Can a Student-Athlete's Personality Type Affect her Overall Athletic Success?

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Table of Contents

List of Tables

Abstract

The purpose of this study was to investigate the possible causal relationships between personality type and success in college athletics. The measurement tool was the Myers-Briggs Type Indicator test and selected performance indicators (games played, games started, goals scored, assists, shots on goal, points). This study involved use of nonparametric median test to compare the performance of athletes while also using a series of Independent Sample Median tests to look further into the Myers-Briggs Type dimensions. No significant differences were recorded when investigating athletic success and personality type. Research in this area should continue with a larger sample size and more data collected through multiple seasons.

CHAPTER I

INTRODUCTION

For a collegiate coach, recruiting is an essential part of the job. Finding and bringing in student-athletes who fit the needs of the program and improve the team's performance is no small task. When looking at different athletes, recruiters must consider personality as well as how a new student-athlete will fit into the group. The investigator, who serves as an assistant coach on a college women's field hockey team, is interested in exploring relationships between personality characteristics and a student's success as a team member.

The researcher was drawn to this idea as a result of administering a personality test, the Myers-Briggs Typology Indicator test, to the field hockey team in the beginning of the season. The MBTI has been used for career counseling, measuring educational gains, leadership training, and within the workplace (McCaulley, 1990). This test can give insight into an individuals personality and how they might work with others, problem solve, communicate, etc. Many of the student-athletes had different typologies, but a few of the more successful athletes shared many common pairings among the four dichotomies. With this in mind, the researcher wondered whether it could be possible to recruit a student-athlete by her personality and whether that type of recruitment would lead to greater team success. From there, the idea of recruiting based on personality type, not totally bypassing athletic ability, was born.

Statement of Problem

The purpose of this study is to investigate the possible causal relationship between personality type and success in college athletics.

Hypothesis

According to the Myers-Briggs Typology test, a student-athlete whose personality

1

preferences include a combination of four traits, including extroversion, thinking, sensing, and or judging, will be more successful than a student-athlete who only has one or none of the above traits.

Operational Definitions

The independent variable in the current is the personality test, the Myers-Briggs Type Indicator test. The dependent variable includes the athlete's overall athletic success.

The operant definition for personality type is a collection of personality traits that occur together consistently, especially as determined by the Myers-Briggs Type Indicator test.

An operant definition of athletic success can have multiple meanings, but for the current study, the plan is to focus on statistical success (games played, games started, goals scored, assists, points) along with postseason awards (landmark team recognition) and the coach's perception, via a survey, of the athlete's improvements.

CHAPTER II

REVIEW OF THE LITERATURE

This literature review discusses competition, athletics, and personality dimensions and characteristics as well as personality assessments. The first section briefly discusses the history of competition and how it has evolved, followed in the second section by competition and its role in athletics. Athletic success is defined in the third section before discussing how personality can have an impact not only an athlete's success, but also on impact on individual and team athletes. Finally, the Myer's Briggs Type Indicator and the four dichotomies are highlighted, and the test's potential use as an assessment in athletics is considered.

History of Competition

Sport has been a part of worldwide culture for centuries. It has transformed since the Roman Empire, when gladiators would compete for their lives inside the coliseum against a wild beast or another gladiator. This type of competition was literally a life or death situation, but since Roman times, sport has evolved into individual and team competitions that emphasize the concept of fair play (Competition, 2005). The modern Olympics, developed at the end of the nineteenth century, are an example of fair play, equality, and distinction. The games are structured in a way to celebrate the athletic achievements of individuals through symbolic displays such as medals, but as cultures have changed and social pressures have been added to sport, there has been a coinciding change toward fame, fortune, and winning (Competition, 2005). Norwegian sport philosopher Loland (as cited in Competition, 2005) said it best, "Today's Olympians may have ideas of serving their country, their race, their ideology, or even their God. Still, secular goals of performing well, of winning, and of attaining fame and fortune

3

are probably more common" (p. 2); in western cultures this notion of winning is more prevalent. As competition has continued to develop, so has its definition.

Competition in Athletics

According to Martens (as cited in Competition in Sport, 2004), competition is defined as "a process whereby by individual's performance is compared with some standard of excellence in the presence of at least one other person who is aware of the criterion for comparison" (para. 5). The Merriam-Webster (2014) dictionary emphasizes the aspect of winning by one individual trying to get something that someone else wants. Van de Pol and Kavussanu (2012) define competition as, "an integral part of sport, and one of its defining features is its negative outcome interdependence" (p. 91). This negative outcome is based on the fact that in order to reach an individual's goal of winning, she must do so at the expense of someone else. Martens focused on the performance of one individual compared to another based on the same standard of excellence, whereas Merriam-Webster and Van de Pol and Kavussanu forward the idea of winning or achieving as related to attaining one's own goal while negating someone else's. Either angle of competition, winning or performance comparison can produce positive and negative results. Positive results include increased confidence, motivation, and satisfaction, while negative results include stress, anxiety, and burnout (Competition in Sport, 2004).

What is Athletic Success?

Of particular concern to this study is a working definition of athletic success. When speaking of athletic success, it is most important to find what aspects lead to athletic success and what the difference is between athletic success and athletic performance. Athletic success and athletic performance can be viewed as two different identities. Wann (2012) examined the perceptions of elite Olympic athletes and targeted four themes related to athletic success: impact

of fan support, perceptions of home field advantage, importance of pre-event rituals, and perceptions of attributes that lead to athletic success. When asking the Olympians about athletic success, Wann had them choose from a list of attributes that were the most important in making someone a winner. Participants were not limited to the given list but could add their own responses. In Wann's study, the most common attributes that led to athletic success included drive, ambition, determination, confidence, focus, natural talent, and the ability to relax.

These characteristics contribute to what Harmison (2011) calls peak performance. Harmison described peak performance as performing above an athlete's usual output. Superior productivity leads to a personal best performance; this personal best can be represented by a race time or another statistic such as number of goals scored, but it can also be described as a feeling and complete focus and functioning. However, peak performance is not always achieved, and consequently, many researchers have tried to determine what effect this may have on the athlete.

Like Wann (2012), Harmison (2011) did not attribute peak performance that leads to athletic success to mere physical skill. A psychological component is believed to be just as important to an athlete's success. Krane and Williams (as cited in Harmison, 2011) studied the importance of psychological factors in determining athletic performance and concluded that seven different psychological factors were key in an athlete's performance and overall success. These seven factors include feelings of high self-confidence and success, feeling energized but relaxed, feeling in control, being completely focused and concentrated, having a positive attitude about performance, and having a strong sense of determination and commitment. When these factors are not met, according to Krane and Williams, stress and anxiety ensue, which leads to negative outcomes.

Stress can be due to the athlete's view of the importance of competition and uncertainty (Competition in Sport, 2004). When athletes are experiencing self-doubt and/or low self-esteem, their objective can turn from playing to succeed to playing not to fail. Stewart and Meyers (2004) studied elite young soccer players and their ability to stay focused and in control. The authors used the Sports Attitude Inventory (SAI), which measures different forms of motivation, including achieving success and avoiding failure. Stewart and Meyers (2004) also used Levenson's Locus of Control Scale (IPC) to evaluate locus of control over one's life. After administering the two inventories, Stewart and Meyers concluded that the players who were more motivated to avoid failure blamed themselves and internal factors for mistakes. The fact that the players were playing to avoid failure ended up altering their play; they were less creative and therefore became reluctant to try different skills. The soccer players' negative psychological factors impeded their ability to be successful on the field. It is possible that the environment that the athlete was in cultivated a feeling of needing to succeed. These athletes were part of an Olympic Development Program, and the program created highly stressful situations causing stress and anxiety. However, personality dispositions are thought to be associated with certain levels of anxiety and stress (Competition in Sport, 2004). This idea of personality characteristics and their role in an athlete's performance and success is the essence of sports psychology.

Athletic Success and Personality

Research on the athletic personality began to take form in the 1960's and 1970's. Researchers were looking for personality differences between athletes and nonathletes as well as successful and unsuccessful athletes (Psychological Skills Training in Sport, 2004). Many personality factors have been considered to account for the differences between more successful athletes and less successful athletes, but this concept took a back step as more psychologists

6

began exploring individual differences instead of looking at the group (Psychological Skills Training in Sport, 2004). A number of assessments have been developed to measure performance enhancement: athlete selection and screening, injury recovery, and sport enjoyment (Assessment in sport psychology, 2004).

Of particular interest are the psychological tests, surveys, and inventories that focus on trait versus state. Traits are characteristics that are likely to be represented in a variety of situations, while states are temporary conditions that occur due to the situation. The first modern inventory that was targeted towards athletes was created by Tutko et al. (as cited in Assessment in Sport Psychology, 2004) in 1969 and was developed because the group was attempting to address the question of how to handle problem athletes. Up until the development of the Athletic Motivation Inventory (AMI), other assessments such as the Minnesota Multiphasic Personality Inventory (MMPI), 16 Personality Factor Questionnaire (16PF) and the Thematic Apperception test had to be adapted to sports. Martens (as cited in Assessment in Sport Psychology, 2004), another large contributor to the field, developed the Sport Competition Anxiety Test (SCAT) and the Competitive State Anxiety Inventory (CSAI).

Commonly Found Personality Dimensions in Individual and Team Athletes

Tusak, Faganel, and Bednarik (2005) asked the question, "Is athletic identity an important motivator?" (p. 40). Several researches have concluded that a strong sense of athletic identity has a positive influence on athletic performance dimensions. Therefore, Tusak et al. tried to determine whether athletic identity can be predicted based on personality. Using the Big Five Observer, a questionnaire that is answered using a 7-point Likert scale, Tusak et al. concluded that there is a connection between athletic identity and personality dimensions. Dowd and Innes (1981) enhanced this concept by studying high- and low-level competitive squash and volleyball

players. Dowd and Innes were specifically looking at an individual athlete (squash player) and a team athlete (volleyball player) to determine whether there was a difference in personality dimensions between the different kinds of sport and level of activity. Using the 16PF, Dowd and Innes surveyed 95 participants, half of whom represented each sport, along with a personal data question. What the authors found was that there were personality dimension differences across many domains including assertiveness, intelligence, control, and imagination. In addition, there was a different degree of anxiety within the two different sports, with the team athletes showing a stronger sense of the characteristics listed above.

Behzadi, Mohammadpour, Hedayatikatooli, and Nourollahi (2012) looked at the differences between personality traits in competitive individual and team athletes using the NEO Five Factor Inventory (NEO-FFI). The NEO-FFI looks at extroversion, neuroticism, responsibility, flexibility, and sociability. The sample represented 130 team athletes from a variety of seven sports and 50 individual athletes from six different sports. All the athletes filled out the questionnaire one evening after a day of training and then returned it to the researcher the next day. What Behzadi et al. found when examining individual and team athletes was that there is a significant difference between some personality traits. The two traits that showed a significant difference between the two sets of athletes were extroversion and responsibility, with team athletes having a higher level of both attributes. One reason why extroversion may be higher in team athletes is that they have to communicate with others throughout the game. Also, they may feel a greater sense of responsibility for how the team performs as a whole, for they do not want to disappoint or let down their teammates. Neuroticism was higher in individual athletes than team athletes; this is likely due to the level of cortical stimulation.

Nia and Besharat (2010) also studied personality characteristics in individual and team sports but used the NEO Personality Inventory-Revised (NEO-PI-R). The characteristics included in the study were neuroticism, extraversion, openness, agreeableness, conscientiousness, sociotropy, and automony. When looking at extraversion and neuroticism, Nia and Besharat found that extraversion was higher in team athletes while neuroticism was higher in individual athletes. However, unlike with Behzadi et al. (2012), Nia and Besharat's findings did not show a significant difference between the two characteristics and athletes.

Team Athletics and Personality

It is now well established that personality characteristics differ between nonathletes and individual and team athletes, but the next step is determining whether the personality characteristics differ when looking at a group of team athletes and whether individual personality has any effect on athletic performance. Piedmont, Hill, and Blanco (1999) developed a study to study whether the Five-Factor Model of Personality (FFM) was a relevant predictor of performance and whether this test could be used as a model to further the understanding of competitive behavior in athletics. The authors used the FFM, developed by McCrae and Costa, an 80-item scale that is designed to measure neuroticism, extraversion, openness, agreeableness, and conscientiousness. The participants were 79 Division I female soccer athletes. The authors measured the players' performance via game statistics (number of goals, assists, games played, and shots) while also receiving a rating from both the head and assistant coaches. The coaches rated the players on coachability, athletic ability, game performance, team playerness, and work ethic on a 1 (below average) to 7 (above average) scale.

What Piedmont et al. (1999) concluded is that neuroticism and conscientiousness were significantly related to athletic performance among women college soccer players in association

with the coaches' ratings. The low measures of neuroticism agree with previous research that emphasizes how high self-esteem, self-confidence, and self-control relate to performance. However, only conscientiousness showed correlation with athletic performance; this relationship had a very small overlap of 8%. This makes one wonder whether game statistics provide a proper instrument for measurement of athletic performance. A team could very well play with a defensive player whose job is to disrupt the opponents' offense but who does not get involved in her own team's offensive attack; this would cause an absence of goals, assists and shot statistics. Piedmont et al. also interpreted the results as meaning that personality may have no effect on athletic performance at all but that the major factor is, instead, athletic ability. This interpretation of their results contrasts with much of the previously mentioned research. For one, Gee, Marshall and King's (2010) 15-year study on professional hockey players which used the SportsPro personality inventory disputes Piedmont et al.'s rationale of athletic ability being the sole factor in athletic performance.

Gee et al.'s (2010) research used goals, games played, assists, penalty minutes, and the number of NHL teams played for to study players' long term. Looking at 12 characteristics, Gee et al. concluded that athletes who possess the top performer profile (above average competitive disposition, motivation by challenge and reward, confidence in their ability to succeed, openness to coaching and feedback, and ability to work both independently and with the team) significantly outperform athletes who lack one of those five attributes. Many different approaches have been taken to determine whether personality traits and characteristics are different among athletes and whether they can have any effect on athletes' performance. However, one of the most popular assessment tests for the individuals in the workplace, the Myers-Briggs Type Indicator (MBTI), has rarely been used to assess athletes.

Myers-Briggs Type Indicator

Briggs-Myers and Briggs (as cited in McCaulley, 1990), a mother and daughter team, took the work of C. G. Jung and translated it into English in 1923 and began to create an indicator of how people describe themselves according to Jung's work. The MBTI has been used for career counseling, measuring educational gains, leadership training, and teamwork among many other aspects. It is a self-administered questionnaire and has three different forms but all forms are set up in a forced-choice format. There are four dichotomies that make up 16 types. The dichotomy pairs are extroversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving.

Within the first pairing, extroversion (E)/introversion (I), the focus is on how the individual receives energy. An extrovert receives energy from being around other people. Extroverts often act first and think later and may seem impulsive and overbearing. Introverts receive their energy from within: after a long day, they need to recharge by sitting and reflecting on the day. Unlike extroverts, introverts often do not need much stimuli but instead rely on a quiet environment for concentration. Introverts tend to think first before acting; this may be because they are uncomfortable expressing their ideas until they have formulated them fully.

The domain which measures sensing (S) and intuition (N) focuses on perception. Those who prefer sensing are interested in using their five senses to perceive what is real (McCaulley, 1990). They are very practical and prefer logic and a clear sequence of events; they are not interested in the unknown (Pearce, 2013). Individuals who use intuition are interested in the future and possibilities; they focus on concepts and ideas and go with their gut feeling (McCaulley, 1990; Pearce, 2013). They find facts to be pointless, responsible for stopping their creative process.

11

The thinking (T) and feeling (F) dichotomy is based on how a person makes decisions. Someone who prefers thinking keeps personal emotions out of the picture and makes a decision using intelligence, logic, and objectives (Pearce, 2013). When feelers make decisions, they are concerned with the consequences of their decisions, and whether the consequences could have an impact on someone else. They want to create harmony and apply values to their decision-making while also taking into account other peoples' view and values.

The last dichotomy is judging (J) or perceiving (P). This dichotomy describes how people like to live their lives. Those with a judging preference like structure, organization, and planning (McCaulley, 1990); they like to follow a schedule to complete a task. Those with a perceiving preference may seem spontaneous and open-minded; they are very curious and work well under pressure, but they don't mind interruptions if something better comes up (McCaulley, 1990; Pearce, 2013).

With the four dichotomies, 16 typologies can be created. What is important to mention about the MBTI is that no one typology is better than another and, unlike the previously mentioned studies, the MBTI does not measure specific traits or characteristics. This distinguishes it from other psychological measurements that are commonly used to assess sports performance and success (Pearce, 2013). Characteristic definitions of each typology follow.

ISTJ – Quiet and serious, practical, realistic and appears responsible; enjoys organization and logic while being loyal to tradition.

ISFJ – wishes to do what is right; committed to his/her responsibilities; loyal and considerate of the well-being of others; appreciates order and harmony.

INFJ – seeks meaning and connections between people; wants to know what motivates others; also committed to personal values; has a vision to serve the common good.

INTJ – wants to make his/her ideas happen to achieve goals; independence is important to him/her to do something successfully.

ISTP – quiet observer; tolerant and flexible until there is an interruption or problem but then acts quickly to solve the problem; likes to analyze how things work and why based on logic.

ISFP – quiet, sensitive, kind; likes his/her own space; loyal and committed to his/her personal values and people of importance; does not like conflict and will not push values, opinions on someone else.

INFP – curious, idealistic; likes to help others do well; flexible and will accept other peoples' ideas unless his/her own values are threatened.

INTP – not too interested in social interactions; likes ideas and logical explanations for what he/she finds interesting; quiet, contained, flexible; always looking to analyze a situation and problems even though he/she may be critical and skeptical.

ESTP – bored by concepts and theories; more interested in the here and now; likes spending time with others; flexible and tolerant.

ESFP – outgoing, friendly, accepting; loves life and has good common sense, adapts well and learns best in groups.

ENFP – full of life, warm, enthusiastic, imaginative; sees everything as a possibility; needs affirmation but supports and encourages others; spontaneous, improvises.

ENTP – Outspoken; becomes bored by routine; likes to solve problems by being resourceful; reads people well and is able to analyze strategically.

ESTJ – practical and realistic; likes to make quick decisions; organizes well; has logical standards and implements plans forcefully.

ESFJ – warmhearted and conscientious; likes harmony; provides for others; likes to work

with others to get things done; loyal and wants to be appreciated for efforts and

accomplishments.

ENFJ – warm and empathetic; understands others emotions; loyal and responsive to

critics and praise; excellent leaders; very sociable.

ENTJ – leaders; creates solutions; likes long-term planning and setting goals; well

informed; always learning more; forceful in presenting ideas.

The MBTI provides a structure to predict and understand data based on motivation,

aptitude, achievement, communication styles, and career patterns (McCaulley, 1990). It reports

preferences, instead of absolute skills, accomplishments, or characteristics. The MBTI has

proven itself to be reliable and statistically valid based on the fact that it uses data to see how

people communicate, think, and work with each other in the workplace. Therefore, it is not

unrealistic to think that it could be used with athletes (Pearce, 2013).

Summary

As the literature review suggests, numerous characteristics have been shown to be

common throughout different types of athletes such as individual and team athletes, while

athletes in general show different characteristics than nonathletes. Through the use of different

personality assessments, characteristics such as drive, ambition, determination, confidence,

focus, natural talent, and the ability to relax seem to create an athlete who has the right mindset

when it comes to competition and succeeding on the field (Wann, 2012). However, one measure

that has been extensively used in the workforce to identify personality, the MBTI, has not been

14

commonly used in order to measure athletic success and an athlete's attitude toward competition.

This is a growing assessment in the sports world.

CHAPTER III

METHODS

Design

The purpose of the causal-comparative study is to determine the cause, or reason, for existing differences in the behavior or status of groups of individuals. The current study proposes to determine whether the personality type of an athlete has an impact on her athletic performance and view of competition. With this type of design, the researcher is attempting to ascertain whether the personality type (the cause) affects the student-athletes athletic success.

The grouping variable, or independent variable, is the athlete's personality type. The dependent variable is the athlete's overall athletic success. The operant definition for the grouping variable, personality type, is as follows: a collection of personality traits that occur together consistently, especially as determined by a certain pattern of responses to a personality type test. Athletic success is defined as statistical success (games played, games started, goals scored, assists, points, defensive saves) along with postseason awards (landmark team recognition) and the coach's perception, via a survey, of the athlete's improvements.

The constraints involved include the fact that not all players have the same opportunity to achieve statistics; therefore the coach's questionnaire was added. For this reason, goalies were also eliminated from this review.

The design involved a preseason analysis of what each field player needs to improve on throughout the year. This was completed by the coach prior to the first official game of the season. The student-athletes then took the Myers-Briggs Typology test and were told to answer the questions as they would while in the competitive environment, not their ordinary, everyday

lives. At the end of the season, the original questionnaire was returned to the coach, and she will analyze the student-athlete's success over the season based on the preseason answers.

Participants

The participants of the study included 13 female collegiate-varsity field hockey players; two, however, were excluded due to their positions as goalkeeper. The team participates in NCAA Division III play and is a part of the Landmark Conference. Of those 11 players, six were sophomores, two were juniors, and three seniors. The ages ranged from 17-21 years old. The population is representative of many different heritages and religions.

This group of individuals was selected because it is a group with whom the coach and researcher worked with day in and day out for the entire year. Clearance to work with the group was given by the Head Coach and Athletic Director of the study college.

Instrument

The Myers-Briggs Typology test has been used within the workplace to analyze personality, and that helps to determine how someone might perform in a group or individual setting, as a leader or as a teammate. It is a self-administered questionnaire, and the tester is told how to answer questions based on either the work environment or her everyday life. There are four dichotomies that eventually comprise 16 types. Each dichotomy has a pair: extroversion/introversion, sensing/intuition, thinking/feeling, judging/perceiving.

The MBTI provides a structure to predict and understand data based on motivation, aptitude, achievement, communication styles, and career patterns (McCaulley, 1990). It reports preferences and not absolute skills, accomplishments, or characteristics. The MBTI has proven itself to be reliable and of statistical validity, and the fact that it uses the data to determine how

people communicate, think, and work with each other in the workplace means it is not unrealistic to think that it could be used with athletes (Pearce, 2013).

Procedure

Participants were given a self-administered Myers-Briggs Typology Test. They answered the questions as if they were on the field, in the competitive environment. After taking the test, the student-athletes waited to receive their typology. The coach filled out a questionnaire that asks the following questions:

What does the student-athlete need to do to make this season successful?

What skills must she improve upon?

 Is this student a leader and/or would you like her to be a leader?

If this student-athlete is to be successful this season, how would you define that

success?

There were no manipulations to the process. The goalkeepers were excluded from the study.

CHAPTER IV

RESULTS

The researcher's hypothesis, a student-athlete whose personality preferences include a combination of four traits, including extroversion, thinking, sensing, and or judging, will be more successful than a student-athlete who only has one or none of the above traits, was not supported in this study.

Table 1

Selected Season Key Total Performance Indicators for Participants whose Myers-Briggs Typology Ranges from 0 to Four Desired Traits

Category	Statistic	All Participants	3-4 Indicators	1-2 Indicators	0 Indicators	Difference*
N		13	6	5	2	
Games Played	Range	0-13	1-13	3-16	3-16	
	Median	16	16.00	15	14.5	NA
Games Started	Range	0-16	12-16	0-16	6-10	
	Median	15	15	15	11	p>0.575 ns
Goals Scored	Range	0-13	1-13	0-3	0-1	
	Median	1	5	0	0.5	P>0.11 ns
Points Scored	Range	0-13	3-13	0-11	0-3	
	Median	3	13	0	1.5	P<0.20 ns
Assists	Range	0-5	1-3	0-5	0-1	
	Median	1	3	0	05.	P>0.20 ns

Shots on Goal	Range	0-38	5-29	0-38	2-16	
	Median	7	29	2	9	P>0.76 ns

- The nonparametric median test was used to compare the performance of athletes whose
  Myers-Briggs typology included none (two athletes), one or two (five athletes), or all/nearly
  all (three or four) of the four indicators hypothesized to be positively related to athletic
  success.

As Table 1 indicates, team members whose typology included at least three of the Myers-Briggs

Type Indicators hypothesized to be related to greater athletic success generally out-performed

their teammates. However, the small sample size reduced the probability of finding significant

differences, and the null hypothesis was not rejected for any of the performance statistics

examined.

Table 2 below describes the performance statistics examined in this study.

Table 2

Selected Indicators of Performance of Members of a Collegiate Field-Hockey Team

Number of players:	13
Field:	11
Goalkeepers:	2
Number of Games Scheduled:	16
Median Number of Games Played:	16
Range of Games Played	3 - 16
Median Number of Games Started	15
Range of Games Started	0 - 16
Median Number of Goals Scored#:	1
Range of Goals Scored	0 - 13
Median Number of Assists#:	1
Range of Assists	0 - 5
Median Number of Points Scored#:	3
Range of Points Scored	0 – 16
Median Number of Shots on Goal	7
Range of Shots on Goal	0 – 38

Because only two defensive players (goal keepers) were included in the study, their statistics are not reported. After looking at the performance indicators, the distribution of Myers-Briggs Type Indicators was calculated, indicated in Table 2.

Table 3 displays the distribution of Myers-Briggs Type Indicators across the sample.

Table 3

Distribution of Myers-Briggs Type Indicators

Typology	Number of Players
ISTJ	2
ISFJ	2
INTJ	
INFJ	1
INFP	1
ISTP	
ISFP	
INFP	
INTP	
ESTP	1
ESFP	1
ENFP	2
ENTP	
ESTJ	1
ESFJ	2
ENFJ	

A total of nine out of sixteen typologies were represented on the team. Five players had unique typologies, while eight players had a typology that was shared with at least one other teammate.

Table 4 below compares athletes across the four Myers-Briggs domains in terms of their athletic performance. To compare the performance based off of the Myers-Briggs Type dimensions, a series of Independent Sample Median tests were run. Only field players were considered in this analysis because only two members of the group are defensive players.

Table 4

Performance of Field Players on Selected Indicators Shown by Myers-Briggs Type Dimension

Performance Indicator	Statistic	Energy Source		Perception		Decision-Making Style		Style Preference	
		Extrovert	Introvert	Sensing	Intuition	Thinking#	Feeling	Judging	Perceiving
Goals Scored	Median	2.00	0.00	2	<1		1	1	0.5
	High	13	1	13	1		13	13	3
	Low	0	0	0	0		0	0	0
	N	6	5	7	4	2	9	6	5
Assists	Median	3	0.00	2	<1		1	1	1.5
	High	5	1	5	3		5	3	5
	Low	0	0	0	0		0	0	0
	N	6	5	7	4	2	9	6	5
Points Scored	Median	8	0	7	1.5		3	3	2.5
	High	13	3	13	5		13	13	11
	Low	0	0	0	0		0	0	0
	N	6	5	7	4	2	9	6	5
Shots on Goal	Median		2	17	5.5		5	10.5	5.5
	High	38	16	38	16		38	29	38
	Low	0	0	0	0		0	0	0
	N	6	5	7	4	2	9	6	5

Differences in performance between the type indicators within each dimension were noted, but none of the differences was statistically significant. In some cases, the number of cases was simply too small to run the tests. In Table 4, comparisons between participants representing each type are presented for each of the performance indicators. Results suggest that participants with certain type features may be performing better than others on some indicators, but the sample size is too small to support conclusions.

Comments from coaches regarding participants' improvement as players, attitude, effort, and impact on their team were reviewed, and patterns associated with various types were explored. Most of the comments were positive. Ratings of attitudes when participants were

struggling to perform well slightly favored the Sensing and Feeling types, although this finding

is no more than suggestive in light of the small sample size.

CHAPTER V

DISCUSSION

In this study, the hypothesis, that a student-athlete whose personality preferences include a combination of four traits, including extroversion, thinking, sensing, and or judging, will be more successful than a student-athlete who only has one or none of the above traits, was not supported in the data.

Implications of Results

Due to the small sample size and insufficient number of different personality types, none of the comparisons yielded statistically significant results. However, differences in performance between the type indicators were noticed. Each type indicator was classified under a type dimension, energy source (extrovert/introvert), perception (sensing/intuition), decision-making style (thinking/feeling), and style preference (judging/perceiving). Extroverts scored more goals, had more assists and points, and also took more shots on goal than introverts. When looking at perception and style preference, sensing and judging traits came out over intuition and perceiving. In the decision-making style, feeling was superior over thinking. However, the thinking indicator was only represented in two athletes, and there was no statistical data recorded in goals scored, assists, points scored, and shots on goal by those two athletes.

Theoretical Consequences

The results do agree with other studies that looked at athlete types concerning whether or not the athlete was an extrovert or introvert. The extroverted, team athlete, more often outperformed an introverted athlete. However, the results cannot be considered conclusive because none of the data was significant. Since the Myers-Briggs Personality Indicator Test has not often been used as a predictor for athletic performance, it must be stated that even though the

data does show differences between the dimensions, more research must be conducted over more seasons or with a bigger sample to draw possible significant data.

Threats to Validity

There were multiple threats to the validity of this study. The first was encountered when administering the Myers-Briggs Typology Indicator Test. The student-athletes were told to complete the test in the mindset of competing on the field. However, the test is rather long, and the student-athlete's focus could have shifted, and the athlete may have started to answer the questions from another perspective. Other threats include the sample size and how many student-athletes actually were able to participate in games. This could have a significant impact on all of the performance indicators. Position could also have impacted the data, as forwards have more opportunities than defenders to shoot on goal.

Connections to Previous Studies/Existing Literature

What makes this study similar to others is that it was looking at a personality type such as extroversion and introversion. Behzadi et al. (2012) studied over 130 athletes and found that team athletes were more extroverted then individual athletes. In their study, this was significant. Nia and Besharat (2010) looked at different characteristics, but extroversion was a similar characteristic. Nia and Besharat found that team athletes were more extroverted than individual athletes; however, the results were not significant. The data in the current study shows that six athletes are extroverted and five are introverted. In addition, the current study more specifically examined their actual performance, something that was not done by the other researchers. The data, like in the studies by Behzadi et al. and Nia and Besharat, does agree that a team sport has more extroverted athletes. The fact that there are more extroverts than introverts on the team is

like the study done by Behzadi et al. and Nia and Besharat. However, the number of extroverts versus introverts is not a significant finding in the athlete's performance.

Like Gee et al.'s (2010) 15-year study that used performance indicators such as goals scored, assists, points scored, shots on goal, the current study used the same indicators. However, Gee et al. were looking at 12 characters, whereas the Myers-Briggs looks at eight indicators for one athlete. The Myers-Briggs is what makes this study different from others. By looking at different characteristics or typologies, the current study separates itself from others that looked at neuroticism, extroversion, openness, agreeableness, conscientiousness, sociotropy, and automony in studies done by Nia and Besharat (2010), Piedmont et al. (1999), and Gee et al.

Implications for Future Research

This study has shown differences in performance between athletes with the different Myers-Briggs indicators. Even though the results are not significant, differences can be seen between extrovert/introvert, sensing/intuition, thinking/feeling, and judging/perceiving. The data suggests that a more extroverted athlete will be more successful than an introverted athlete in the performance indicators, goals scored, assists, points scored, and shots on goal. Sensing, feeling, and judging types would also be more successful. The data suggests that the combination of ESFJ would make for a successful athlete in the performance indicators used in the study. However, none of the data is significant and that is important for future studies. Future studies will need to use a larger sample size and may need to use multiple seasons of data to realize any significant outcome.

Conclusions/Summary

No significant conclusions can be made regarding athletic performance and the Myers-Briggs Typology Indicator test. Due to the small population size, significant data was not able to

be collected. However, differences were seen in the Myers-Briggs Type dimensions that were

created, energy source, perception, decision-making style, style preference. Future studies should

increase the sample size and potentially use more statistical data to support more players.

References

Assessment in sport psychology. (2004). *Encyclopedia of applied psychology*. Oxford, United

Kingdom: Elsevier Science & Technology. Retrieved November 4, 2013, from

http://www.credoreference.com/entry/estappliedpsyc/assessment_in_sport_psychology

Behzadi, F., Mohammadpour, A., Hedayatikatooli, A., & Nourollahi, H. (2012). A description

and comparison of personality traits of competitive individual and team athletes. *Annals*

of Biological Research, 3(1), 36-40. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=73498141&site=ehost

-live

Competition. 2014. *Merriam-Webster Dictionary*. Retrieved from

http://www.merriam-webster.com/dictionary/competition

Competition. (2005). *Berkshire encyclopedia of world sport*. Great Barrington, MA, USA:

Berkshire Publishing Group. Retrieved November 4, 2013, from

http://www.credoreference.com/entry/berkwsport/competition

Competition in sport. (2004). *Encyclopedia of applied psychology*. Oxford, United Kingdom:

Elsevier Science & Technology. Retrieved November 4, 2013, from

http://www.credoreference.com/entry/estappliedpsyc/competition_in_sport

Dowd, R., & Innes, J. M. (1981). Sport and personality: Effects of type of sport and level of

competition. *Perceptual & Motor Skills, 53*, 79-89. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=hsr&AN=521138589&site=ehos

t-live

Gee, C. J., Marshall, J. C., & King, J. F. (2010). Should coaches use personality assessments in

the talent identification process? A 15 year predictive study on professional hockey

players. *International Journal of Coaching Science, 4*(1), 1-10. Retrieved November 4, 2013, from http://www.selfmgmt.com/documents/IJCS%20Manuscript.pdf

Harmison, R. J. (2011). Peak performance in sport: Identifying ideal performance states and developing athletes' psychological skills. *Sport, Exercise, and Performance Psychology, 1*, 3-18. doi:10.1037/2157-3905.1.S.3

McCaulley, M. H. (1990). The myers-briggs type indicator: A measure for individuals and groups. *Measurement and Evaluation in Counseling and Development, 22*(4), 181-95. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ425293&site=ehost-live

Nia, M. E., & Besharat, M. A. (2010). Comparison of athletes' personality characteristics in individual and team sports. *Procedia - Social and Behavioral Sciences, 5*(0), 808-812. doi:http://dx.doi.org/10.1016/j.sbspro.2010.07.189

Pearce, D. (2013). *The identification of a common personality typology in elite college female tennis players using the myers-briggs type indicator.* ProQuest Information & Learning). *Dissertation Abstracts International: Section B: The Sciences and Engineering, 74*(1-) Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2013-99140-505&site=ehost-live. (2013-99140-505).

Piedmont, R. L., Hill, D. C., & Blanco, S. (1999). Predicting athletic performance using the five-factormodel of personality. *Personality and Individual Differences, 27*(4), 769-777. doi:http://dx.doi.org/10.1016/S0191-8869(98)00280-3

Psychological skills training in sport. (2004). *Encyclopedia of applied psychology*. Oxford, United Kingdom: Elsevier Science & Technology. Retrieved November 4, 2013, from http://www.credoreference.com/entry/estappliedpsyc/psychological_skills_training_in_sport

Stewart, C., & Meyers, M. C. (2004). Motivational traits of elite young soccer players. *Physical Educator, 61*(4), 213-218. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ740109&site=ehost -live; http://www2.truman.edu/pek/public.html

Tusak, M., Faganel, M., & Bednarik, J. (2005). Is athletic identity an important motivator? *International Journal of Sport Psychology, 36*(1), 39-49. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2005-06291-004&site=ehost-live

van, d. P., & Kavussanu, M. (2012). Achievement motivation across training and competition in individual and team sports. *Sport, Exercise, and Performance Psychology, 1*(2), 91-105. doi:10.1037/a0025967

Wann, D. L. (2012). The head and shoulders psychology of success project: An examination of perceptions of olympic athletes. *North American Journal of Psychology, 14*(1), 123-138. Retrieved from

http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=71793234&site=ehost -live