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An Analysis of Athletic Performance and Personality Type of University of Wisconsin-La Crosse Football Players for 1984

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College Student Personnel

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Michael H. Miyamoto

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ABSTRACT

The Myers-Briggs Type Indicator (MBTI) has become a very popular inventory in the fields of academic and vocational counseling. Even the skeptics, who argue that the MBTI does not represent a successful operationalization of Jungian concepts, agree that the instrument has potential in the counseling field. The analysis of type configurations can aid an individual in choosing a course of study or an eventual career.

This study attempted to determine if the MBTI could be used to reveal an association between athletic preference and success and type. It specifically examined 53 members of the 1984 UW-La Crosse football team. Part I of the study sought to determine if there were player distinctions on selected attitudes (J/P) and functions (T/F) of the MBTI. Part II specifically investigated the various football team positions to see if there were associations between selected MBTI preferences and the coaches' performance ratings.

It was concluded that at the .05 level, a significant number of Perceiving types existed on the 1984 UW-La Crosse defensive squad. It was also discovered at the .001 level that a very significant number of student/athletes on the UW-La Crosse football team preferred the Thinking over

the Feeling function.

Part II of the study revealed two strong positive correlations between the strength of preference on the Thinking function and the coaches' performance rating for the positions of running back (0.9949) and defensive back (0.6170).

It was concluded that a larger sample population would be needed in order to determine if there truly is an association between strength of preference scores and athletic performance.

CHAPTER I

INTRODUCTION

Statement of the Problem

The Myers-Briggs Type Indicator, a personality and preference assessment inventory, has been used to determine the relationship of personality "type" to scholastic performance and vocational preference. The dynamics of interpersonal relationships have also been explored via this instrument. While Isabel Briggs Myers (1962), and others, have discovered some correlations between "type" and cognitive and/or affective orientations, no known research has been done with the Myers-Briggs Type Indicator (MBTI) in the area of "type" as it relates to athletic success or preference.

This study examined the 1984 University of Wisconsin-La Crosse football team, in order to determine if there were player distinctions on selected attitudes and functions of the MBTI, as well as associations between selected MBTI preferences and the coaches' performance ratings.

Importance of the Study

Very little research in the area of personality

assessment of collegiate football players has been conducted. Most research in the area of athletes' personality traits has not focused on specific positions within a sport and has been very generalized (Aamodt, et al, 1982).

It was hoped that the results of this study would provide the University of Wisconsin-La Crosse football coaching staff and others some insight into their players' choice of positions and their ability to perform. The findings of this study might also be helpful in the examination of compatibilities between players. Isabell Briggs-Myers makes the following statement on the practical implications of type in her book Gifts Differing (1980):

> "When good will is in short supply, the conflict of the opposites can be serious. Type theory is informally confirmed by the difficulty that opposite types have in getting along with each other, and the saving of friction that often results when they understand the basis of their opposition (p.117)."

This understanding may be a very significant key in the promotion of camaraderie, an ingredient that is imperative for success in team competition. Information derived from the MBTI may also provide useful insight during the recruitment of student/athletes and may facilitate acclimation by the pairing of a recruit with an upperclassman of a compatible type.

Related Literature

Our concern for understanding and assessing personality has deep-rooted origins. The ancients relied heavily on "intuitive" means and later became more "scientific" with the development of astrology and palmistry. Modern personality measurement is based on assumptions that are congruent with scientific methodology, and possess, to a certain degree, validity and reliability (Thomes, 1973). Psychologists generally agree that the term "personality" refers to the unique organization of factors which characterizes an individual and determines ones' patterns of interactive behavior. But there appears to be little agreement among psychologists about the developmental process of personality. The wide variety of notions about personality may be classified into three main groups (Straub, 1971):

1. Those which describe a person in terms of the external forces upon him (e.g., biological, and sociological determinism).

2. Those which describe interaction between the person and his/her environment (e.g., theories of instinct, drive, desire, and need).

3. Those which describe a person in terms of basic traits (e.g., common traits, factors, or types).

Personality research as it pertains to sport, has been basically concerned with identifying traits of athletes

in different sports. Although it is well recognized that individual player and team personality differences exist among sport's participants, research has not, except for Kroll and Peterson's (1965) work, been directed at discovering personality differences of athletes who are participating within the same sport (Straub, 1971).

The idea that athletes possess unique and definable personality attributes from non-athletes is quite prevalent in our society (Kroll, 1965). This belief has led to a number of attempts to examine the personality characteristics of the athlete compared with the non-athlete (Valliant, et al, 1981). Most of these attempts have utilized Raymond B. Cattells' 16 Personality Factor test and the Rotter locus of control scale. The 16 PF test is a multidimensional set of sixteen questionnaire scales. It is designed to make available, in a practicable testing time, information about an individual's standing on the majority of primary personality factors (Cattell, 1970). The Rotter locus of control scale determines if an individual has a tendency for either an internal or external locus of control (motivation). Overall the studies utilizing these instruments indicate that athletes are more dominant and self-assured, more suspicious and less sensitive than non-athletes (Aamodt, 1982).

Paul Valliant, Paul Simpson-Housley, and Stuart McKelvie (1981), researchers from Bishops' University,

utilized these two instruments, and their results concurred with the general findings of other studies (Valliant, et al., 1981). Athletes appeared more dominant and less imaginative than non-athletes. The researchers did attempt to further define the "athlete" classification. They examined competitive as well as noncompetitive athletes, and they also drew a distinction between male and female athletes. They discovered that noncompetitive athletes were less self-sufficient than the others, and female athletes were generally more venturesome than male athletes. The Rotter locus of control questionnaire revealed little evidence of any systematic difference in locus of control between team and individual athletes or between athletes and non-athletes (Valliant, et al., 1981).

In 1979, 48 male American World Calss Olympic contenders and 63 male undergraduate education majors were compared on the 16 PF. Michael M. Omizo (1979), the researcher, included a special scale designed to measure strength of response set relative to social desireability. The scores seemed to indicate that the athletes were reserved, intellectual, critical, aloof, conservative and traditional, as compared with the education majors, who tended to be out-going, easy-going, and liberal. The undergraduates also appeared to be more humble, mild, tough-minded, adaptable, group dependent, and relaxed. Omizo further discovered that the athletes seemed to be more aggressive, stubborn,

tender-minded, self-sufficient, and tense. It was concluded that the composite of affective measures exhibited promising validity, although cross-validation studies were needed (Omizo, 1979).

The classification of "athlete" and "non-athlete" has drawn criticism as simply being too general. Valliant, et al (1981) and Dowd and Innes (1981) tried to distinguish one type of athlete from another, leading to the development of sub-groups. Another ciritcism of the status of sports research into personality assessment was made by Thakur and Thakur (1980) who recognized that most of the research had been conducted with the same instruments (Aamodt, 1982). The scope and depth of research in this area has been limited due to the continual use of the same few instruments and sample populations which lack specificity.

Michael Aamodt, Craig Alexander, and Wilson Kimbrough (1982), all of the University of Arkansas, tried to circumvent some of the criticism of using the same instruments with generalized sample populations, by using the Personal Profile System (Geier, 1979), rather than the traditional 16 PF. They also investigated athletes as segmented types. Baseball, football, and track athletes were studied in contrast to non-athletes. The 24-item personality inventory was administered to 51 male non-athletes, who were general psychology students, and to 29 baseball players, 36 football players, and 23 track athletes. The Personality Profile

system found no differences in baseball players from non-athletes, and football players and track athletes were more dominant and less patient than non-athletes (Aamodt, 1982).

A specific sub-group of athletes was studied by Thomas D. Thomes (1973). His study, entitled "The Effect of a Football Season on the Personality of High School Athletes", investigated the effect of a competitive football season on the personality dimensions of 50 high school varsity football team players. The major premise behind Thomes' study was the hypothesis that an individual's personality may very well determine one's choice and accomplishments in athletics. He collected data using Cattell's 16 PF Questionnaire and a subjective ranking of each player according to general football ability as perceived by the coach. The t-test was used to compare a) the initial and final sten (short for "standard ten") scores of the total group (The 16 PF test takes ten units for its point scale range, each unit being called a sten), b) the high and low ability groups (n=12 each) initially and finally, and c) the initial and final sten scores of the high and low groups.

The findings revealed that a) when the total group was compared initially and finally, no significant differences were observed; b) at pre-season testing, the high and low ability groups differed significantly on factors relating to maturity and trustfulness; c) at post-season testing,

the high and low groups differed significantly between initial and final testing on the same factor, suggesting the observed personality modification was restricted to the high group. The author believed the reason for the high ability players increase on the tough and realistic scale (section I on the 16 PF, which measures one's orientation between two polarities: tough-minded, self reliant, and realistic or tender-minded, sensitive, clinging, and overprotected) was due to preferential attention from the coaches. These characteristics were stressed by the coach, and it might have been that the high ability players became psychologically, as well as physically, "conditioned" to exhibit aggressive characteristics. Thomes also found no significant differences existed between the pre and post scores of the low ability group on any of the 16 personality factors.

It was concluded that the personality of high-ability varsity football players may have undergone subtle modifications during a competitive football season while the low-ability players appeared unaffected in terms of personality modifications. Thomes further added that it was unclear whether the modifications were permanent or purely adaptive behavior to the demands of the game and the coaches (Thomes, 1973).

William F. Straub, (1971) from Ithaca College, also studied a specific sub-group of athletes. But rather than

high school football players, he focused on the personality traits of college football players participating at different levels of competition. Straub echoed the criticism leveled at personality research when he said:

> "Although it is well recognized that individual players and team personality differences exist among sports participants, research has not, except for Kroll and Peterson's (1965) work, been directed at pinpointing personality differences of athletes who are participating within the same sport at different levels of competition (1971)."

His objective in this study was to determine if there were significant differences in team personality profiles. A secondary purpose was to determine if the four offensive teams studied differed significantly (.05 level) on each of the 16 PF traits. Form (a) of the Cattell 16 PF was administered to 50 players from a small private college, 69 athletes from an Ivy league team, 44 from a small state-supported college, and 83 from a Big Ten institution.

Multiple discriminant function analyses were utilized to make between-team comparisons. Straub was able to reject his null hypothesis that no differences existed in personality profiles between the four teams. Although there were no significant differences (.05 level) in team personality profile comparisons among the Ivy league, state college, or private college, the Big Ten university team's profile was found to be significantly different from each of the other three teams. The factors where significant differences

existed were on the following scales: tough-minded vs. tender-minded; forthright vs. shrewd; and conservative vs. experimenting. At the .05 level, significant differences were found on the following factors: practical vs. imaginative; self assured vs. apprehensive; and group dependent vs. self-sufficient. No differences were found in intelligence or surgency (Straub, 1971).

Joyce C. Hogan (1978) studied the personality characteristics and dynamics of leadership. In this study of college football players, she investigated the personality correlates of rated leadership in 50 members of the John Hopkins University football team. The California Psychological Inventory (CPI) and Gough's leadership regression equation were utilized. Each player was also rated for leadership by two coaches using their own seven-point scale and criteria.

The athletes tested by Hogan scored higher than the norm for males on Dominance, Social Presence, Self-Acceptance, and Empathy. They scored lower than men in general on Responsibility, Self-Control, and Good Impressions. The sample population was described as assertive, self-confident, competitive, and socially insightful, but also impulsive and self-centered.

Hogan believed these descriptions followed the stereotype of the college football player at a private eastern college. Men who received high ratings for leadership were seen as Dominant and Assertive, Self-Confident and Self-Assured,

but conscientious and practical. The ten highest rated players were found to be dominant, forceful, self-confident, out-going, efficient and organized (Hogan, 1978).

Another stereotype that has thrived is that athletes, especially football players, are predisposed to violent behavior (Feigley, 1983). From a coaching standpoint, being "hardnosed" or aggressive is considered a valuable asset for any player given that he possesses size, speed, quickness and the other role specific physical attributes. However, these factors are minimized if the player is not psychologically tough and thriving for bodily contact (Thomes, 1973).

But sometimes assertive or aggressive attitudes and behavior go beyond the point of being facilitative for the act of competing. David A. Feigley, (1983) in his article entitled, "Is Aggression Justifiable?", believed a major reason for violent behavior and poor sportsmanship was that aggressors rationalize their actions by concocting self-justifying excuses. His conclusion was that increased self-awareness can help athletes and coaches control these behaviors.

An increased awareness of self may also lead to the cultivation of certain attributes of one's personality. This "human potential theory" concept is the essence of the Myers-Briggs Type Indicator (Myers, 1984). The MBTI is based on Carl Jung's theory (1923) of psychological

types, which assumes that much of the supposedly random variation in humans is actually orderly and consistent, due to basic differences in the way people prefer to use judgement and perception. Specifically, the instrument identifies four bipolar preferences: extraversion (E)-intraversion (I); sensing (S)-intuition (N); thinking (T)-feeling (F); and judging (J)- perceiving (P). Thus an individual can be classified according to one of sixteen types: ISTJ, ISTP, ESTP, ESTJ, ISFJ, ISFP, ESFP, ESFJ, INFJ, INFP, ENFP, ENFJ, INTJ, INTP, ENTP, AND ENTJ (Lam, 1980). This theory assumes that to function well, an individual must have a well-developed system for perception (either Sensing or Intuition) and a well-developed system for making decisions or judgments (either Thinking or Feeling). These components of the configuration are referred to as "functions". The outer four components, (either Extraversion or Intraversion and Judging or Perceiving) are referred to as "attitudes".

Other very important concepts behing the theory include: "type" is a dynamic, not a static concept; in each type, one pole of each of the four preferences is preferred over the other, and through use becomes more highly developed; type theory assumes that type preferences lead to qualitative, not merely quantitative differences in people; and that the type indicator was designed to show the direction of preference, more than the strength of preference (McCaulley,

1974). A more detailed description of the types and what they may infer will be included in Chapter Two of this study.

As mentioned earlier, in the introduction of this paper, the MBTI has been used with a wide variety of populations. Isabel Briggs-Myers and her mother, Katherine C. Briggs, collected data showing understandable and predictable type differences in academic aptitude and achievement in samples from junior high school through medical school. They were able to determine that type had a bearing on one's ability to perform academically. One example of type affecting performance is that Judging types consistently achieve higher grades (with a given amount of aptitude) than do Perceiving types (Myers, 1962). Their findings on the relationship of type to academic performance were confirmed in data collected by Educational Testing Service, and have been reconfirmed since publication of the Indicator by researchers at Auburn University (Conary, 1965); Grant, 1965), at the University of Florida (May, 1972, McCaulley, 1973) and elsewhere (McCaulley, 1974).

Mary H. McCaulley (1974) administered the MBTI to 3,275 freshmen at the University of Florida in 1972. She was investigating the relationship between this instrument and the teaching-learning process. The data indicated that the use of type can increase the power of prediction in educational research (McCaulley, 1974).

In 1980, Rebecca Lam used the MBTI to study personality characteristics and learning style preferences of allied health students. She discovered that the identification of characteristics and learning styles could aid college students and professionals in academic achievement and in career decision making.

Hypotheses

Due to the relatively small sample population, this study focused on two dimensions of the MBTI; the Thinking/Feeling function and the Judging/Perceiving attitude. The researcher believed that to include the entire type configuration, with a sample population of only 53 would "dilute" the findings of the study.

In developing the hypotheses for this study, the researcher drew upon personal experiences as a college football player and as a varsity high school coach. These perceptions were informally compared and contrasted with the following descriptors associated with the Thinking/Feeling functions and the Judging/Perceiving attitudes:

TABLE I

Descriptors of T/F Functions

and J/P Attitudes

Thinking	Feeling
Logical	Personal
Analytical	Tactful
Impersonal	Compliant
Impartial	Sympathetic
Brief	Interested in People
Businesslike	Motivated by Others
More Truthful Than Tactful	Arouses Enthusiasm
Like Ideas & Things	Values Harmony
Executive Ability Strong	Sensitive to Others
Firm Convictions	Wordy
Upset by Injustice	Friendly
Don't Need Harmony	Agreeable
Cause & Effect Makes Sense	Relates Well
Decide Things Impersonally	Value System Prevails
Unaware of Affect of Actions	
Hurt Other's Feelings	

TABLE I, Cont.

Descriptors of T/F Functions

and J/P Attitudes

Judging	Perceiving
Decisive	Curious
Orderly	Spontaneous
Organized	Uncritical
Systematic	Flexible
Planned	Adaptable
Control	Tolerant
Purposeful	Understanding
Exacting	Open-Minded
Self-Regimented	Indecisive
Persevering	Friendship Handled Lightly
Routine	Live for the Moment
Settled Opinions	Postpone Unpleasant Jobs
Definite Choices	
Comfortable With Decisions	

The researcher believed most defensive football players would exhibit behaviors which would classify them as Perceiving types; whereas offensive players would seem to typify the Judging type. The researcher also believed that football players on the 1984 UW-La Crosse football

team would, in general, have a preference for the Thinking over the Feeling function.

The following general null hypotheses were advanced for this study:

1. Of UW-La Crosse offensive football players, there will be no statistically significant distinction between the Judging/Perceiving attitude on the MBTI.

2. Of UW-La Crosse defensive football players, there will be no statistically significant distinction between the Judging/Perceiving attitude on the MBTI.

3. There will be no statistically significant distinction between the Thinking/Feeling function on the MBTI among UW-La Crosse football players.

The following specific null hypotheses addressed each one of the following seven positions: Quarterback, running back, receiver, offensive lineman, defensive lineman, and defensive back.

4. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse quarterback.

5. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse quarterback.

6. There is not a high positive correlation ($\geq$.70)

between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse quarterback.

7. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse quarterback.

8. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse running back.

9. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse running back.

10. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse running back.

11. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse running back.

12. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the

position of UW-La Crosse receiver.

13. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse receiver.

14. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse receiver.

15. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse receiver.

16. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse offensive lineman.

17. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse offensive lineman.

18. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse offensive lineman.

19. There is not a high positive correlation ($\geq$.70)

between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse offensive lineman.

20. There is not a high positive correlation (≥.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman.

21. There is not a high positive correlation (≥.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman.

22. There is not a high positive correlation (≥.70) between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman.

23. There is not a high positive correlation (≥.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman.

24. There is not a high positive correlation (≥.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse linebacker.

25. There is not a high positive correlation (≥.70) between the strength of preference on the Feeling function on the MBTI and the coaches' performance rating for the

position of UW-La Crosse linebacker.

26. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Judging attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse linebacker.

27. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse linebacker.

28. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive back.

29. There is not a high positive correlation ($\geq$.70) between the strength of preference of the Feeling function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive back.

30. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Judging attitude on the MBTI and the coaches performance rating for the position of UW-La Crosse defensive back.

31. There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive back.

Definition of Terms

For this study, the following terms have been defined:

Attitudes - The Myers-Briggs' distinction of the outer four components in the type configuration (E/I and J/P). Theoretically, people are said to have either an orientation towards the people and things around them (E), or an orientation towards their thoughts (I). In regards to J/P, people are said to have either a judging or perceiving attitude in dealing with the outer world.

Judging - In Myers-Briggs' theory, an attitude that can be described as: decisive, orderly, organized, controlled, and systematic.

Perceiving - In Myers-Briggs' theory, an attitude that can be described as: spontaneous, flexible, curious, indecisive, and tolerant.

Function - The Myers-Briggs' distinction of the inner four components in the type configuration. Theoretically, people gather information either through their senses (S) or in an intuitive fashion (N). People make decisions or react to this information from either a thinking (T) or feeling (F) perspective.

Thinking - In Myers-Briggs' theory, a function that can be described as: logical, impersonal, impartial, and brief.

Feeling - In Myers-Briggs' theory, a function that can be described as: tactful, personal, compliant, and

sympathetic.

Strength of Preference - Any score on the MBTI is referred to as a "preference". The scores indicate which of the functions and attitudes that the individual prefers to use or feels most comfortable with.

CHAPTER II

METHODOLOGY

Setting and Sample

This study was conducted at the University of Wisconsin-La Crosse. This institution, located in La Crosse, Wisconsin, is a non-athletic scholarship, NCAA division III school with a student population of nearly 9,000. Fifty three student/athletes from the 1984 varsity football team comprised the sample population for this study. Twenty six of the student/athletes played offensive positions (six quarterbacks, five running backs, nine receivers, and six linemen). Twenty seven were defensive players (eight defensive backs, ten linebackers, and nine linemen).

Overall, the researcher wanted to determine if the relationship of type to position was consistent with his perceptions. More significantly, the researcher wanted to determine if perhaps there was a high positive correlation between the strength of preferences on the Thinking/Feeling and Judging/Perceiving scores on the MBTI and player performance.

Inventory Selection

The MBTI is a self-report, forced choice inventory.

It has four scales that can be scored in a continuous, bipolar manner (Steele, et al, 1976).

E extraversion ---------- I intraversion

S sensing ---------- N intuitive

T thinking ---------- F feeling

J judging ---------- P perceiving

These four interacting scales are referred to as preferences and they are used to generate each of sixteen types. In each type, one pole of each of the four preferences is preferred over the other, and through use becomes more highly developed (McCaulley, 1974).

Form G, of the MBTI, consists of 126 items. Part I, questions one through 26, and Part III, questions 72 through 126, ask the reader to select the response which comes closer to telling how one usually feels or acts. Part II, items 27 through 71 are word pairs. The reader is asked to choose which word in each pair is most appealing.

The MBTI personality and preference inventory was selected for use in this study for several reasons. First, the MBTI is a very "non-threatening", "positive" type of test. It accentuates the positive characteristics in one's personality. Secondly, the results are easily understood. The individual can relate to the descriptors associated with the different types. And thirdly, the MBTI has been used extensively in the area of academic achievement and

vocational preference, but as far as the researcher knows, it has not been used with college student/athletes. The researcher wanted to determine if the MBTI was a viable instrument to use with this population.

Although the Myers-Briggs Type Indicator has become a popular device in the fields of educational and vocational counseling, Norman D. Sundberg, Professor of Psychology at the University of Oregon, and Gerald A. Mendelsohn, Assistant Professor of Psychology at the University of California-Berkely, have written reviews that indicate there may be some question on the validity and reliability of the MBTI. They found that little data existed on the stability of the scores. In one reported study, 14 month, test-retest correlations of approximately .70 were obtained for E/I, S/N, and J/P; but only .48 for T/F. In general, the reliabilities of the test were like those of similar, self-report inventories, T/F appearing less stable. Mendelsohn summarized by saying, "A consideration of the available data suggests that the MBTI does not represent a successful operationalization of Jungian concepts. Nevertheless, it does appear to have potential utility for research and counseling if scores are interpreted in the light of their empirical relationships rather than their assumed theoretical significance (Buros, 1970)."

Data Collection

The researcher attended a post-season organizational football meeting, and Form G of the MBTI was administered to the 53 student/athletes who volunteered to take the test. The players were given instructions on how to complete the inventory and most completed the 126-item test in 60 to 75 minutes. The inventory was then scored to determine the configuration for each of the 53 players. Although this study specifically focused on the T/F functions and J/P attitudes, Table II, located in the Appendix of this paper, details the entire configurations of the 53 student/athletes. Table III gives the characteristics that are frequently associated with each type. For this study, scores less than nine on either the T/F functions or the J/P attitudes were extracted from the data base. Strength of preference scores that are less than nine are considered low, and the individual may vascillate between the two polarities (see Table IV).

The other data collection device used in this study was a form that is utilized by the University of Wisconsin-La Crosse football coaches to rate the performance of their players (see Table V). On this form, each position has a variety of skills and attributes listed, defensive linemen, offensive linemen, and linebackers are rated on five different categories. Defensive backs are rated on six, offensive backs on seven, receivers on eight, and

quarterbacks on 11. Each player is ranked on a scale from one to nine. A score of one is "poor", three is "average college ability", five "above average", seven "real good", and nine "exceptional rare ability". Roger Harring, Head Football Coach, and his staff provided the researcher with the assessments of the 53 players involved in the study. Validity and reliability has not been established for this inventory.

Data Analysis

To examine the first two hypotheses, ("Of UW-La Crosse offensive football players, there is no statistically significant distinction between the Judging/Perceiving attitude on the MBTI," and "Of UW-La Crosse defensive football players, there is no statistically significant distinction between the Judging/Perceiving attitude on the MBTI") the scores of the offensive and defensive players, who scored ≥ 9 on J or P were tallied separately and the Chi-Square test for statistical significance was used. Hypothesis number three ("There is no statistically significant distinction between the Thinking/Feeling function on the MBTI among UW-La Crosse football players") was tested by counting all of the players who scored ≥ 9 on the Thinking or Feeling function. Chi-Square was also used in this case. The fact that the data was ordinal and that observed frequencies could be compared with expected frequencies

led the researcher to select the Chi-Square test for these hypotheses. Hypotheses four through thirty-one examined the association between the strength of preference on the T/F function and the J/P attitude and the performance rating for the players. The players, within each position, had their strength of preference scores on each function and attitude ranked. These scores were then compared with the median score of the coaches' ratings for each player. The Spearman-rank correlation coefficient was used to analyze the intra-group data. This data and the ranking of the two random variables for each player led the researcher to choose the Spearman-rank correlation coefficient.

The researcher selected for Part II of the study (hypotheses four through thirty-one) a $\geq .70$ correlational value as a criterion for statistical significance. It was hoped that this figure would help determine some truly significant findings.

Delimitations

The researcher focused on the T/F functions and the J/P attitudes due to the relatively small sample population (53). Even with specific attention being paid to these segments of the MBTI configuration, the researcher encountered difficulty with the statistical analyses due to the small n. It is for this reason that the results of this study, which will be disclosed in the next chapter, must be viewed with caution.

CHAPTER III

RESULTS AND DISCUSSION

The statistical analysis of the first null hypothesis (Of UW-La Crosse offensive football players, there will be no statistically significant distinction between the Judging/Perceiving attitude on the MBTI") revealed a x^2 value of 0.4736. This is below the needed critical value of $\geq$3.841, and thus this null hypothesis could not be rejected. there were three more perceiving types than judging types on the 1984 UW-La Crosse offensive team.

The statistical analysis of the second hypothesis ("Of UW-La Crosse defensive football players, there is no statistically significant distinction between the Judging/Perceiving attitude on the MBTI") determined that this hypothisis could indeed be rejected. The Chi-Square analysis revealed a value of 5.260. With the critical value of $\geq$3.841 at a probability factor of $\leq$.05, it became evident that perceiving types dominated the 1984 UW-La Crosse defensive platoon.

The third hypothesis stated that "There is no statistically significant distinction between the Thinking/Feeling function on the MBTI among UW-La Crosse football players." The Chi-Square analysis revealed a value of 15.36, leading to hypothesis rejection at the

$P \leq .001$ level. The 1984 UW-La Crosse football team had a significant number of student/athletes who preferred the Thinking over the Feeling function.

Hypotheses four through thirty-one specifically examined each of the following positions: quarterback, running back, receiver, offensive lineman, defensive lineman, linebacker, and defensive back.

Hypothesis four stated that "There is not a high positive correlation ($\geq .70$) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse quarterback". The Spearman-rank correlation coefficient determined a negative correlation of -0.2238, therefore the null hypothesis could not be rejected. As the strength of preference scores on the Thinking function increased, the median scores of the coaches' rating of performance decreased. This relationship may have been the result of the small sample population. One quarterback, who had a median score value of eight on the coaches' rating had a relatively low T score of 19.

Hypotheses five and six, a comparison between the strength of preference on the Feeling function and the performance rating for UW-La Crosse quarterbacks and a comparison on the Judging attitude and performance rating could not be analyzed due to insufficient data. Only two quarterbacks had scores indicating a preference on the

Feeling function, and only three had Judging preferences. The researcher determined that only samples with a population of ≥ 4 would be used for the Spearman-rank correlation coefficient segment of the study.

Hypothesis number seven, looking at the relationship between Perceiving attitude and performance rating for UW-La Crosse quarterbacks could not be analyzed due to insufficient data.

The eighth hypothesis ("There is not a high positive correlation ($\geq .70$) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse running back") was rejected. Using the standard of ($\geq .70$) as the criterion, the researcher discovered a statistic of 0.9949 through the use of the Spearman-rank analysis. As the strength of scores on the Thinking function for the running backs increased, the median score value of the coaches' performance rating also increased. This relationship apparently indicates that those UW-La Crosse running backs who preferred to be systematic, planned, and controlled had athletic success, as indicated by the coaches.

Hypothesis number nine, which examined the association between strength of preference on the Feeling function and coaches' rating for running backs, could not be analyzed due to insufficient data. Hypotheses ten and eleven, the Judging attitude compared with the coaches' rating and

the Perceiving attitude compared with the coaches' rating for the position of UW-La Crosse running back could not be analyzed due to insufficient data.

Hypotheses twelve through fifteen examined the position of UW-La Crosse receiver. Hypothesis number twelve stated that "There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse receiver". The statistical analysis revealed a negative correlation of -0.5252. As receivers' strength of preference scores on the Thinking function increased, the median score values on the rating of their performance decreased. Therefore the null hypothesis could not be rejected. The researcher was particularly surprised by this finding. The assumption was made that running backs and receivers, the "skilled positions", would assume similar type configurations and associations between strength of preference on the Thinking function and performance for these two positions would be similar.

The strength of preference on the Feeling function, Judging attitude, and Perceiving attitude compared with the median score values of the coaches' rating (hypotheses thirteen through fifteen) could not be analyzed due to insufficient data.

Hypothesis number 20 states that "There is not a high positive correlation ($\geq$.70) between the strength of preference

on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman." The statistical analysis resulted in a positive correlation of 0.1828. The null hypothesis could not be rejected on the basis of the ($\geq$.70) standard. Apparently, the strength of preference on this function did not associate with observed success as a defensive lineman on the UW-La Crosse squad.

Hypotheses twenty-one and twenty-two, which addressed Feeling and Judging in comparison with the coaches' ratings, could not be analyzed due to insufficient data. The analysis of the twenty-third hypothesis ("There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive lineman") resulted in a negative correlation of -.2419. The null hypothesis could not be rejected. The researcher believed the strength of preference on the Perceiving attitude would dominate the defensive line position. Although seven defensive linemen had their preference in the Perceiving attitude, and only two in the Judging, the strength of the Perceiving scores for three of the seven were low ($\leq$9). As a result of the statistical analysis it became apparent to the researcher that either the correlation between this attitude and performance actually was negligible, or that the small n was a determining factor.

Hypothesis number twenty-four stated that "There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse linebacker." The null hypothesis could not be rejected since the statistical analysis revealed a relatively strong negative correlation of -0.6312. Although there was only one linebacker who had a preference on the Feeling function, the analysis seems to indicate that the athletes with the lowest Thinking scores (those who were closest to the demarcation between Thinking/Feeling) had the most success at the linebacker position. The researcher believes that successful linebacker play requires a personality that is emotional and intense. Perhaps the closer an athlete is to a Feeling type is beneficial for the position of linebacker. As the preference for the logical and analytical Thinking function increased, the linebackers seemed to become less effective.

The twenty-fifth and twenty-sixth hypotheses, which addressed Feeling and Judging in comparison with the coaches' ratings, could not be analyzed due to insufficient data. Null hypothesis number twenty-seven ("There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse linebacker") could not be rejected. A positive correlation

of 0.1705 was revealed, not meeting the $\geq$.70 criterion.

Null hypotheses twenty-eight through thirty-one focused upon the position of UW-La Crosse defensive back. Null hypothesis number twenty-eight ("There is not a high positive correlation ($\geq$.70) between the strength of preference on the Thinking function on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive back") could not be rejected. Although the positive correlation of 0.6170 was revealed; it just falls short of the ($\geq$.70) criterion. The researcher found the relationship between the positions of linebacker and defensive back very interesting. Whereas the correlation between strength of score on the Thinking function and the performance rating was negative for the linebackers (-0.6312); the defensive backs had a high positive correlation of 0.6170. The position of defensive back requires the athlete to be analytical, to "diagnose" the offensive formation and scheme. The defensive backs' distance from the point of attack, the line of scrimmage, allows him time to be analytical. The analysis definitely revealed that the defensive backs, who had strong Thinking function scores were rated by their coach as better performers, than those defensive backs who had low Thinking scores. The linebacker, on the other hand is in a situation where he must react to a "key" within a fraction of a second. From the researcher's perspective, being close to the line of scrimmage does not afford the

linebacker the time to be overly analytical.

Null hypotheses twenty-nine and thirty, which addressed the Feeling and Judging in comparison with the coaches' ratings, could not be analyzed due to insufficient data. Null hypothesis number thirty-one stated that "There is not a high positive correlation ($\geq$.70) between the strength of preference on the Perceiving attitude on the MBTI and the coaches' performance rating for the position of UW-La Crosse defensive back." This hypothesis could not be rejected. Although a positive correlation of 0.2640 was found, it did not meet the ($\geq$.70) criterion.

Discussion

The data presented in this study revealed that two of the three general null hypotheses could be rejected. As the researcher predicted, there were a significant number of defensive players on the 1984 UW-La Crosse football team who preferred to view their environments with a Perceiving, rather than Judging, attitude. Of the 23 defensive players who had scores $\geq$9, 17 had preferences in the Perceiving attitude, while only six were identified as Judging types. In light of this finding, the researcher concluded that either Perceiving types gravitate toward positions on defense or, playing defensive football influences one's preference or type. The other major null hypothesis rejected in this study was the one which examined the

Thinking/Feeling function as it relates to the entire 1984 UW-La Crosse football squad. Of the 44 football players who had scores ≥ 9, 35 (79%) were identified as prefering the Thinking function. Only nine of the 44 (20%) had scores in the Feeling function. It was obvious to the researcher that this would be the case. Males in the general population have a tendency to score in the Thinking function. This phenomena caused Isabel Briggs-Myers to make adjustments in the scoring of the T/F function for males and females (Myers, 1962). Although the norms in our culture have altered the role of the male and the stereotypes associated with these roles, the heavy contact and aggressive sport of college football reinforces the impartial, rational, and competitive characteristics associated with the Thinking function on the MBTI. It therefore appeared to be a logical conclusion that UW-La Crosse football players would score more often on the Thinking rather than the Feeling function.

It was more difficult to draw conclusions from the second part of the study. The testing of the specific null hypotheses, (which focused on the correlation between the Thinking/Feeling functions and Judging/Perceiving attitudes and the coaches' ratings of performance), provided insufficient data for any reliable statistical analysis in a majority of the cases. Only ten of the 28 hypotheses in this series were large enough to be analyzed in a preliminary fashion. Of these ten cases, four just met

the criterion of having at least four athletes in the group. The most significant finding in this correlational part of the study was the high positive correlation between the strength of preference on the Thinking function and the coaches' performance rating for the UW-La Crosse running backs (0.9949) and the relationship of the linebackers and defensive backs on the Thinking scale and performance rating. The linebackers had a significant negative correlation between strength of preference on the Thinking function and performance scale (-0.6312); as the Thinking scores increased, the median ranking of the performance decreased. The defensive backs had a high positive correlation between strength of preference on the Thinking function and the median score of the performance rating (0.6170). The researcher concluded that this distinction might be the result of the demands that are indigenous to the respective positions (linebacker and defensive back).

Limitations

The major problem encountered in this study, as stated earlier in Chapter II, was the relatively small sample population. After eliminating those scores on the Thinking/Feeling functions and the Judging/Perceiving attitudes that were <9, and reducing the correlation segment if the n in each sample was <4, the data base became quite small. This may adversely affect the validity of the study.

With such a small sample population, it was very difficult to control any extraneous variables that could have affected the internal validity of the study. The sample may have been representative of other Wisconsin State University football players; but may not be representative of division II or division I college football players. The researcher does not believe the external validity of this study is high due to this factor.

CHAPTER IV

SUMMARY

The Myers-Briggs Type Indicator has been used with a variety of populations. However, the preliminary research into the related literature for this study failed to discover any matches between athletes and the MBTI. The studies on the topic of personality traits in athletes have been, for the most part, very general in scope. Few intra-sport, or intra-team studies have been conducted.

The problem in this study was to determine if there were player distinctions on selected attitudes and functions of the MBTI, as well as associations between selected MBTI preferences and the coaches' performance ratings. The researcher hoped the information could provide an insight for the University of Wisconsin-La Crosse football coaching staff. Perhaps this research could give them another "piece of the puzzle" to better understand the individual student/athletes with whom they work, and be used to predict success or determine position placement.

The study was divided into two sections. The first contained three general null hypotheses which examined the two large sub-groups of a football team, the offensive and defensive platoons, and also looked at the team in its entirety.

General Null Hypotheses

1. Of UW-La Crosse offensive football players, there is no statistically significant distinction between the Judging/Perceiving attitude on the MBTI.

2. Of UW-La Crosse defensive football players, there is no statistically significant distinction between the Judging/Perceiving attitude on the MBTI.

3. There is no statistically significant distinction between the Thinking/Feeling function on the MBTI among UW-La Crosse football players.

The second part of the study looked specifically at the Thinking/Feeling function and Judging/Perceiving attitude of the MBTI and the coaches' performance rating for each of the following seven positions: quarterback, running back, receiver, offensive lineman, defensive lineman, linebacker, and defensive back. Null hypotheses four through thirty-one were stated as: There is not a high positive correlation ($\geq$.70) between the strength of preference on the (function/attitude) MBTI and the coaches' performance rating for the position of UW-La Crosse (position). Since there were seven positions examined in this study, a total of 28 specific hypotheses comprised part II of the study.

The data was gathered from the players' scores on form G of the MBTI and also from a player performance rating form that was utilized by the UW-La Crosse football coaching

staff. Chi-Square test for statistical significance was used for part I of the study. It was determined that there was no significance between the Judging or Perceiving attitude on the MBTI among UW-La Crosse offensive players. The analyses did reveal a significant number of players with Perceiving attitudes on the defensive squad and a very significant number of players who preferred the Thinking function over the Feeling function. The small population limited the significance of the findings for the second part of the study. The most significant findings, in terms of strong correlations, was found in the comparison of strength of preference on the Thinking function and the performance rating for running backs and also for defensive backs. There was a strong negative correlation between the strength of preference on the Thinking function and the performance rating for the linebackers.

Conclusions

After reviewing the results of this study, the following conclusions were made by the researcher:

1. Perceiving types did indeed dominate the defensive positions on the 1984 UW-La Crosse football team;

2. A high percentage (77%) of the football players on the 1984 UW-La Crosse team preferred to use their Thinking over their Feeling function;

3. A strong positive correlation did exist between

the strength of preference scores on the Thinking function and the median value on the coaches' rating for the positions of UW-La Crosse running back (0.9949) and defensive back (0.6170);

Recommendations

The researcher believes the Myers-Briggs Type Indicator could be very beneficial in providing a coaching staff insight into their student/athletes. Unlike division I and division II schools, who have the opportunity to offer athletic scholarships, and extrinsically motivate their players, institutions like UW-La Crosse, who do not offer athletic scholarships, need to take a close look at the personality types of their athletes. The MBTI may be especially useful for coaches in becoming familiar with freshmen athletes and in facilitating their acclimation to the University or College setting.

The following specific recommendations are submitted by the researcher:

1. Additional research should be conducted, investigating the relationship between the J/P attitude preference and position selection. This study determined that Perceiving types dominated the defensive positions on the 1984 UW-La Crosse football team. If subsequent research were to concur with this finding it may lead coaches to use a strength of preference score on the J or P attitude as

a tool in helping to determine which side of the line of scrimmage a player should line up on.

2. The coaches' should evaluate their teaching/coaching styles to make sure they are relating to the Thinking types. Seventy-seven percent of the 1984 UW-La Crosse players tested on the MBTI preferred the Thinking over the Feeling function. Thinking types prefer a "brief", "business-like" atmosphere and relate well to the concept of "cause and effect".

3. The strong positive correlation between the strength of preference on the Thinking function and the coaches' performance rating for the positions of running back and defensive back may also suggest that this factor needs further investigation as a possible tool for evaluation of personnel.

4. It is strongly recommended that any additional research in this area should utilize a much larger sample population. A larger n could increase the internal as well as the external validity. It could also be used to investigate a possible relationship between the other functions (S/N) and attitudes (E/I) and the coaches' performance ratings.

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TABLE II

Type Configurations for 53

1984 UW-La Crosse Football Players

Offense

Quarterbacks	Running Backs	Receivers	Linemen
ISFJ	ESTJ	ENTP	ISFP
INTP	ESTP	ESFJ	ISFP
ESTP	INFP	ESTJ	ISTJ
ESTJ	ESTP	ESTP	ESTP
ESTJ	ESTJ	ISTJ	ESTP
ISTP		ISTJ	ISTJ
		ESTP	
		ESTP	
		ESTJ	

(E)=16, (I)-10, (N)=3, (S)=23, (T)=21, (F)=5, (J)=12, (P)=14

Defense

Defensive Backs	Linebackers	Linemen
ISTP	ESTJ	ESTP
ENTP	ESFP	INFP
INTP	INTP	ENFP
ESTJ	ISFP	ESFJ
ENTP	ISTP	ISTP
ENTP	ISTP	ESTP
ISTP	ESTJ	ENTP
ESFJ	ENTP	ISFJ
	ISTJ	ENTP
	ENTP	

(E)=16, (I)=11, (N)=11, (S)=16, (T)=20, (F)=7, (J)=7, (P)=20

INTROVERTS

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. 5	ISFJ Quiet, friendly, responsible and conscientious. Work devotedly to meet their obligations and serve their friends and school. Thorough, painstaking, accurate. May need time to master technical subjects, as their interests are usually not technical. Patient with detail and routine. Loyal, considerate, concerned with how other people feel. 2	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 convictions as to how best to serve the common good.	INTJ Usually have original minds and great drive for their own ideas and purposes. In fields that appeal to them, they have a fine power to organize a job and carry it through with or without help. Skeptical, critical, independent, determined, often stubborn. Must learn to yield less important points in order to win the most important.
ISTP Cool onlookers—quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in impersonal principles, cause and effect, how and why mechanical things work. Exert themselves no more than they think necessary, because any waste of energy would be inefficient. 6	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. 3	INFP Full of enthusiasms and loyalties, but seldom talk of these until they know you well. Care about learning, ideas, language, and independent projects of their own. Tend to undertake too much, then somehow get it done. Friendly, but often too absorbed in what they are doing to be sociable. Little concerned with possessions or physical surroundings. 2	INTP Quiet, reserved, brilliant in exams, especially in theoretical or scientific subjects. Logical to the point of hair-splitting. Usually interested mainly in ideas, with little liking for parties or small talk. Tend to have sharply defined interests. Need to choose careers where some strong interest can be used and useful. 3
ESTP Matter-of-fact, do not worry or hurry, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. May be a bit blunt or insensitive. Can do math or science when they see the need. Dislike long explanations. Are best with real things that can be worked, handled, taken apart or put together. 10	ESFP Outgoing, easygoing, accepting, friendly, enjoy everything and make things more fun for others by their enjoyment. Like sports and making things. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people as well as with things. 1	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. 1	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. 8
ESTJ Practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in subjects they see no use for, but can apply themselves when necessary. Like to organize and run activities. May make good administrators, especially if they remember to consider others' feelings and points of view. 1	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. Little interest in abstract thinking or technical subjects. Main interest is in things that directly and visibly affect people's lives. 2	ENFJ Responsive and responsible. Generally feel real concern for what others think or want, and try to handle things with due regard for other people's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, active in school affairs, but put time enough on their studies to do good work.	ENTJ Hearty, frank, able in studies, leaders in activities. Usually 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. May sometimes be more positive and confident than their experience in an area warrants.

EXTRAVERTS

INTROVERTS
EXTRAVERTS

TABLE IV

Strength of Preference Scores on

T/F Functions and J/P Attitudes

Offense	
Quarterbacks	Receivers
(T) 1,11,19,43,47	(T) 3,7,13,15,23,25,41,45
(F) 37	(F) 21
(J) 13,17,29	(J) 3,3,9,49
(P) 25,25,33	(P) 1,3,9,15,15
Running Backs	Linemen
(T) 9,17,29,29	(T) 11,21,25,33
(F) 21	(F) 9,9
(J) 15,47	(J) 5,53
(P) 5,13,49	(P) 7,9,20,29

Defense	
Defensive Back	Linebackers
(T) 1,1,17,21,23,37,41,41	(T) 3,7,19,25,27,31,45,53
(F) --------	(F) 3,13
(J) 53	(J) 13,23,47
(P) 5,9,9,17,41,47,47	(P) 9,11,19,51,57,61
Linemen	
(T) 11,15,25,31,35	
(F) 1,9,13,13	
(J) 13,27	
(P) 5,7,7,9,11,19,47	

TABLE V UW-La Crosse Coaches Rating Form

DATE _____ SCHOOL _____ NAME _____ (Last) (First)

9	8	7	6	5	4	3	2	1
EXACTLY LIKE HIM FITS HIM TO A "T"		A LOT LIKE HIM		MODERATELY LIKE THE MAN		A LITTLE LIKE HIM		NOT AT ALL LIKE HIM. DOESN'T FIT HIM AT ALL

1. He doesn't always cooperate. 9 8 7 6 5 4 3 2 1
2. He is quick as a cat. 9 8 7 6 5 4 3 2 1
3. He wants to win at all costs. 9 8 7 6 5 4 3 2 1
4. He finally catches on after much repetition. 9 8 7 6 5 4 3 2 1
5. He is as strong as a bull. 9 8 7 6 5 4 3 2 1
6. He rarely thinks of anyone but himself. 9 8 7 6 5 4 3 2 1
7. His movement is awkward in wave drill. 9 8 7 6 5 4 3 2 1
8. He will break his neck to carry out his assignment. 9 8 7 6 5 4 3 2 1
9. He can retain what he has learned and doesn't require repeated correction. 9 8 7 6 5 4 3 2 1
10. He can overpower a man of equal size by brute force. 9 8 7 6 5 4 3 2 1
11. He would just as soon miss pratice. 9 8 7 6 5 4 3 2 1
12. He does not regain his balance once he has lost it. 9 8 7 6 5 4 3 2 1
13. He doesn't stop until the whistle blows. 9 8 7 6 5 4 3 2 1
14. He is very quick to learn assignments. 9 8 7 6 5 4 3 2 1
15. He digs in and you can't move him. 9 8 7 6 5 4 3 2 1

9	8	7	6	5	4	3	2	1
EXCEPTIONAL, RARE ABILITY		REAL GOOD		ABOVE AVERAGE		AVERAGE COLLEGE ABILITY		POOR

OFFENSIVE ENDS-FLANKERS

Receiving short 9 8 7 6 5 4 3 2 1
Receiving Long 9 8 7 6 5 4 3 2 1
Avoid being held up 9 8 7 6 5 4 3 2 1
Faking and cutting ability 9 8 7 6 5 4 3 2 1
Running ability after catch 9 8 7 6 5 4 3 2 1
Ability as a blocker 9 8 7 6 5 4 3 2 1
Catching in a crowd 9 8 7 6 5 4 3 2 1
Hands 9 8 7 6 5 4 3 2 1

DEFENSIVE LINEMEN

Ability against the run 9 8 7 6 5 4 3 2 1
Ability to key and diagnose 9 8 7 6 5 4 3 2 1
Pass rush - cup or aggressive 9 8 7 6 5 4 3 2 1
Lateral movement 9 8 7 6 5 4 3 2 1
Tackling 9 8 7 6 5 4 3 2 1

OFFENSIVE LINEMEN

Pass protection - cup or aggressive 9 8 7 6 5 4 3 2 1
Blocking for the run 9 8 7 6 5 4 3 2 1
Quickness of initial move 9 8 7 6 5 4 3 2 1
Pulling ability 9 8 7 6 5 4 3 2 1
Downfield blocking 9 8 7 6 5 4 3 2 1

LINEBACKERS

Effectiveness against inside runs 9 8 7 6 5 4 3 2 1
Ability to ward off blockers 9 8 7 6 5 4 3 2 1
Ability to key and diagnose 9 8 7 6 5 4 3 2 1
Pass coverage ability 9 8 7 6 5 4 3 2 1
Lateral movement 9 8 7 6 5 4 3 2 1

OFFENSIVE BACKS

Power runner 9 8 7 6 5 4 3 2 1
Outside running ability 9 8 7 6 5 4 3 2 1
Ability to break tackle 9 8 7 6 5 4 3 2 1
Elusive runner 9 8 7 6 5 4 3 2 1
Over-all receiving ability 9 8 7 6 5 4 3 2 1
Blocking - pass & run 9 8 7 6 5 4 3 2 1
Hands 9 8 7 6 5 4 3 2 1

DEFENSIVE BACKS

Over-all ability against the run 9 8 7 6 5 4 3 2 1
Ability against pass 9 8 7 6 5 4 3 2 1
Ability to key and diagnose 9 8 7 6 5 4 3 2 1
Pursuit 9 8 7 6 5 4 3 2 1
Tackling 9 8 7 6 5 4 3 2 1
Hands 9 8 7 6 5 4 3 2 1

QUARTERBACKS

Ability to throw short 9 8 7 6 5 4 3 2 1
Ability to throw long 9 8 7 6 5 4 3 2 1
Ability to time pass 9 8 7 6 5 4 3 2 1
Delivery 9 8 7 6 5 4 3 2 1
Ability to scramble 9 8 7 6 5 4 3 2 1
Courage 9 8 7 6 5 4 3 2 1
Quickness to set up 9 8 7 6 5 4 3 2 1
Determination to stay in cup 9 8 7 6 5 4 3 2 1
Running ability 9 8 7 6 5 4 3 2 1
Poise 9 8 7 6 5 4 3 2 1
Quickness at delivery 9 8 7 6 5 4 3 2 1

TABLE VI

Strength of Preference Scores (≥9)

On T/F Function and J/P Attitude Compared To

Median Score of Coaches' Rating

Quarterback

T function scores (≥9)	Coaches' rating
11	6,6,6,6,6,<u>6</u>,7,7,7,8,8
19	5,5,7,8,8,<u>8</u>,8,8,8,8,9
43	4,5,5,5,5,<u>5</u>,5,5,6,7,7
47	5,6,6,6,6,<u>6</u>,7,7,8,8,8

Spearman-rank correlation value of -0.2238, F function and J and P attitudes not analyzed due to insufficient data.

Running Back

T function scores (≥9)	Coaches' rating
9	4,4,4,<u>4</u>,5,6,6
17	4,4,4,<u>5</u>,5,6,8
29	5,5,6,<u>6</u>,6,7,7
29	4,6,6,<u>6</u>,8,8,8

Spearman-rank correlation value of 0.9949, F function and J and P attitudes not analyzed due to insufficient data.

Receivers

T function scores (≥9)	Coaches' rating
13	4,4,4,<u>4.5</u>,5,5,5
15	3,5,6,<u>6</u>,6,6,7,7
23	3,4,4,<u>4.5</u>,5,6,6
25	2,2,5,<u>6</u>,6,7,7,7
41	3,3,4,<u>4.5</u>,5,5,5
45	4,4,4,<u>4</u>,4,4,5,5

Spearman-rank correlation value of -0.5252, F function and J and P attitudes not analyzed due to insufficient data.

TABLE VI cont.

Offensive Linemen

T function scores (≥9)	Coaches' rating
11	5,5,6,6,6
21	4,5,5,5,5
25	6,7,7,7,7
33	6,6,6,7,7

Spearman-rank correlation value of 0.1785, F function and J and P attitudes not analyzed due to insufficient data.

Defensive Linemen

T function scores (≥9)	Coaches' rating
11	3,4,4,5,6
15	5,5,5,6,6
25	3,4,6,7,8
31	1,2,2,3,3
35	6,7,7,7,8

Spearman-rank correlation value of 0.1828, F function and J attitude not analyzed due to insufficient data.

P attitude scores (≥9)	Coaches' rating
9	3,4,4,5,6
11	5,5,5,6,6
19	6,7,7,7,8
47	3,3,4,7,8

Spearman-rank correlation value of -0.2419

TABLE VI cont.

Linebackers

T function scores (≥9)	Coaches' rating
19	7,7,8,8,8
25	6,6,7,7,8
27	6,7,8,8,8
31	5,5,6,6,6
45	8,8,8,9,9
53	4,4,4,6,7

Spearman-rank correlation value of -0.6312, F function and J attitude not analyzed due to insufficient data.

P attitude scores (≥9)	Coaches' rating
9	5,5,6,6,7
11	6,6,7,7,8
19	5,5,5,5,6
51	4,4,4,6,7
57	7,7,8,8,8
61	6,6,7,7,7

Spearman-rank correlation value of 0.1705

Defensive Backs

T function scores (≥9)	Coaches' rating
17	1,1,1,1,1,2
21	4,4,5,5,6,6
23	1,2,2,2,3,3
37	2,2,3,3,3,5
41	1,5,5,5,5,6
41	4,4,5,5,6,7

Spearman-rank correlation value of 0.6170, F function and J attitude were not analyzed due to insufficient data.

TABLE VI cont.

P attitude scores (≥9)	Coaches' rating
9	3,5,5,5,5,6
9	1,1,2,2,3,5
17	4,4,5,5,6,6
41	2,2,3,3,3,5
47	4,4,5,5,6,7
47	1,5,5,5,5,6

Spearman-rank correlation value of 0.2640