assignments, Program Area Specialists were not included in this study.

Instrumentation

The design of the instrument for this study was based on similar previous studies. Common demographic information was solicited for each individual respondent by means of a brief questionnaire, and the personality type data was obtained by the administration of the MBTI Form F.

Demographic Information

Demographic information for each respondent was collected by means of a brief questionnaire. Forced choice questions were asked concerning age, gender, dominant ethnic group, length of experience in current position, and program area of responsibility. Further, information was solicited as to each respondent's highest educational degree completed. The questionnaire was developed through input from expertise available in the Oklahoma State University Department of Agricultural Education, Communications, and 4-H Youth Development and by examining other similar instruments previously used in the Department.

The Myers-Briggs Type Indicator

The MBTI Form F, Form F booklet, and scoring templates were purchased directly from Consulting Psychological Press, Inc. Permission to use this instrument was obtained from the publisher by meeting the publisher's requirements of submission of a brief description of the study, accompanied by the appropriate order form signed by the researcher and her thesis advisor.

Statistical reliability and validity of the MBTI instrument and its items have been previously established by the authors of the MBTI.

Reliability

The MBTI items were analyzed for internal consistency reliability using split half scores. Each index was split into halves, with items that most resemble each other and correlate highly being paired. Different groupings of continuous scores, such as gender or age, were then analyzed. Further, internal consistency reliabilities of data groupings were also statistically estimated based on coefficient alpha. These analyses indicate that the estimates of internal consistency reliabilities for the four MBTI scales as acceptable for most adult samples (Myers & McCaulley, 1985).

The internal consistency of the dichotomous type categories was also statistically estimated by means of comparing phi correlations and tetrachoric correlations of continuous scores. The purpose of this testing was to determine if the type categories derived from the MBTI scores fully reflected the product-moment reliabilities of those scores (Myers & McCaulley, 1985). Myers (1962) reported phi coefficients

ranging from moderate (.43) to high (.75) for all of the categorical sub-scales in the MBTI.

Test-retest reliabilities were determined by computing correlations of continuous scores, examining the proportion of cases assigned the same letter on retest, and examining the proportion of cases that again reported the same four preferences, three of four preferences the same, two of four the same, one of four the same, or no preference the same upon retest. These analyses found "the MBTI to show consistency over time" (Myers & McCaulley, 1985, p. 171). Test-retest reliability coefficients have been estimated based on percentage of agreement of types over intervals of five weeks to six years with coefficients ranging .69 to .92 across all scales. Split-half reliability coefficients calculated on the continuous scores across all for scales for ages above fifteen years range between .80 and .92 (Myers & McCaulley, 1985).

Validity

The validity of the MBTI is determined by its ability to demonstrate relationships and outcomes as predicted by Jung's theory of psychological types. This theory hypothesizes that "the basic preferences for sensing or intuitive perception lead to different interests, and that basic preferences for thinking or feeling judgement lead to differences in acting on those interests" (Myers & McCaulley, 1985, p. 175).

To statistically analyze the MBTI for construct validity, product moment correlations of MBTI continuous scores with scales of thirty other widely used personality, interest, and academic tests such as the

Strong-Campbell Interest Inventory and Minnesota Multiphasic Personality Inventory (MMPI) were calculated. The correlations of the MBTI with these other instruments are available in Myers and McCaulley's (1985) Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator. The authors of the MBTI realized that these correlations have the following limitations: 1) this analysis does not allow the sixteen MBTI types as dynamic entities, and can only report the four preferences one at a time, 2) correlations tend to understate the magnitude of relationships, and 3) correlations tend to confound direction and strength of preference (Myers & McCaulley, 1985). However, the authors have claimed that the correlation analyses performed against other tests such as the Kuder or Strong Campbell interest inventories indicate reasonable construct validity.

Content validity of the MBTI has been determined through testing of varied samples of differing populations over time. However, although the authors felt content a serious consideration, items for the MBTI forms were selected only on empirical evidence that those items separate individuals with opposing preferences (Myers & McCaulley, 1985).

Collection of Data

The questionnaire and MBTI Form F were distributed during the summer of 1994 using an internal mailing system of the OCES, with collection by prepaid return mail. A return deadline was identified in a cover letter included in the initial mailing, with non-respondents contacted by a reminder postcard upon the passing of the specified deadline setting a second deadline. A third postcard with a final reminder and final deadline was mailed to continuing non-responders.

Scoring the Instrument

The MBTI response sheets were hand scored. Each respondent's scores were expressed as a numerical representation within each continuum, with the overall personality profile expressed as a combination of four letters representing each dichotomy.

Analysis of Data

The purpose of the statistical analysis of the data from this research effort is to build a data base of the MBTI personality types of all Oklahoma Extension field staff, and analyze this data base to reveal patterns within this population. Inferences concerning personality preference patterns toward areas such as strategic planning and in-service education will be addressed.

Appropriate statistical procedures was used to accomplish the data analysis. Initially, simple totals and percentages were calculated for the demographic characteristics to provide a general description of the OCES field staff. Secondly, the frequency distribution among the sixteen personality types were calculated for the OCES field staff as a group, for the male OCES field staff, and for the female OCES field staff. From these frequency distributions, representative "type" tables were composed.

The MBTI data for OCES field staff were then further analyzed both in terms of the overall group and in terms of individuals among different demographic categories. The frequency distributions of the MBTI personality types for male OCES field staff and for female OCES field staff were compared against males and females of the general

population in the United States who have previously been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985) using the nonparametric test, chi-square (x^2) for one-way design.

The MBTI manual also provides frequency distributions of individuals who have been previously measured by the MBTI within 182 designated career classifications. The chi-square test for one-way design was used to compare the overall OCES field staff personality type profile to those representing career classifications similar to that of OCES field staff: university graduates, teachers, adult education teachers, home management and home economists, farmers, administrators (educationally related), and biological scientists.

The career classifications used for comparison were chosen because they related directly to characteristics of OCES field staff. All of the OCES field staff have completed a minimum of a four year baccalaureate degree, with 119 (64.7%) also having completed a masters degree program. A large number of the OCES field staff have had formal training and duties in the home economics areas. A common responsibility of OCES field staff included instructional duties with various clientele groups, and many Extension field staff have had formal training or have completed educational degrees. Also, many OCES field staff have had extensive training in the sciences, particularly the biological sciences. A key clientele group that is served by as a part of OCES role and mission are farmers. Also, many OCES field staff have come from or currently have farming backgrounds. Lastly, OCES field staff are required to perform certain administrative duties, as well as to interact with their administrators.

Data gathered were recorded on a computer spreadsheet program, Microsoft Excel version 4.0. Statistical treatment of the data gathered in this study was performed using the statistical analyses functions of the spreadsheet program for totals and frequency distributions. Chi-squares of the data were hand calculated using a scientific calculator and the method as described by Shavelson (1988).

Chi-Square for One-Way Designs: Goodness-of-Fit-Test

The nature of the scores generated by the MBTI in each preference index and the resulting distribution of individuals within the sixteen MBTI personality types suggested the use of nonparametric test, the chi-square (x^2) or "goodness of fit" test, as the appropriate statistical procedure for comparisons in this study. Specifically, each MBTI preference index is represented by a nominal scale, and scores tabulated assigned individuals into categories with respect to a common attribute of preference. Secondly, the distribution of MBTI personality types for the general population is not normally distributed (Myers & McCaulley, 1985). Nonparametric tests such as the chi-square do not test hypotheses about specific population parameters, but instead test hypotheses against a shape of distribution, central tendency, or association between categorical variables (Shavelson, 1988). Therefore, these tests also do not assume interval measurement and normally distributed populations with equal variances, assumptions the data provided by MBTI scores cannot meet.

The chi-square test is useful when the focus of the interest is in counting the number of individuals that fall into particular categories.

By making use of frequency data, the chi-square statistic (x^2) is used to test observed frequencies with expected frequencies. The chi-square test for one-way design requires one independent variable with two or more levels, with each individual counted in only one cell of the design. Also, the expected frequencies must be specified in advance (Shavelson, 1988).

In this study, the independent variable was represented by the MBTI personality type for each individual, with this independent variable represented by sixteen levels of personality categories. Hypothesis statements were drawn to represent the frequency distributions of the male, female, and career classification groups as provided by the MBTI manual (Myers & McCaulley, 1985). The term "goodness-of-fit" referred to the determination as to whether the observed frequency distributions of the OCES personality type profiles differed at or above the .05 level of significance from expected frequency distributions of the male, female, and career classification groups using the chi-square test for one-way design.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

The purpose of this study was to describe and compare the personality type profiles of the Oklahoma Cooperative Extension Service (OCES) district, area, and county field staff as determined by the Myers-Briggs Type Indicator (MBTI). Differences were appraised by comparing demographic characteristics and frequencies of occurrence of the MBTI preference combinations of the study sample to normative population data provided by the MBTI manual (Myers & McCaulley, 1985).

This chapter presents analysis of data collected from one hundred and ninety-one (n=191) total respondents from the population of OCES District Director, Area Specialist, and County Field staff, and was comprised of one hundred and eight male (n=108), and eighty-three female (n=83) respondents. The instruments used to collect data were a demographic questionnaire and the MBTI Form F. The information provided by the MBTI Form F response sheet was used to determine the personality preference categories and overall personality type profile for each respondent. The questionnaire provided demographic data, that in conjunction with the MBTI data, was used to compare the study's respondents to the general population and members of similar career groups who have been measured by the MBTI.

This chapter will begin with a description of the general demographic characteristics of the study's subjects. Secondly, the sample respondents personality type preferences among the four dichotomies, among the temperament combinations, as to gender, and as an overall group will be described. The final section will compare the subjects' personality type preferences to that of the general population data provided by the MBTI manual (Myers and McCaulley, 1985) by means of statistical analysis using the chi-square test for one way designs.

Description of the Subjects

One hundred and ninety-one (n=191) employees of the Oklahoma Cooperative Extension Service consisting of District Directors, Area Specialists, and County Field staff comprised the sample for this study. The demographic characteristics of this sample are summarized in Table III.

The sample included 108 males (56.54%) and 83 females (43.46%), a 79.58% total response.

The assignment categories represented the three areas of assignment: County Field staff, Area Specialists, and District Directors. The County Field staff category had 154 respondents (80.63%), the Area Specialist category had 27 respondents (14.14%), and there were 10 respondents (5.23%) in the District Director category. The position categories further represented specific areas of concentration in assignment. The Home Economics category was comprised of 55 staff (28.79%), the Agriculture category had 31 staff (16.23%), the 4-H Agent category had 33 staff (17.28%), the County Extension Director category had 32 staff (16.75%), the Horticulture category had 2

TABLE III

FREQUENCY DISTRIBUTION OF DEMOGRAPHIC INFORMATION FOR OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF

Variables	Frequency	Percentage 100.00%
Gender n = 191		
Male	108	56.54
Female	83	43.46
Age n = 185		
20 to 29 years	19	10.27
30 to 39 years	64	34.59
40 to 49 years	57	30.81
50 to 59 years	43	23.24
60 years or older	2	1.08
Current Assignment n = 191		
District staff	10	5.23
Area specialist	27	14.14
County field staff	154	80.63
Specific assignment n = 191		
Agriculture	31	16.23
Home Economist	55	28.79
4-H Agent	33	17.28
Horticulture	2	1.05
Rural Development	1	.52
County Extension Director	32	16.75
Area Specialist	27	14.14
District Director	10	5.24
Predominant Cultural Background n = 175		
African American	2	1.14
Asian American	1	.57
Caucasian	165	94.29
Hispanic	1	.57
Native American	6	3.43
Other	0	0

TABLE III (Continued)

Variables	Frequency	Percentage 100.00%
Total Years of Experience in Cooperative Extension	n = 191	
0 to 5 years	51	26.70
6 to 10 years	34	17.80
11 to 15 years	36	18.85
16 to 20 years	33	17.28
21 to 25 years	23	12.04
26 or more years	14	7.33
Highest Level of Education	n = 184	
Bachelor of Arts or Science	57	30.81
Master of Arts or Science	119	64.32
Doctor of Philosophy or Education	8	4.33
Post Doctorate	1	0.54

staff (1.05%), the Rural Development or other category had 1 staff (.52%), the Area Specialist category had 27 staff (14.14%), and the District Director category had 10 staff (5.23%).

The respondents were asked to indicate their age, predominate cultural background, highest level of education completed, and how many years of experience they have had in Cooperative Extension. In these categories, the field staff had the choice not to respond if they so desired.

The respondents were asked to indicate their birth date on the MBTI Form F score sheet. The ages of the respondents were calculated from this data, and arranged into age groups. One hundred and eighty-five respondents (n=185) indicated their ages. There were 19 staff (10.27%) in range of 25 to 29 years of age, 64 staff (34.59%) between the ages of 30 and 39 years, 57 staff (30.81%) between the ages of 40 and 49, 43 staff (23.24%) between the ages of 50 and 59 years, with 2 staff (1.08%) being over 60 years of age.

The respondents were also asked to indicate highest level of education on the MBTI Form F score sheet. One hundred and eighty-five respondents (n=185) indicated their completed education level. The largest number of staff, 119 (64.32%), were in the Masters level category, followed by 57 staff (30.81%) represented in the Bachelor level category. Eight staff (4.33%) had completed Doctoral level work, with one respondent (.54%) indicating the completion of Postdoctoral work.

One hundred and seventy-five staff (n=175) indicated their cultural background. The Caucasian category had the largest number of staff with 165 respondents (94.29%), the Native American category was

represented by six staff (3.43%), the African American category had two staff (1.14%), and the Hispanic and Asian categories each were represented with one staff member (.57%).

The years of experience category represented the years of employment in Cooperative Extension. The five or less years of experience category comprised of the largest number of staff, 51 (26.70%), the six to ten years of experience category had 34 staff (17.80%), the eleven to fifteen years of experience category had 36 staff (18.85%), the sixteen to twenty years of experience category had 33 staff (17.28%), the twenty-one to twenty-five years of experience category had 23 staff (12.04%), and 14 staff (7.33%) reported twenty-six or more years of experience.

Findings

The five objectives of the study were tested through the use of descriptive and statistical analyses. Descriptive analysis provided a summarization of characteristics of the sample population as collected by the demographic portions of the instruments to address the first objective. The remaining objectives addressed the personality type profiles of OCES field staff as measured by the MBTI in comparison to the personality type profiles of groups representing the general population and certain career groups as provided by the MBTI manual (Myers & McCaulley, 1985). Hypothesis statements were developed representing the comparisons between groups as was appropriate, with the hypotheses being tested using the chi-square test for one-way designs.

Frequency Distribution of the OCES Field Staff Among the Four Dichotomies

Table IV reports the frequency distribution for OCES field staff as measured by the MBTI among the dichotomies of E-I (extraversion-introversion), S-N (sensing-intuition), T-F (thinking-feeling), and J-P (judgement-perception).

TABLE IV

FREQUENCY DISTRIBUTION FOR OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF AMONG THE FOUR DICHOTOMIES

	Frequency Male n1 = 108	Female n2 = 83	Percentage 100.00%
E (extraversion)	46	47	48.69
I (introversion)	62	36	51.31
S (sensing)	83	62	75.92
N (intuition)	25	21	24.08
T (thinking)	70	39	57.07
F (feeling)	38	44	42.93
J (judgement)	72	72	75.39
P (perception)	36	11	24.61

The OCES field staff were rather equally divided between the E (extraversion) and I (introversion) attitudes, as 93 respondents (48.69%) preferred the E attitude, while 98 respondents (51.31%) preferred the I attitude. In contrast, Myers and McCaulley (1985) reported that 75% of the respondents from the general population who have been measured by the MBTI preferred the E attitude, with only 25%

preferring the I attitude.

The frequency distribution for OCES field staff for the T (thinking) and F (feeling) functions was also divided rather evenly, as 109 respondents (57.07%) preferred the T function, while 82 respondents (42.93%) preferred the F function. A general trend revealed throughout previous MBTI measurements was that males are much more likely to prefer the T function, while females more often prefer the F function. Myers and McCaulley (1985) reported that about 60% of males in the United States who had been measured by the MBTI preferred the T function, whereas about 65% of the females in the United States who had been measured by the MBTI preferred the F function. The OCES male field staff also followed this pattern, as 69 respondents (63.89%) preferred the T function, while 39 respondents (36.11%) preferred the F function. The OCES female respondents, however, did not prefer the F function as distinctly, as 48 female OCES respondents (57.83%) preferred the F function, and 35 respondents (42.17%) preferred the T function.

The frequency distribution for OCES field staff for the S-N dichotomy revealed a distinct preference for the S (sensing) function instead of the N (intuition) function. One hundred and forty-five respondents (75.92%) preferred the S function, with only 46 respondents (24.08%) preferring the N function. This, however, was a comparable finding to Myers and McCaulley's (1985) claimed that 75% of those representing the general population in the United States who had been measured by the MBTI preferred the J function.

Finally, the frequency distribution for OCES field staff for the J-P (judgement-perception) dichotomy revealed a distinct preference for the J (judgement) function. One hundred and forty-four respondents

(75.39%) preferred the J function, and 47 respondents (24.61%) preferred the P function. In contrast, Myers and McCaulley (1985) claimed only 55 to 60% of those representing the general population in the United States who had been measured by the MBTI preferred the J function.

Frequency Distribution of the OCES Field Staff Among the Temperament Combinations

Compiling the frequency distribution for the OCES field staff among the temperament combinations (Keirsey & Bates, 1979) of SJ, SP, NF, and NT, revealed a strong preference for SJ (sensing judgement). Table V reports the frequency distributions of the OCES field staff among the four temperament combinations.

TABLE V

FREQUENCY DISTRIBUTION FOR OKLAHOMA COOPERATIVE FIELD STAFF AMONG THE TEMPERAMENT COMBINATIONS

Temperament	Frequency n = 191	Percentage 100.00%
SJ (sensing-judgement)	113	59.16
SP (sensing-perceptive)	30	15.70
NF (intuitive-feeling)	24	12.57
NT (intuitive-thinking)	24	12.57

Of the 191 respondents, 113 OCES field staff (59.16%) preferred the SJ (sensing judgement) temperament, whereas only 30 staff (15.70%) preferred the SP (sensing perceptive) temperament, and 24 staff (12.57%) preferred each of the NF (intuitive feeling) and NT (intuitive

perceptive) temperaments.

Personality Type Profile of OCES Field Staff as an Overall Group

Table VI reports the frequency distribution of OCES field staff as an overall group in each of the sixteen psychological type categories as measured by the MBTI.

The frequency distribution among the sixteen MBTI personality categories for OCES field staff did not produce dominance of preference in any one category. However, three of the MBTI type categories contained one half of all the OCES respondents (n=191): ISTJ with 40 respondents (20.94%), ESFJ with 28 respondents (14.66%), and ESTJ with 27 respondents (14.14%). The next two categories with the largest number of respondents were ISFJ with 18 respondents (9.42%), and ISTP with 12 respondents (6.28%). Each of the remaining eleven type categories had less than ten respondents: INTJ and ENFJ both with 9 respondents (4.71%), ENTJ with 8 respondents (4.19%), INFJ, ESTP and ESFP all with 7 respondents (3.67%), ENFP with 6 respondents (3.14%), both ISFP and INTP with 4 respondents (2.09%), ENTP with 3 respondents (1.57%) and INFP with only 2 respondents (1.05%).

Personality Type Profiles of OCES Male and Female Field Staff

Table VII reports the frequency distributions for OCES male field staff and for OCES female field staff in each of the sixteen psychological type categories as measured by the MBTI.

Male Field Staff Profile

Two of the MBTI type categories clearly dominated the frequency

TABLE VI

FREQUENCY DISTRIBUTION OF MBTI PERSONALITY TYPES
OF OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF

Type	Frequency Male n1 = 108	Female n2 = 83	Total n = 191	Percentage 100.00%
ISTJ	27	13	40	20.94
ISFJ	8	10	18	9.42
INFJ	4	3	7	3.66
INTJ	4	5	9	4.71
ISTP	9	3	12	6.28
ISFP	4	0	4	2.09
INFP	1	1	2	1.05
INTP	3	1	4	2.09
ESTP	5	2	7	3.66
ESFP	5	2	7	3.66
ENFP	6	0	6	3.14
ENTP	2	1	3	1.57
ESTJ	18	9	27	14.14
ESFJ	7	21	28	14.66
ENFJ	2	7	9	4.71
ENTJ	3	5	8	4.19

TABLE VII

FREQUENCY DISTRIBUTION OF MBTI PERSONALITY TYPES FOR MALE AND FEMALE OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF

	Males n1 = 108		Females n2 = 83	
	Frequency	Percentage 100.00%	Frequency	Percentage 100.00%
ISTJ	27	25.00	13	15.66
ISFJ	8	7.41	10	12.05
INFJ	4	3.70	3	3.61
INTJ	4	3.70	5	6.02
ISTP	9	8.33	3	3.61
ISFP	4	3.70	0	0
INFP	1	.93	1	1.20
INTP	3	2.78	1	1.20
ESTP	5	4.63	2	2.41
ESFP	5	4.63	2	2.41
ENFP	6	5.56	0	0
ENTP	2	1.85	1	1.20
ESTJ	18	16.67	9	10.84
ESFJ	7	6.48	21	25.30
ENFJ	2	1.85	7	8.43
ENTJ	3	2.78	5	6.02

distribution for the OCES male field staff: ISTJ had the largest representation with 27 respondents (25.00%), followed by ESTJ with 18 respondents (16.67%). All of the remaining fourteen type categories had less than ten respondents. The ISTP type category had 9 respondents (8.33%), ISFJ had 8 respondents (7.41%), ESFJ had 7 respondents (6.48%), ENFP had 6 respondents (5.56%), ESTP and ESFP both had 5 respondents (4.63%), INFJ, INTJ and ISFP all had 4 respondents (3.70%), both INTP and ENTJ had 3 respondents (2.78%), ENTP and ENFJ both had 2 respondents (1.85%), with INFP only having 1 respondent (.93%).

Female Field Staff Profile

One of the MBTI type categories contained over one quarter of the OCES female field staff; ESFJ with 21 respondents (25.30%). The next two categories with the largest number of respondents were ISTJ with 13 respondents (15.66%), and ISFJ with 10 respondents (12.05%). All other MBTI type categories had less than ten respondents: ESTJ with 9 respondents (10.84%), ENFJ with 7 respondents (8.44%), both INTJ and ENTJ with 5 respondents (6.02%), INFJ and ISTP both had 3 respondents (3.61%), ESTP and ESFP both had 2 respondents (2.41%), INFP, INTP and ENTP all had 1 respondent (1.21%), with two MBTI type categories, ISFP and ENFP, having no respondents.

Comparisons Between Frequency Distributions of OCES Field Staff and Those Representing General Population Groups

Using statistical analysis, comparisons were made between the frequency distribution of the MBTI personality type preferences of the entire OCES respondents and those representing the general population in

the United States who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985). Specific distributions compared were of the male and female OCES field staff groups to the male and female representatives of the general population, and of the type distribution of the overall OCES field staff group to that representing populations as provided by the MBTI manual (Myers & McCaulley, 1985) in the career classifications of university graduates, teachers, adult education teachers, home management advisors and home economists, farmers, administrators (educationally related), and biological scientists.

Comparison Between the Frequency Distributions of the Male OCES Field Staff and Those Representing the Male General Population

Figure 1 reports the contrast between the frequency distribution of the male OCES field staff and that representing the male general population in the United States who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).

The hypothesis statement developed: There are no statistical differences in personality types of male OCES field staff and those representing the male general population in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (gender) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 29.17 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 108 subjects.

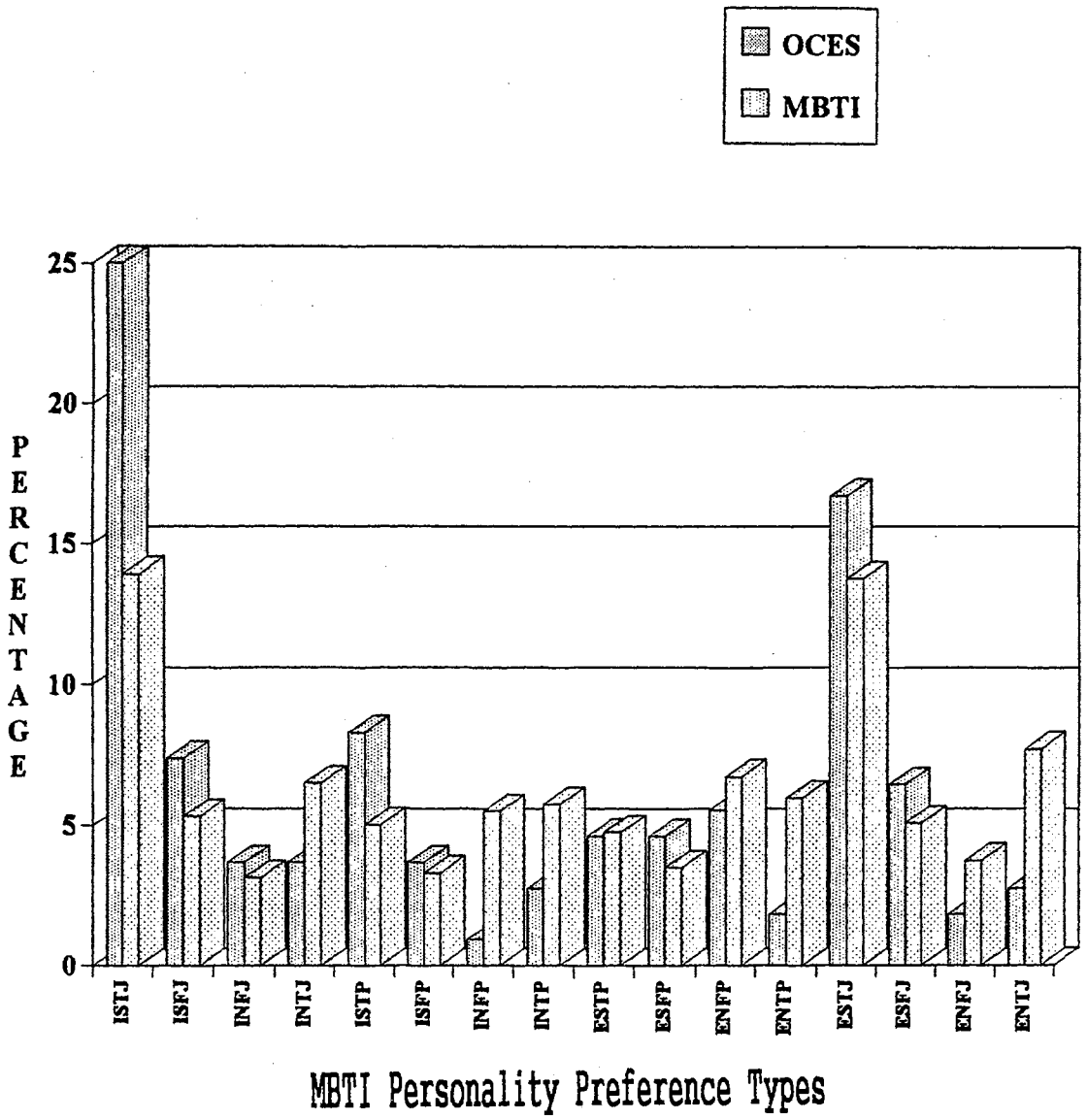

Figure 1. Comparison of the MBTI Type Profile for Male Oklahoma Cooperative Extension Field Staff (OCES) and that Representing the Male General Population (MBTI)

Comparison Between the Frequency Distributions of the Female OCES Field Staff and Those Representing the Female General Population

Figure 2 reports the contrast between the frequency distribution of the female OCES field staff and that representing the female general population in the United States who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).

The hypothesis statement developed: There are no statistical differences in personality types of female OCES field staff and those of representing the female general population in the United States who had been measured by the MBTI.

A one way chi-square "goodness-of-fit" test was calculated for the independent variable (gender) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 43.56 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 83 subjects.

Comparisons Between Frequency Distributions of the Overall OCES Field Staff Group and Those Representing Career Group Populations

The frequency distributions of representative members of the following career classifications who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985) were compared by statistical analysis to that of the overall OCES field staff personality type profile: University graduates, teachers, adult education teachers, home management advisors and home economists, farmers, administrators (educationally related), and biological scientists.

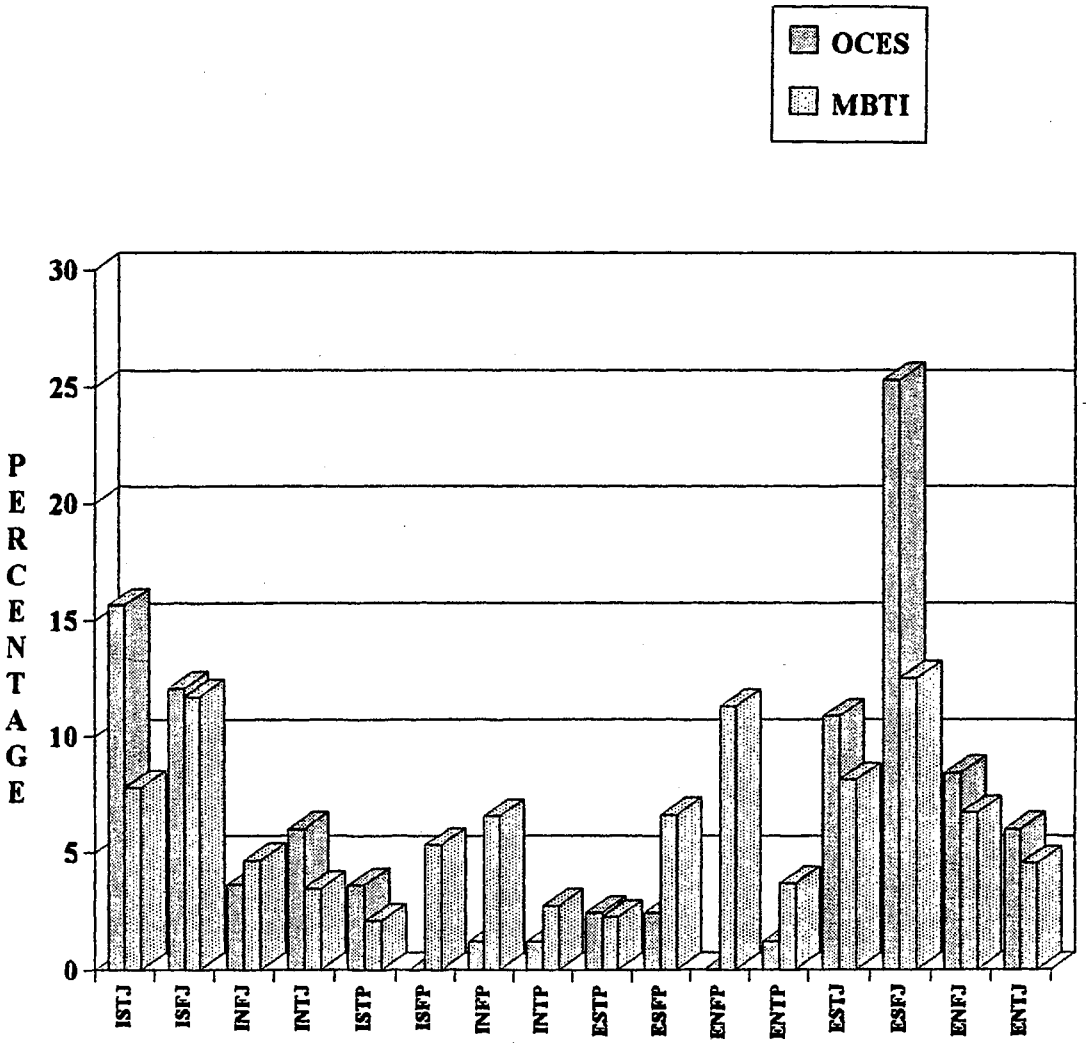

Figure 2. Comparison of the MBTI Type Profile for Female Oklahoma Cooperative Extension Field Staff (OCES) and that Representing the Female General Population (MBTI)

University graduates. The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing university graduates in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 168.99 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Teachers. The hypothesis statement generated: There are no statistical differences in personality types of OCES field staff and those representing career teachers in the United States who had taken the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value 222.92 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Adult education teachers. The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing career adult education teachers in the United States who had taken the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI

type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 353.95 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Home management advisors and home economists. The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing career home management advisors and home economists in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 292.20 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Farmers. The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing career farmers in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 186.12 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Administrators (educationally related). The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing career administrators in educationally related administrative duties in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 133.55 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

Biological scientists. The hypothesis statement developed: There are no statistical differences in personality types of OCES field staff and those representing career biological scientists in the United States who had been measured by the MBTI.

A one way chi-square "goodness of fit" test was calculated for the independent variable (career classification) with sixteen levels (MBTI type categories). The null hypothesis was rejected at or above the .05 level of significance, as the calculated chi-square value of 68.68 exceeded the chi-square critical table value of 24.9958, with fifteen degrees of freedom, 191 subjects.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The Cooperative Extension Service nationwide is encountering challenges commonly associated with large organizations: limited financial resources, changing demographics of clientele, diverse needs of clientele, organizational identification of purposes, organizational prioritization of goals, and interpersonal communication and collaboration among employees. The ability of the OCES to efficiently operate internally as well as to deliver expected educational programming and services to its clientele is crucial to its continuing prosperity. Professionals must be able to blend supported theories with practice to more effectively meet the needs and goals of the organization. The theory behind the MBTI and its potential application in both organizational and educational situations could aid OCES by providing useful information for the practices of planning and delivery of services.

Literature Review

The literature review focused on the Jung's typology theory and the resulting development of the Myers-Briggs Type Indicator (MBTI) by Katherine Briggs and Isabel Briggs Myers, and research using the MBTI

relevant to Cooperative Extension. Specific research reviewed concentrated on the use of the MBTI in educational situations and in Cooperative Extension. Research efforts were concentrated on the benefits of understanding personality preference as a tool to increase communications, and individual effectiveness in organizational functions.

Purpose of the Study

The purpose of this study was to determine and compare the personality type profiles as measured by the Myers-Briggs Type Indicator of the Oklahoma Cooperative Extension Service field staff in Oklahoma.

Objectives of the Study

The objectives of the study were:

1. To describe demographic characteristics of Cooperative Extension Service field staff in Oklahoma.
2. To determine and describe the personality type profile of OCES field staff for each individual and as an overall group in terms of MBTI psychological types.
3. To compare the personality type profile of male OCES field staff as a group to the type profile representing the male general population in the United States who have been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).
4. To compare the personality type profile of the female OCES field staff as a group to the type profile representing the female general population in the United States who have

been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985).

5. To compare the personality type profile for OCES field staff as an overall group to those of related career groups as identified by the MBTI manual (Myers & McCaulley, 1985).

Statement of Problem

The MBTI personality type profiles for OCES field staff were previously unknown. As the MBTI has been used in other organizational situations to positively assist in meeting objectives such as improving communications between personnel, decision-making, and conflict resolution, the possibility for similar use of MBTI theory by the OCES required the personality types of OCES field staff to be measured.

Procedures

The study was a descriptive study. A brief questionnaire to identify and record demographic data and MBTI Form F booklet and score sheet was distributed by mail during the summer of 1994 to all Oklahoma Cooperative Extension Service District Directors, Area Specialists, and County Field staff as identified in the 1994 Personnel Directory of the Division of Agricultural Sciences and Natural Resources for Oklahoma State University. Of this identified population of 240 OCES field staff, there were 191 total respondents after the initial mailing and two mailed reminders.

The MBTI Form F sheets were scored by hand using templates provided by the distributor, Consulting Psychological Press, Inc. All nominal and ordinal data gathered was recorded on the computerized

spreadsheet program, Microsoft Excel version 4.0. Statistical analyses were performed using the formula functions of the spreadsheet program and by scientific calculator.

Summary of Findings

Objective One: Demographic Information

Of the 191 respondents, 76 were assigned to the Southwest District, 43 were assigned to the Northwest District, 66 were assigned to the Northeast District, and 55 were assigned to the District. Further, 154 identified themselves as County Field staff, 27 as Area Specialists, and 10 as District Directors. There were 108 male (56.54%) and 83 female respondents (43.46%). OCES field staff were well represented across the age groups, with the age range of 30 to 59 years of age containing 87% of the responses. OCES field staff were also highly educated, with 70% having completed a Masters or Doctorate degree. Although the five years or less of experience category contained the largest number of respondents, 51 (26.70%), the majority of respondents were particularly evenly distributed among the categories representing from 6 to 25 years of experience: the six to ten years of experience category contained 34 respondents (17.80%), the eleven to fifteen years of experience category contained 36 respondents (18.85%), the sixteen to twenty years of experience category contained 33 respondents (17.28%), the twenty-one to twenty-five years of experience category had 23 respondents (12.04%), and 14 of the respondents (7.33%) reported twenty-six or more years of experience.

Objective Two: Description of the MBTI Personality Profile for OCES Field Staff

The MBTI response sheets for all respondents were hand scored, with each resulting score expressed as a numerical representation within the four MBTI dichotomies. The personality type profile for each respondent was determined in terms of preferences among each of the four dichotomies, preferences among the four temperament combinations, and preferences among the MBTI sixteen personality types. The frequency distribution among the sixteen MBTI personality types was also compiled to compose representative type tables for the OCES field staff as an entire group, for male OCES field staff, and for female OCES field staff.

Compilation of the OCES field staff's responses among the four dichotomies were reported. OCES field staff were nearly evenly distributed between the I (introversion) and the E (extraversion) attitudes, with slightly more of the respondents (51.31%) preferring the I attitude. However, there was a distinct preference by the respondents for the S (sensing) function compared to the N (intuition) function, with 79.92% of the staff preferring S function and 24.08% of the staff preferring the N function. As an overall group, the OCES field staff were found to prefer the T (thinking) function compared to the F (feeling) function, with 57.97% preferring the T function and 42.93% preferring the F function. As it has been well documented that males consistently favor the T function, and that females consistently favor the F function (Myers & McCaulley, 1985), the preference types of the male and female OCES respondents was also determined. Male OCES field staff followed this previously established trend, as 63.89% preferred

the T function. Female OCES field staff less apparently followed the previously established trend, as only 57.83% preferred the F function. Finally, a distinct preference by the OCES field staff for the J (judgement) function compared to the P (perceptive) function was reported, with 75.39% of the respondents preferring the J function, and only 24.61% preferring the P function.

When the frequency distribution among the temperament combinations was determined, a clear preference for the SJ (sensing judgement) temperament among the OCES respondents (59.16%) was revealed. The other temperament combinations of SP (sensing perceptive), NF (intuitive feeling), and NP (intuitive perceptive) had lower response rates of 15.70%, 12.57%, and 12.57% respectively.

The frequency distribution of MBTI personality types for the OCES field staff as an entire group revealed that three of the type categories contained one half of all respondents: 20.94% of the respondents were in the ISTJ category, 14.66% of the respondents were in the ESFJ category, and 14.14% of the respondents were in the ESTJ category. Although the thirteen remaining categories were preferred by less than a 10% of the respondents, it should be noted that there were respondents in all sixteen personality types for the overall OCES field staff group.

Objective Three: Comparison Between the Personality Profiles of Male OCES Respondents and Those Representing the Male General Population

The personality type profile of the male OCES respondents was determined. Two of the personality type categories were more prevalent in the frequency distribution for the male OCES field staff: 25% of all

male respondents were in the ISTJ category, and 16.67% of all male respondents were in the ESTJ category. All of the remaining fourteen type categories were represented, but with less than ten male respondents.

Using the chi-square test for one-way designs, a statistical comparison was then made between the frequency distribution of the MBTI personality types for the male OCES field staff and that representing the male general population in the United States who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985). The frequency distribution for the male OCES field staff was found to be significantly different at the .05 level of confidence than that representing the male general population in the United States who had been measured by the MBTI.

Objective Four: Comparison Between the Personality Profiles of Female OCES Respondents and Those Representing the Female General Population

The personality type profile of female OCES respondents was determined. One of the MBTI type categories contained over one quarter of the OCES female respondents; ESFJ with 25.30% of all female respondents. The next two categories containing the largest number of responses were ISTJ with 15.66% of all female respondents, and ISFJ with 12.05% of all female respondents. The remaining thirteen MBTI type categories contained less than ten respondents. It should be noted that two MBTI type categories were not represented in the OCES female personality profile: ISFP and ENFP, as both had no female respondents.

Using the chi-square test for one-way designs, a statistical comparison was made between the frequency distribution for the MBTI

personality types for the female OCES respondents and that representing the female general population in the United States who had been measured by the MBTI as provided by the MBTI manual (Myers & McCaulley, 1985). The frequency distribution for the female OCES field staff was found to be statistically different at the .05 level of confidence than that representing the female general population in the United States who had been measured by the MBTI.

Objective Five: Comparison Between the Personality Profiles of the OCES Field Staff as an Overall Group to Those Representing Related Career Groups

Using statistical analysis, comparisons were made between the frequency distributions of the overall OCES personality type profiles and the type profiles representing groups in the United States who have been measured by the MBTI within career classifications similar to that of OCES field staff: university graduates, teachers, adult education teachers, home management and home economists, farmers, administrators (educationally related), and biological scientists. Hypothesis statements were drawn to represent these comparisons, and were analyzed using the chi-square test for one-way designs. The null hypotheses were rejected if the observed frequency distributions of the OCES personality type profiles differed at or above the .05 level of significance from expected frequency distributions of career classification groups as provided by the MBTI manual (Myers & McCaulley, 1985). The frequency distribution for the OCES field staff as an entire group was found to be significantly different than those representing all seven career classification groups tested.

Conclusions

The general conclusions of the study were:

1. The OCES respondents were typically Caucasian, between thirty and fifty-nine years of age, and had completed a Masters degree.

2. The OCES field staff were represented across all MBTI personality types implying that the group is rich in diversity.

3. Although diverse across the MBTI categories, OCES field staff for the temperament combinations revealed a strong preference within the group for the **SJ** (sensing judgement) temperament.

4. Based on the major findings of the study, the **E-I** (extraversion-introversion) dichotomy revealed that OCES field staff seem to prefer the **I** (introversion) attitude, whereas Myers and McCaulley (1985) indicated that a much larger segment of the general population of the United States who had been measured by the MBTI preferred the **E** (extraversion) attitude; therefore, it was concluded that the OCES field staff seemed to have **E-I** type preferences more along the lines of generating and focusing energy and ideas internally than externally.

5. Furthermore, the **J-P** (judgement-perceptive) dichotomy revealed that a rather large portion of the OCES field staff seemed to prefer the **J** (judgement) function, whereas Myers and McCaulley (1985) indicated the general population of the United States who had been measured by the MBTI also somewhat preferred the **J** function; therefore, it was concluded that the OCES field staff and general population had similar preferences, however, the OCES field staff seemed to be somewhat stronger toward their preferences concerning **J** characteristics.

6. The personality type profiles of the male OCES field staff and female OCES field staff as a whole were uniquely different and diverse from the personality profiles of those representative of males and females in the general population who had been measured by the MBTI.

7. The personality type profile of the OCES field staff as an overall group were uniquely different from those representing similar career classification groups in the United States who had been measured by the MBTI relative to the field staff's experiences, responsibilities and clientele served.

Recommendations

Upon considering the design for this study, the researcher had anticipated that the personality profile of the OCES field staff could be similar to other chosen career groups, particularly educators, as the majority of OCES field staff are highly educated or formally trained as educators. This would have been useful, as previously developed strategies for such groups could then be incorporated into the OCES environment. However, the findings of this study did not support that anticipation, and indicated that the OCES field staff profile was statistically different compared to others, unique unto itself. Therefore, it is recommended that the OCES field staff first focus on how to better understand and utilize their knowledge of their own preferences and that of their fellow professionals with the focus of enhancing the organizational environment. To do so, there must be understanding of the characteristics of the MBTI type dichotomies and a recognition of the characteristics associated with the sixteen typological categories in work place situations.

Implications

The concluding sections of this study will discuss the implications and applications of characteristics associated with the MBTI types to better understand the influence of personality preferences between individuals and within organizational functions.

Preferences Associated with the MBTI Types

Recognition of characteristics associated with the general preferences of the four MBTI dichotomies, the four temperament combinations, and of the sixteen type categories are useful in predicting how individuals prefer to gather and interpret information in the environment around them. Examination of the characteristics associated with each element provides the most generalized description of preferences, whereas examination of the combinations of these elements in the sixteen separate MBTI personality types provides the most specific descriptions of preferences.

When interacting in the work place, individuals of different types have been found to be more positively responsive when their preferences are addressed, and when individuals better understand how others of differing personality types influence on the job behavior. Therefore, characteristics of both the type elements and the combinations of type elements forming preference types can be considered and incorporated in the organizational routine and philosophy. Regardless of how the preferences of individuals are examined or preferences addressed in the work environment, OCES field staff should recognize and respect preferences differing from their own and realize that every style in its

own way facilitates completion of work.

Preferences in the Work Environment Associated with the Four Dichotomies

The following figures briefly describe characteristics associated with the four dichotomous scales of Extraversion-Introversion (**E-I**), Sensing-Intuition (**S-N**), Thinking-Feeling (**T-F**), and Judgement-Perception (**J-P**).

Figure 3 describes preferences of the **E** (extraversion) and **I** (introversion) attitudes as to the source of energy for the individual and favored working atmosphere.

	E ◄----------► I	
SOURCE OF ENERGY	Obtained from and directed toward the outside world	Generated and directed inward toward ideas and concepts
FOCUS	Accessible, want to change the world	Reserved, internalized, interpret the world
ORIENTATION	Thinkers after actions	Thinker before any actions
WORK ENVIRONMENT	Want companionship and interactions Embrace variety, and prefer interests with breadth	Prefer quiet solitude for concentration situations Prefer interests with depth

FIGURE 3. Comparison of the Extraversion and Introversion Preferences

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

OCES respondents were found to be rather evenly distributed between the **E** and I attitudes. The benefit of such a balance in an organization implies that the strengths and weaknesses of each attitude could offset each other, and that there could be the potential to assign various duties with consideration of individual preferences. As an example, field staff preferring the I attitude should be provided opportunities for solitude to concentrate, reflect, and "recharge," and should not necessarily be considered non-team players when expressing the desire to work alone. Conversely, those individuals preferring the **E** attitude should be allowed to "think out loud," and duties could be assigned to capitalize on their preference for brainstorming and working in group situations.

Figure 4 describes the characteristics of the **S** (sensing) and **N** (intuitive) functions as to how the individual favors their lifestyle and work style.

A distinct majority of OCES field staff were found to prefer the **S** function. When approaching duties and problems, individuals with this preference tend to be most responsive not only to being well informed in a timely fashion, but also when given complete and tangible details concerning present or short term situations, particularly when concerning significant organizational change. However, the input offered by individuals preferring the **N** function should not be belittled or ignored, but should be sought for innovation and a more global and future oriented perspective.

Figure 5 describes the characteristics related to how individuals preferring the **T** (thinking) and **F** (feeling) functions base their decisions.

S ◄----------► N

PERCEPTIONS	Rely on the five senses	Rely on inspiration
FOCUS	Practicality Present reality	Innovation Future expectations
LIFESTYLE	Live life as it is	Like changes and rearrangements
WORK ENVIRONMENT	Details oriented, make fewer factual errors Prefers using mastered skills	Looks at the more global situation Prefers adding new skills

FIGURE 4. Comparison of the Sensing and Intuition Preferences

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

T ◄----------► F

DECISION MAKING	Based on logic	Based on needs, values
FOCUS OF DECISIONS	Principles, "Truth"	People and fostering harmony
ORIENTATION	A problem solver	A supporter of others
WORK ENVIRONMENT	May act impersonally, but actions fair and businesslike	Treats others as unique individuals and personally

FIGURE 5. Comparison of the Thinking and Feeling Preferences

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

Following previously established trends, the majority of male OCES field staff preferred the T function, and the majority of female OCES field staff preferred the F function. However, there were also many female OCES field staff who preferred the T function as well. Characteristics associated with the T function include the preference a systematic and logical approach to solving problems. Preferences of the F function, however, value personal needs and feelings above factual information alone. Knowledge of the characteristics of the T and F functions allows the recognition that behaviors of those preferring the T function are not necessarily unfeeling, just as behaviors of those preferring the F function are not necessarily inattentive to logic in emotional situations. A balance between these functions should provide a complimentary environment of care and understanding of the clientele as fellow human beings, as well as provision of the most up to date, researched information for their benefit.

One concern should be particularly noted, however, considering the large number of female OCES field staff preferring the T function. Women preferring the T function tend to be businesslike, self-assured, and factual. Unfortunately, women preferring the T function are often viewed as "strong and opinionated," and their straightforward leadership styles have been criticized in American society as being "less feminine" or overly competitive with men. Women preferring the T function may also inwardly struggle with their own feelings toward how they balance their careers and family, and may view themselves as less worthy as wives or a feminine influence to those around them (Kroeger, 1992). The OCES organization should attempt to recognize the strengths of women preferring the T function in positive ways and capitalize on their

competencies, rather than labeling these characteristics as being an expression of less femininity and a competitiveness with the men.

Figure 6 describes the preferences of the J (judging) and P (perceptive) functions in terms of favored lifestyles and work styles.

J ◄----------► P

LIFESTYLE	Scheduled	Spontaneous
FOCUS	Disciplined, purposeful	Adaptable, flexible
ORIENTATION	More exacting	More tolerant
WORK ENVIRONMENT	Prefers to be given the most important points of a project Decides more quickly	Prefers to be given everything known about a project Postpones decisions until all information known

FIGURE 6. Comparison of the Judgement and Perception Preferences

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

The OCES field staff were found to distinctly prefer the J function. When given assignments, those preferring the J function are most responsive in an environment that is structured and focused on the task at hand rather than a more informal and spontaneous atmosphere. However, those OCES field staff preferring the P function should be respected for their adaptability, tolerance of less organized situations, and the need to know more than just the major points of a

task at hand.

In the work environment, the elements of the four dichotomies have been found to influence how the individual perceives time and time management strategies used in the organization. Table VIII outlines characteristics associated with each type's perception of time.

In summary, as the majority of OCES field staff prefer the I attitude, and S and J functions, provision of an atmosphere including individual work time and structured well defined tasks would be appreciated. Those individuals in supervisory positions of the OCES could provide opportunities and respond more appropriately to individual preferences as a means to favor productivity and avoid needless frictions and disagreements. However, communication and respect for differences concerning time management by individuals by all OCES field staff could provide for a positive atmosphere in the organization.

Preferences in the Work Environment Associated with the Four Temperaments

The combinations of SJ, SP, NF, and NJ, referred to as "the temperaments" by Keirsey & Bates, (1978), "produce a different set of characteristics, ... different interests, values, needs, abilities, habits of mind, and surface traits" (Myers & McCaulley, 1985, p. 54). In the work place, the four temperament types have been found to influence the perception of an individual toward his/her employer or superior. Table IX outlines the favorable and unfavorable employer from the view of the four temperament preferences.

TABLE VIII

TYPE CHARACTERISTICS OF TIME MANAGEMENT

E TYPES:	I TYPES:
* Prefer working with others, but may be distracted from completion	* Prefer working alone, and may so involved as to forget deadlines
* Will invade other's space and time	* Don't wish to have other's demands disrupt them
S TYPES:	N TYPES:
* Prefer to focus on today	* Prefer to focus on future possibilities
* Perceive time is of the moment	* Perceive time as endless
T TYPES:	F TYPES:
* Make presentations in a personal fashion, and to meet the needs of others	* Make presentations in logical order
* Perceive time as an objective	* Perceive time as relational
J TYPES:	P TYPES:
* Don't like last minute jobs, and may not recognize unscheduled tasks	* Make conclusions at the last minute, and pay less attention to schedules
* Work first, play later	* Tend to mix work and play

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

TABLE IX

EMPLOYER PREFERENCE OF THE FOUR TEMPERAMENTS

SJ TYPES PREFER:	DISLIKE:
* Employers who value accuracy, thoroughness, responsibility, and loyalty	* Unmet deadlines, and variation from the usual operating procedures
SP TYPES PREFER:	DISLIKE:
* Employers who recognize process as being as important as product, cleverness and adept timing	* The strict use of standard operating procedures and exacting rules
NF TYPES PREFER:	DISLIKE:
* Employers who personally express appreciation and respect others' feelings and values	* Inattention to people's needs or a dehumanizing atmosphere
NT TYPES PREFER:	DISLIKE:
* Employers who commend brilliant strategies and competence	* Unproductive traditions, obvious violations of logic and principles

Adapted from: Hirsh, S. K. Using the Myers-Briggs Type Indicator in organizations. (2nd ed.) Palo Alto, CA: Consulting Psychological Press, Inc., 1991.

The OCES field staff were found to prefer the **SJ** (sensing judgement) temperament approximately three to one over the other three temperament combinations. The work atmosphere that will be most appreciated by individuals preferring the **SJ** temperament is one that is structured, incorporates deadlines, and workers and superiors value planning, accuracy, and decisiveness. Those individuals preferring the other temperaments should not be discounted, however, but should be

sought as to opinions from their perspectives to provide that inattentiveness to those things not preferred by the **SJ** style does not occur.

Preferences in the Work Environment Associated with the Sixteen MBTI Personality Types

Lastly, the completed combinations of the four type elements to delineate the sixteen separate MBTI personality types reveals the full diversity of human behaviors and preferences, as each combination forms distinct characteristic preferences. The frequency distribution of OCES male and female field staff among the sixteen MBTI personality types is presented in Figure 7.

As an entire group, OCES field staff were represented among all sixteen personality types, implying a rich diversity of preferences and styles within the organization. Of the sixteen types, however, three were preferred by approximately one-half of the field staff: **ISTJ** (introverted sensing thinking judgement), **ESTJ** (extraverted sensing thinking judgement), and **ESFJ** (extraverted sensing feeling judgement).

A brief, general description of characteristics associated with all sixteen types was provided in Chapter II of this study. To provide examples of how the characteristics of the different personality types can influence behaviors in an organizational setting, the following are descriptions of characteristics associated with the **ISTJ**, **ESTJ**, and **ENFJ** personality types. It should be noted that two of the three most preferred types, **ISTJ** and **ESTJ**, differ only as to how they express their preferred functions, and that all three types share the common **SJ** temperament.

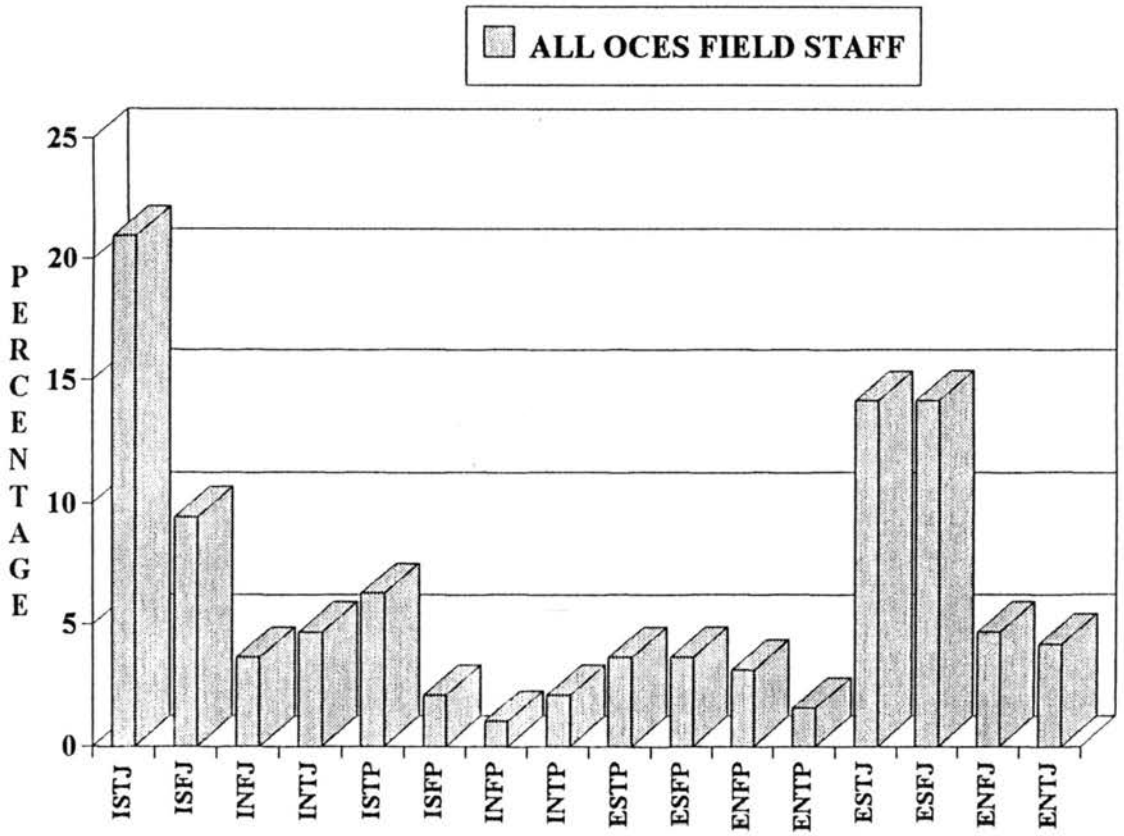

Figure 9. The MBTI Type Profile for Oklahoma Cooperative Extension Field Staff as a Group

Kroeger (1992) refers to those individuals who prefer the **ISTJ** type as "life's natural organizers." The **ISFJ** worker tends to possess a no-frills, work comes first, and hard work no play attitude. **ISTJ** individuals tend to seem calm, act quickly and correctly, and stay with a project until completion. With appropriate direction, that is, a more formal environment with obvious structure and procedure, **ISTJ** individuals become responsible, accountable, self-motivated, and highly productive workers.

However, **ISTJ** individuals also may experience the pitfalls of their highly structured and self-initiated behaviors. They may become "workaholics," believing to do it right means doing it yourself, and forsaking family and friends for perceived job commitments. They tend to be grounded in the present, and may have difficulty visualizing future concerns. They value control, and may be heavily stressed by the unexpected. Research has revealed that **ISTJ** individuals can have difficulty with duties requiring interpersonal communication and relationships (Kroeger, 1992), as their preference for privacy and control of their emotions may also cause them to seem detached and unfeeling. Another problem associated with this preference is the inability to praise others when appropriate, thereby lending to a perception that contributions of others are not appreciated.

Kroeger (1992) refers to individuals who prefer the **ESTJ** personality type as "life's natural administrators." The characteristics associated with this type concerning the **S**, **T**, and **J** functions as described above are the same for the **ESTJ** individual. However, the **ESTJ** individual's behavior differs in the way that these functions are expressed. Unlike the **ISTJ** individual, those preferring

the **ESTJ** type are outgoing, social, and positive. Therefore, these individuals not only organize, but tend to be able to get others around them to develop procedures and implement programs. Kroeger (1992) reports that this preference type is found in administrative positions of all types throughout the business world and military.

The pitfalls for the **ESTJ** type also differ from that of the **ISTJ** type. Because of straightforwardness, extreme behaviors associated with this type include being loud, domineering, argumentive, abrasive, and a tendency to project a "know-it-all" attitude. Women who prefer the **ESTJ** personality type may be mislabeled as intimidating and competitive. The **ESTJ** type may also suffer from the tendency to be a "workaholic," and may have a difficult time of relaxing.

In contrast to the **ISTJ** and **ESTJ** characteristics, those individuals who prefer the **ESFJ** personality type are known for being personable, gracious, gregarious, traditional, and concerned for others. Because of their **SJ** temperament, **ESFJ** individuals are pulled between the **SJ** preference for traditionalism and logic and the **F** function preference of needing to attend more to the feelings and concerns of others. Overall, **ESFJ** individuals are known for being highly productive workers and natural motivators who are concerned with others around them.

The major pitfall for the **ESFJ** preference is the avoidance of conflict at all costs, even "healthy" conflict associated with discussion and changes needed for organizational progress. **ESFJ** individuals may, to their own detriment, perceive any disharmony as a reflection on themselves. The **ESFJ** individual tends to experience stress through worry when other individuals do no perform to expected levels. It should also be noted that research has revealed a tendency

among women who prefer the **ESFJ** type to value traditional feminine roles to the point of not wanting or accepting promotions into management roles over men, many times to the distress of others around them (Kroeger, 1992).

It should be noted that descriptions individuals preferring the three personality types above, although sharing some of the same characteristics, have differences in behavior and style that potentially could be disruptive to each other. Referring to the description of characteristics of the sixteen MBTI personality types provided in Chapter II of this study, the reader should also note that approximately one-half of the OCES field staff prefer one of the other thirteen personality types. Work environment preferences of these types, particularly types composed of **N** and **P** functions, are distinctly different or completely opposite from that of the **S**, **T**, and **J** functions. These differing preferences could cause misunderstanding, miscommunication and disharmony in the work place.

In the context of an organizational situation such as the OCES, these behaviors and preferences not only as described above, but for the remaining thirteen personality types, cannot be totally addressed and at all times. However, greater recognition of work style preferences due to personality type, willingness to adjust and provide for differences when possible, and the attempt to better communicate preferences and dislikes in the work place can be used as a tool toward enhancement of the physical and psychological work environment.

Concluding Remarks

Personality typing based on theoretical constructs such as exists

when using the Myers-Briggs Type Indicator is ultimately very personal, as it has the potential to "reveal" aspects of the individual's self. Therefore, it must be continually stressed that there are no "right or wrong" preferences, and preference characteristics are not to be equated with morality in one direction or the other. It must also be stressed that the results of this kind of measurement must never be used as a method to discriminate among or against individuals, as an excuse to cover inappropriate behavior in the work place, or as the basis of determination for promotion or demotion. However, this ability to reveal aspects of personality does grant the opportunity to use the MBTI as a powerful tool for assisting individuals to better understand what makes themselves and others "tick," accommodating these needs and preferences in a productive fashion.

The preceding figures only provided partial examples of the kinds of information available in materials for in-service or workshop opportunities to further explore and recognize how personality preferences influence individuals' approach to duties in their work environment. The Oklahoma Cooperative Extension Service should consider further training of all field staff in MBTI personality type applications in the work place beyond the materials the author supplied to each respondent of the study concerning each individual's MBTI personality type.

On a broader scale, published research indicates that only a few other states have developed MBTI personality profiles of their Cooperative Extension Service field staff. Further MBTI personality typing should be conducted to determine if the trends indicated by the OCES profiles are similar or dissimilar to their counterparts in other

states, and to further explore possibilities to develop applications of MBTI personality theory specifically for the challenges and duties of state extension field staff.

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APPENDICES

APPENDIX A

SURVEY INSTRUMENT

AN ASSESSMENT AND COMPARISON OF PERSONALITY PREFERENCES OF OKLAHOMA COOPERATIVE EXTENSION SERVICE PROFESSIONALS
DEMOGRAPHIC SURVEY
1994

This brief questionnaire is to provide demographic data to build a profile base of all Oklahoma Cooperative Extension Service district, area and county field staff. Please also complete the demographic items on the MBTI scoring sheet.

Please answer the following questions:

1. My current assignment is:

- ☐ District Staff.
- ☐ Area Specialists.
- ☐ County Field Staff.

2. My specific assignment is best described as:

- ☐ Agriculture
- ☐ Home Economist
- ☐ Rural Development
- ☐ District Director
- ☐ County Extension Director
- ☐ Area Specialist (specific area) _____
- ☐ 4-H Agent
- ☐ Horticulture
- ☐ District 4-H
- ☐ District Home Economist
- ☐ Other (specific area) _____

3. My total years of experience in Cooperative Extension is:

- ☐ 0 to 5 years.
- ☐ 6 to 10 years.
- ☐ 11 to 15 years.
- ☐ 16 to 20 years.
- ☐ 21 to 25 years.
- ☐ 26 or more years.

4. My predominate cultural background is best described as:

- ☐ African American.
- ☐ Asian American.
- ☐ Caucasian.
- ☐ Hispanic.
- ☐ Native American.
- ☐ Other (specific) _____

5. Please identify your undergraduate major(s):

_____

_____

_____

6. Please identify your graduate major(s):

_____

_____

_____

7. Please share any comments you might have:

Thank you very much for your time and assitance!

Please return this questionnaire along with the other survey instruments in the envelope provided. If you have any questions, please contact Susan Nickel at (405) 377-6520 or Dr. White at (405) 744-8143.

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 06-17-94 **IRB#:** AG-94-032

Proposal Title: TYPOLOGY TESTING OF OKLAHOMA STATE EXTENSION PERSONNEL

Principal Investigator(s): James White, Susan B. Nickel

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: June 17, 1994
Chair of Institutional Review Board

APPENDIX C

COVER LETTER TO OKLAHOMA COOPERATIVE EXTENSION DISTRICT ADMINISTRATORS

COOPERATIVE EXTENSION SERVICE
DIVISION of AGRICULTURAL SCIENCES and NATURAL RESOURCES
OKLAHOMA STATE UNIVERSITY • (405) 744-5398 • FAX (405) 744-5339
Office of the Dean and Director • 139 Agricultural Hall • Stillwater, Oklahoma 74078-0500

June 24, 1994

Mr. Ladd D. Hudgins
District Director, Southwest District
Oklahoma Cooperative Extension Service
Duncan, OK 73533

Dear Mr. Hudgins:

My name is Susan B. Nickel, and I am in the process of completing a Doctorate of Education in Agricultural Education at Oklahoma State University.

The title of this research effort is An Assessment and Comparison of Personality Types of Oklahoma Extension Professionals. The purpose of this study is to determine a demographic and personality type profile for Oklahoma Extension district, area and county field staff. To determine this information, a demographic survey and the Myers-Briggs Type Indicator (MBTI) will be administered to all Extension professionals at the district, area and county levels.

To accomplish this endeavor, I do need your cooperation and assistance in reassuring those who may have questions concerning how the MBTI will be used. The outcomes of this study and its educational implications will be to better facilitate inservice education activities and provide the opportunity for Extension professionals to potentially experience optimum benefits as the result. I realize this may be an imposition on your time, however, your assistance and positive influence is vital to the success of this research effort.

Thank you for your time and assistance!

Susan B. Nickel
Graduate Student
Agricultural Education

James D. White
Professor and Thesis Adviser
Agricultural Education, Communications and 4-H Youth Development

Raymond E. Campbell
Interim Associate Director
Oklahoma Cooperative Extension Service

APPENDIX D

COVER LETTER TO OKLAHOMA COOPERATIVE EXTENSION FIELD STAFF

COOPERATIVE EXTENSION SERVICE
DIVISION of AGRICULTURAL SCIENCES and NATURAL RESOURCES
OKLAHOMA STATE UNIVERSITY • (405) 744-5398 • FAX (405) 744-5339
Office of the Dean and Director • 139 Agricultural Hall • Stillwater, Oklahoma 74078-0500

June 24, 1994

Dear Extension Professional:

My name is Susan Nickel, and I am in the process of completing a Doctorate of Education in Agricultural Education at Oklahoma State University.

The title of this research effort is An Assessment and Comparison of Personality Types of Oklahoma Cooperative Extension Service Professionals. The purpose of this study is to determine a demographic and personality type profile for Oklahoma Extension district, area and county field staff. To determine the personality type profile, the Myers Briggs Type Indicator (MBTI) will be administered to all members of the total population of district, area and county field staff.

Thank you for your willingness to participate in this research project. Your participation is very much appreciated. However, I would like you to be aware that you do have certain rights concerning your participation: 1) your participation is entirely voluntary, 2) you may refuse to answer any question at any time, 3) and the data collected from the questionnaire and MBTI instrument will be kept strictly confidential and will be available only to the researcher. Only aggregate data will be shared with the members of the thesis committee and state Extension professionals.

Please take a few minutes of your time to complete the questionnaire and Myers-Briggs Type Indicator instrument. In keeping with the ethics of the MBTI publishers, please DO SIGN the Myers-Briggs score sheet so that I may return to you an explanation of your own type and profile. In order to maintain confidentiality and still provide this information, your original survey instrument and MBTI score sheet will also be returned to you at that time. Numbering and coding of the instruments is for the purpose of compiling data, and will in no way be made public in a manner that will reveal individual responses.

If there are any questions, please contact me at (405) 377-6520, or leave a message and I will return your call. Please return all survey forms and booklets in the pre-addressed stamped envelope provided NO LATER THAN JULY 11, 1994. Thank you again for your time and assistance!

Susan B. Nickel
Graduate Student
Agricultural Education

James D. White
Professor and
Thesis Adviser

Raymond E. Campbell
Interim Associate Director
Oklahoma Cooperative
Extension Service

cc. District Directors

APPENDIX E

ADDITIONAL STATISTICAL INFORMATION

TABLE X

FREQUENCY DISTRIBUTION OF PERSONALITY TYPES REPRESENTING THE MALE AND FEMALE GENERAL POPULATION IN THE UNITED STATES THAT HAD BEEN MEASURED BY THE MBTI

	Males n1 = 23,240 Percentage 100.00%	Females n2 = 32,731 Percentage 100.00%
ISTJ	13.93	7.80
ISFJ	5.34	11.70
INFJ	3.15	4.66
INTJ	6.54	3.44
ISTP	5.04	2.06
ISFP	3.32	5.32
INFP	5.51	6.59
INTP	5.77	2.72
ESTP	4.77	2.25
ESFP	3.51	6.64
ENFP	6.76	11.28
ENTP	6.00	3.68
ESTJ	13.77	8.13
ESFJ	5.09	12.49
ENFJ	3.76	6.72
ENTJ	7.74	4.53

TABLE XI

FREQUENCY DISTRIBUTION OF MBTI PERSONALITY TYPES BY CAREER GROUP

	University Graduates n = 2,282 Percentage 100.00%	Teachers n = 16,678 Percentage 100.00%	Teachers (Adults) n = 228 Percentage 100.00%	Farmers n = 72 Percentage 100.00%
ISTJ	12.84	11.25	10.09	15.24
ISFJ	6.09	2.01	4.39	9.72
ISTP	7.54	1.53	3.95	6.94
ISFP	10.87	9.01	11.40	19.44
INFJ	1.67	11.10	11.40	8.33
INTJ	1.71	3.29	4.82	4.17
INFP	8.11	3.40	5.26	5.56
INTP	5.39	9.25	13.60	6.94
ESTP	1.18	6.13	3.07	0
ESFP	1.67	7.13	6.14	4.17
ESTJ	9.07	10.01	8.33	0
ESFJ	5.30	7.69	4.39	0
ENTP	6.49	5.22	2.63	2.78
ENFP	4.43	3.35	1.75	4.17
ENTJ	8.02	3.64	3.51	6.94
ENFJ	9.64	5.98	5.26	5.26

TABLE XI (Continued)

	Home Management Advisors and Home Economists n = 58 Percentage 100.00%	Administrators (Educationally related) n = 122 Percentage 100.00%	Biological Scientists n = 57 Percentage 100.00%
ISTJ	10.34	16.39	12.28
ISFJ	3.45	3.28	0
ISTP	1.72	1.64	1.75
ISFP	10.34	10.66	8.77
INFJ	8.62	5.74	5.26
INTJ	3.45	3.28	0
INFP	1.72	.82	3.51
INTP	17.24	6.56	5.26
ESTP	6.90	4.10	7.02
ESFP	1.72	8.20	10.53
ESTJ	10.34	8.20	3.51
ESFJ	15.52	8.20	5.26
ENTP	1.72	6.56	8.77
ENFP	0	4.10	8.77
ENTJ	0	3.28	7.02
ENFJ	6.90	9.02	12.28

TABLE XII

EDUCATIONAL DEGREES HELD BY OKLAHOMA COOPERATIVE EXTENSION SERVICE FIELD STAFF

Baccalareate Degrees	
Subject Area	Number of staff n = 154
Agriculture and Science Areas n = 84	
Agribusiness	1
Agricultural Education	36
Agricultural Economics	2
Animal Science	29
Agronomy	4
Aquaculture	2
Biological Science	2
Botany	2
Entomology	2
Horticulture	4
Home Economics Areas n = 69	
Home Economics Education or Vocational Home Economics	51
Home Economics (non-teaching)	12
Family Relations and Child Development	2
Food and Nutrition	1
Household Finance and Household Equipment	1
Fashion Merchandising or Apparel Merchandising	1
Hotel and Restaurant Administration	1
Education and Liberal Arts Areas n = 8	
Secondary Science or Biology Education	2
Elementary Education	2
Psychology	1
Geography	1
Journalism	1
Political Science and Sociology	1

TABLE XII (Continued)

Masters Degrees	
Subject Area	Number of staff n = 135
Education n = 50	
Adult Education or Rural Adult Education	3
Agriculture Education	36
Education	2
Higher Education or Educational Administration	4
Elementary Education	2
Secondary Education	2
Vocational Technical Education	1
Home Economics and Home Management Areas n = 43	
Clothing and Textiles	3
Consumer Resource Management or Consumer Studies	3
Counseling, Guidance and Counseling, Secondary Educational Counseling, or Student Personnel Services	6
Family Ecology, Family Relations, Family Resource Management, Family Services, or Family Relations and Child Development	12
Home Economics Education and Community Service, or Secondary Home Economics Education	11
Housing Design and Consumer Resources	2
Human Ecology, Human Relations, Human Development, or Human Resources and Counseling	5
Nutrition (human)	1
Agriculture and Biological Science Areas n = 37	
Agriculture	3
Agricultural Economics	6
Agronomy or Crop Production	5
Animal Nutrition or Ruminant Nutrition	2
Animal Science	8
Aquaculture or Marine Biology	2
Biology	1
Entomology	3
Horticulture	4
Plant Pathology	1
Poultry Science	1
Zoology	1

TABLE XII (Continued)

Masters Degrees (continued)	
Subject Area	Number of Staff
Other Areas n = 5	
Business Administration	4
Journalism	1

Doctoral Degrees	
Subject Area	Number of Staff n = 4
Agricultural Education	1
Counseling/Psychology	1
Entomology	1
Poultry Science	1

VITA

Susan Beth Nickel

Candidate for the Degree of

Doctor of Education

Thesis: A DETERMINATION AND COMPARISON OF THE PERSONALITY TYPE PROFILES OF OKLAHOMA COOPERATIVE EXTENSION SERVICE FIELD STAFF AS MEASURED BY THE MYERS-BRIGGS TYPE INDICATOR

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Glendale, California, March 9, 1957, the daughter of Aldvin M. and Vlora Nickel.

Education: Graduated from the Academy of the New Church, Bryn Athyn, Pennsylvania, in June, 1975; received Bachelor of Science Degree in Animal Science from the University of Wyoming at Laramie in May, 1979; received Master of Science in Agriculture from Colorado State University at Fort Collins in May, 1988; completed requirements for the Doctor of Education Degree at Oklahoma State University in December, 1994.

Professional Experience: Teaching Assistant, Department of Curriculum and Instruction, Oklahoma State University, August, 1993, to December, 1994; Instructor of Animal Science, Department of Agriculture and Industrial Technology Education, Chadron State College, Chadron, Nebraska, August, 1988, to May, 1993; Student Teacher, Woodrow High School, Woodlin, Colorado, January, 1988, to April, 1988.

Professional Organizations: American Vocational Association, Nebraska Vocational Association, Nebraska Vocational Teachers Association, Nebraska Vocational Association of College and University Teacher Educators, American Society of Animal Science, Science, Phi Kappa Delta Honorary Society, Alpha Tau Alpha, Gamma Sigma Delta, Phi Kappa Phi, Alpha Zeta, Association for Supervision and Curriculum Development.