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Athletic Identity and Moral Development: An Examination of NCAA Division I Athletes and Their Moral Foundations

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ATHLETIC IDENTITY AND MORAL DEVELOPMENT: AN EXAMINATION OF NCAA DIVISION I ATHLETES AND THEIR MORAL FOUNDATIONS

A proposal for a thesis to be submitted in partial fulfillment of the requirements for the degree of

Master of Arts

By

DANIELLE N. GRAHAM

B.A., Nova Southeastern University, 2014

2017

Wright State University
I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY Danielle N. Graham ENTITLED Athletic Identity and Moral Development: An Examination of NCAA Division I Athletes and Their Moral Foundations BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts.

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ABSTRACT

Graham, Danielle N. M.A. Department of Leadership Studies, Wright State University, 2017. Athletic Identity and Moral Development: An Examination of NCAA Division I Athletes and Their Moral Foundations.

This study investigated the moral foundations of intercollegiate student-athletes in relation to their athletic identity, specifically with respect to student-development in college. Research has established that prolonged participation in sport contributes to the development of an athletic identity (Brewer & Cornelius, 2001; Brewer, Van Raalte & Linder, 1990; Cieslak, 2004) and countless studies have identified significant categorical differences in moral reasoning tendencies between student-athletes and non-athlete students (Bonfiglio, 2011; Bredemeier & Shields, 2006; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015; Priest, Krause, & Beach, 1999). Two hundred and thirty-eight NCAA Division I intercollegiate, club sport, and intramural sport student-athletes, possessing varying degrees of athletic identity, served as participants. Athletic Identity was measured with the 7-item, 3-factor abbreviated version of the Athletic Identity Measurement Scale (Brewer & Cornelius, 2001), and the Moral Foundations Questionnaire (MFQ) (Graham, et al., 2011) was used to evaluate the moral foundations on which elite-athletes rely. Regression analyses suggested that athletic identity was significantly related to the Ingroup/loyalty, Authority/respect, and Purity/sanctity foundations of the Moral Foundations Theory (MFT) (Graham et al., 2011). ANOVA analyses indicated that female athletes scored higher on Harm/care and Fairness/reciprocity than male athletes and that time (e.g., years of collegiate sporting experience) may contribute to the development of athletes’ moral orientation. The results suggest that maintaining increased degrees of athletic identity may play a role in the moral foundations on which NCAA Division I intercollegiate student-athletes rely.
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I would like to take this opportunity to thank my committee members for their guidance throughout the course of this project, as well as through my graduate education thus far. To my Chair, Dr. Carol Patitu and co-chair Dr. Joanne Risacher, your ongoing assistance and unfailing support was truly appreciated. Dr. Sharon Heilmann, thank you for introducing me to Social Science research and for your critical insight throughout the life of this project. Dr. Gary Burns, thank you for the multiple opportunities you have provided me and for your instruction during the creation of this study. I would also like to thank Mike Bottomley from the Wright State University Math & Microbiology Department for all of his direction and patience throughout my analysis.

Above all, I would like to offer my sincerest gratitude to my family. You are my greatest blessing and my absolute favorite people.

This thesis is dedicated to my mother, whose strength, selflessness and commitment to others was unparalleled. I will never stop trying to make you proud.
CHAPTER I
Introduction and Purpose

Commitment to the education of the whole student lies at the heart of the student affairs profession. Beyond the classroom, higher education practitioners aim to supply students with skills and knowledge that will serve them in life and bolster their overall success. Armed with a wide array of theoretical perspectives, it is the responsibility of these professionals to utilize the findings of current research in program implementation and practice.

Being a relatively unconventional student population, student-athletes have been the subject of a great deal of research throughout history. Not only has their identity formation been examined (Cieslak, 2004; Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Hurst, Hale, Smith, & Collins, 2000), but in recent years, their moral decision-making capabilities have been called into question. Literature suggests that the structured lifestyles these individuals must lead in order to succeed in their sport, invariably effects, and possibly inhibits, the advancement of their moral reasoning skills (Bonfiglio, 2011; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015).

Bonfiglio (2011) asserted that education, especially higher education, is undoubtedly a moral undertaking. Beyond this, it has been suggested that whether or not an individual is conscious of it or not, a moral education, and consequently an immoral education, goes on constantly (Kiss & Euben, 2010). While the competitive athlete ‘culture’ has been a suggested contributor to the deficiency of moral development in athletes (Bredemeier & Shields, 2006), little if any research has been done attempting to discover whether or not a correlation exists between the existence of a particular type of identity, namely an athletic identity, and the inhibited development of moral decision-making. To address this gap, further scientific research
must be conducted in order to shed light on the moral domain as it relates to athletic identity in student-athletes.

**Statement of the Problem**

 Doty (2006) suggested that sport is a reflection of the value trends that prevail in society. He also proposed that cheating scandals, violence, drug use and disrespect, among other inappropriate behaviors, have come to be seen as the norm within sport culture (Doty, 2006). While some researchers argue that the sporting atmosphere has the potential to promote virtues and prosocial behavior (Rutten, 2007; Rutten et al., 2011), the majority of research conducted on the moral development of athletes seems to have reported a negative relationship between participation in sport and character development (Dunn & Dunn, 1999; Beller & Stoll, 1995; Bredemeier & Shields, 1984; Fraleigh, 2003; Jones & McNamee, 2000; Loland, 2005; Ntoumanis & Standage, 2009; Priest, Krause & Beach, 1999; Proios, 2013; Whitman, 2008). Correspondingly, Rudd and Stoll’s (2004) found that college athletes, compared to non-athletes, scored significantly lower on tests of moral reasoning. There have also been studies that suggest continuous involvement in sport is associated with the legitimization of aggressive behavior in competitive sport settings (Conroy, Silva, Newcomer, Walker & Johnson, 2001; Visek & Watson, 2005).

 Although literature seems to suggest negative developmental outcomes associated lengthy sport participation, researchers advocate that age, gender, experience in sport, type of sport played and level of competition could be mediating factors (Calmeiro, Stoll, & Davis, 2015). For example, some scholars have argued that females engage in more mature moral reasoning than males, which may indicate that in the traditionally male-dominated sport context, females seem to be less influenced by an egocentric perspective characteristic (Kavussanu &
However, the general opinion seems to be that within popular sport culture, anything done in the pursuit of victory is acceptable. “If you’re not a winner, you’re a loser,” “Whatever it takes to win,” and “Second place is for losers,” are just a few of the many admonitions regularly preached in sporting atmospheres and which are believed to create attitudes that suggest winning is the only thing of significance in sport (Barnes, Karp, Stoll & Gwebu, 2008).

If findings from the current study convey that a connection exists between maintaining an increased degree of athletic identity and the manner in which athletes operate morally, then student affairs practitioners and athletic administrators have a justification and professional obligation to explore this issue. Without addressing the moral development of a student-athlete, in addition to other facets of overall student development, professionals will fail to accomplish their ultimate goal of educating the whole student. As indicated by research (Camiré, & Trudel, 2010), very few athletic programs are intentionally designed with the purpose of promoting the development of an individual athlete’s moral intelligence, in so far as it leads to positive moral action.

Sport scholars do suggest that positive character traits may be developed through the sporting experience, but that it only can or will take place when and if coaches, teachers, and administrators make the conscious decision to make character development an objective of the sporting experience (Bonfiglio, 2011; Doty, 2006). For the purpose of this study, the researcher intended to identify the relationship between student-athletes’ identity formation and the moral foundations on which they rely. The factors of gender and years of collegiate sporting experience will be analyzed in order to investigate their relation to the degree of athletic identity present in athletes as well as the moral foundations on which they rely.
Definition of Terms

For the purpose of clarification, a number of variables must be accurately defined and measured. The following is a list of independent and dependent variables and definitions utilized in this study:

- **Athletic Identity**: Refers to the degree of importance, strength and exclusivity connected to the athlete role that is maintained by an athlete and influenced by his or her environment. It is not only the degree to which an individual sees him- or herself as an athlete, but also the extent to which that individual looks to others for acknowledgement of that role (Cieslak, 2004, p.39).

- **Exclusivity**: Analogous with Martin, Eklund and Mushett’s (1997) definition of how heavily athletes rely on their athletic identity and how weakly they identify with other roles. Exclusivity refers to the importance of the athlete role in relation to other day-to-day activities (Cieslak, 2004, p.32).

- **Negative affectivity**: Pertains to Martin et al.’s (1997) definition of the negative emotional responses resulting from the inability to participate in sport. Negative affectivity is the degree to which an individual feels bad or depressed in response to undesirable outcomes of sport participation.

- **Social identity**: Corresponds with Martin et al.’s (1997) definition of the strength with which an athlete identifies with the athletic role. Social identity refers to an individual’s degree of social awareness regarding their role as an athlete (Cieslak, 2004, p.32).

- **Moral Domain**: Refers to the paradigm of justice, rights and welfare relevant to the manner in which individuals ought to relate to one another. Moral systems are interconnected arrangements of beliefs, values, ideals, norms, standards, practices,
identities, institutions, technologies and evolved psychological mechanisms that combine to curb or modulate selfishness and make social life feasible (Graham, et al., 2011; Haidt & Kesebir, 2010; Turiel, 1983).

- **Harm and Fairness**: Corresponds with Shweder et al.’s (1997) ethics of autonomy wherein the source of moral authority rests on the individual and is the responsibility of that individual due to his or her personhood. Here, key moral concepts include equality and rights between individuals, independence, freedom of choice, and personal well-being (Graham, et al., 2011; Guerra & Giner-Sorolla, 2010).

- **Ingroup and Authority**: Are analogous with Shweder et al.’s (1997) ethics of community. People are described as having roles in their families, societies and other social groups that contribute to their identities and moral duties are to those members of their interpersonal groups. Morality is based on loyalty, duty, honor, respect, self-control and obedience to authority with the basis of a person’s actions being consistent with his or her social roles (Graham, et al., 2011; Guerra & Giner-Sorolla, 2010).

- **Purity**: Pertains to Shweder et al.’s (1997) ethics of divinity, which illustrate a person as a spiritual entity accountable to a higher order. Though not necessarily tied to any particular religious outlook, most core concepts stem from shared ideals from monotheistic and polytheistic traditions. This ideology is affixed in the concept of divine or natural law and often based on obligations, punishments and rewards set forth by supernatural forces (Graham, et al., 2011; Guerra & Giner-Sorolla, 2010).

- **Student-Athlete**: Refers to a student whose enrollment was solicited by a member of the athletics staff or other representative of the athletics interests with a view toward the student’s ultimate participation in the intercollegiate athletics program. Any other student
becomes a student-athlete only when the student reports for an intercollegiate squad that is under the jurisdiction of the athletics department, as specified in Constitution 3.2.4.5. A student is not deemed a student-athlete solely on the basis of prior high school athletics participation (National Collegiate Athletic Association, 2016-17).

- Red Shirt Student-Athlete: Describes a mechanism by which a student-athlete is able to practice with a team and attend classes while not using one of their four years of athletic eligibility. There are reasons, such as medical issues, for a player to skip an entire year of competition. The term could be used to describe the action of a coach using this mechanism, or to describe or identify the player. For example, a coach may "redshirt," a freshman who is then called a "redshirt freshman," or simply as "a redshirt" (SportingCharts.com, 2016).

**Research Questions**

Based on numerous scholars’ previous work (Brewer & Cornelius, 2001; Doty, 2006; Graham et al., 2011; Loland, 2005; Ntoumanis & Standage, 2009; Proios, 2013; Rutten et al., 2011; Whitman, 2008), the present study sought to examine athletic identity in relation to moral orientation in NCAA Division I student-athletes. In addition, the researcher was interested in examining the possible relationships and interactions between the factors of gender and length of time participated in sport in relation to athletic identity and moral orientation. The current study examined the following research questions.

1. Is there a relationship between the degree of athletic identity present in an individual and the moral foundations on which they rely?
2. Is gender a factor influencing the degree of athletic identity present in university athletes?
3. Is there a difference in degree of athletic identity based on length of time participated in sport (i.e. first-year of athletic eligibility vs. 4-5 year of athletic eligibility)?

4. Are there differences in the moral foundations on which university athletes rely based on their gender?

5. Are there differences in the moral foundations on which university athletes rely based on length of time participated in sport (i.e. first-year of athletic eligibility vs. 4-5 year of athletic eligibility)?

**Scope**

The scope of this research study is limited to 238 NCAA Division 1 student-athletes, club sport athletes and intramural sport athletes from one mid-sized state university in the Midwest. Additionally, the institution offers the following NCAA Division 1 sports: Baseball, Softball, Men’s and Women’s Basketball, Men’s and Women’s Soccer, Men’s and Women’s Cross Country, Men’s and Women’s Tennis, Men’s and Women’s Swimming and Diving, Women’s Track, and Women’s Volleyball; therefore, athletes from the full range of NCAA Division I sports was not included.

**Significance of the Study**

Understanding the unique challenges facing intercollegiate student athletes in college, as well as distinguishing how those specific oppositions influence their holistic development is not only critical to the student-athletes’ developmental success, but can enable student affairs professionals to provide more specific direction for needed interventions and support. This kind of information will help practitioners be intentional about what support services they put in place, what services may need to be altered, and will ultimately help them to accomplish their goal of educating the whole student.
Assumptions

In the present study, the researcher assumed that each participating athlete maintained at least some degree of athletic identity, as all data was collected from ‘elite,’ level athletes, as defined by Terry (1995), namely NCAA Division I athletes as well as collegiate club and intramural sport athletes. Beyond this, the researcher assumed that all participants answered each item on both measurements, the Athletic Identity Measurement Scale (AIMS) and the Moral Foundations Questionnaire (MFQ), honestly and to the best of their ability. Finally, it was assumed that participants correctly indicated their gender, type of sport participation (e.g., NCAA Division I, club or intramural) and years of collegiate sporting experience (e.g., first-year, second-year, third-year or fourth-year).

Summary

While there are a multitude of research studies and articles dedicated to increasing our understanding of intercollegiate student-athletes (e.g., Gentsch, 2014; Jolly, 2008; Potuto & O’Hanlon, 2007), the goal of the current study was to address a specific gap in the current literature. Numerous sport scholars have attempted to link sport participation with the formation of an athletic identity (e.g., Brewer & Cornelius, 2001; Martin, Eklund & Mushett, 1997; Potuto & O’Hanlon, 2007; Visek, Hurst, Maxwell, & Watson, 2008; Yukhymenko-Lescroart, 2014), while others have endeavored to illustrate the discrete moral decision-making practices of athletes (e.g., Doty, 2006; Long, Pantaleon, Bruant & d’Arripe-Longueville, 2006; Shields, LaVoi, Bredemeier & Power, 2007). However, a deeper understanding of the relationship between identity formation and moral reasoning may be necessary. Thus, for the purposes of this study, the researcher sought to investigate whether or not a correlational relationship exists between athletic identity and moral development, as measured by the Athletic Identity
Measurement Scale (AIMS) (Brewer & Cornelius, 2001) and the Moral Foundations Questionnaire (MFQ) (Graham, et al., 2011), and to describe the nature of any relationship found present.
CHAPTER II

Review of the Literature

Overview

Originally created in 1890 as a field dedicated to preserving the historical values of education in the face of more practical, dominant, and worldly university goals, the core idea of the student affairs profession was, and remains to be, commitment to the education of the whole student (Sandeen, 2004). As service providers who place continuous emphasis on improving undergraduate education, student affairs practitioners are often faced with complex functions and must continue to adapt themselves to students of differing ages, ethnicities and academic, social, and financial backgrounds (Banta & Kuh, 1998). Beyond this, there is a responsibility to enhance the living and learning environment for students with a variety of role responsibilities across campus (Howard-Hamilton & Sina, 2001).

One particular student group that fosters a unique set of challenges for student affairs professionals is that of student-athletes. Athletic programs, especially at the NCAA Division I level, are often a major, if not primary, source of revenue for numerous universities (Goff, 2000). In fact, one of the primary justifications for the presence of high-profile NCAA Division I athletics is that successful athletic programs provide advertisement that can lead to increased alumni contributions and enrollment (McEvoy, 2005). Findings a McEvoy’s (2005) study found that a positive relationship exists between the success of some college sports teams and the number of applications for enrollment at NCAA Division I universities. Thus, with so much public and financial emphasis placed on the athletic success of the student-athlete, student affairs professionals ought to gain a deeper understanding of the distinct developmental challenges faced by student-athletes in order to bolster the holistic learning of this student group.
Howard-Hamilton and Sina (2001) suggest that we must consider the impact of athletic participation on a variety of educational outcomes as well as “make suggestions for effective programs and policies to enhance student athletes’ learning opportunities” (p.35). This chapter focuses particularly on the developmental aspects of the identity formation as well as the evolution of moral development in intercollegiate student-athletes.

Individuals who perceive themselves as athletes are believed to have self-conceptions composed, by degrees, of what is called an athletic identity (Brewer, Van Raalte, & Linder, 1990) as cited by (Brewer & Cornelius, 2001). In effect, lengthy participation in sporting endeavors has been found to aid in the formation of collegiate athletes’ self-identification. While research has indeed established positive outcomes associated with maintaining a strong degree of an athletic identity, including pronounced increases in self-esteem as a result of successful athletic performance (Bowker, Gadbois & Cornock, 2003), a prominent or governing athletic identity has also been associated with unfavorable psychosocial consequences (Bonfiglio, 2011; Chen, Snyder & Magner, 2010; Jolly, 2008). Furthermore, athletic identity has been found to negatively influence academic performance as well as perception of preparedness for college and satisfaction with the overall collegiate experience (Faye & Sharpe, 2008; Proios, 2013). It would seem logical that gaining a deeper understanding of this type of self-identification formation could only benefit student affairs professionals in their quest to support the holistic development of student-athletes.

Apart from self-identity, another component of athletic participation that has caught considerable attention within the social science domain is that of moral development. Indeed, numerous researchers (Bonfiglio, 2011; Bredemeier & Shields, 2006; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015; Priest, Krause, & Beach, 1999) have identified significant
categorical differences in moral reasoning tendencies between student-athletes and non-athlete students. When considering some of the frequently examined ethical issues in popular sport such as cheating, aggression, NCAA violations and what exactly qualifies as ‘fair’ on and off the field, it is apparent that certain athletically-related behaviors may lack conventional moral foundations.

Morgan and Meier (1995) posited that sport practices are afflicted by unbridled cheating, frequent outbreaks of violence, gross commercialism, and exclusionary monomaniac practices. Likewise, contemporary sport literature suggests that aggression, cheating, and other poor sport behaviors occur with startling frequency (Kavussanu, 2006; Shields, Bredemeier, LaVoi, & Power, 2005; Weinstein, Smith, & Wiesenthal, 1995). Mewett (2002) suggests that while not all sports players necessarily cheat, each sport contains players who do cheat. In addition, Shields, LaVoi, Bredemeier and Power (2007) found that male athletes have a greater tendency to self-report engaging in ‘unsportspersonship behavior’ than female athletes and that ‘unsportspersonship’ behavior appears to increase as grade level increases. The latter finding, which indicates that a kind of in-sport socialization process could exist, is noteworthy when considering the moral development of NCAA Division 1, or ‘elite,’ athletes who have likely been participating in their sport for a number of years.

It has been suggested that one of the major tasks confronting educators is to assist their students in establishing a value system that may serve as a guide for making morally sound decisions (Noddings, 2002). Therefore, if student-athletes have been recognized as developmentally different in both social identity and moral realms, the question remains as to whether or not a connection exists between these two considerations. Banta and Kuh (1998) suggest that in order for higher educational institutions to improve, it is paramount that they seek
the best information available about the quality of their students’ learning. Beyond this, it is vital that universities discern where exactly that learning occurs, so that they may ultimately identify what changes might enhance and or inhibit the learning process.

In keeping with this theme, it seems critical for student affairs professionals to familiarize themselves not only with the student-athlete experience, but to gain an understanding of how student-athletes differ from non-athlete students respecting their psychosocial education. By understanding the academic, personal, and psychological risks exclusive to this student population, student affairs administrators can “meet their students where they are” (Randi & Corno, 2005) and better contribute to the education of the whole student, or in this case, the whole student-athlete.

**Theoretical Framework**

Current athletic identity research has provided a great deal of insight into the athlete role within various social contexts and numerous sport scholars have worked to develop mechanisms for quantifying its existence. The Athletic Identity Measurement Scale (AIMS) stems from the athletic identity construct, defined by Brewer, Van Raalte and Lidner (1990) as being “the degree to which an individual identifies with the athlete role,” within the framework of a multidimensional self-concept (p.2). In their ‘Norms and Factorial Invariance of the Athletic Identity Measurement Scale’, Brewer and Cornelius (2001) developed a multidimensional, 3-factor model including Social Identity, Exclusivity and Negative Affectivity (See Figure 1.1). The Social Identity factor, which is represented by two items, refers to the strength with which an athlete identifies with the athlete role (Martin, Eklund and Mushett’s, 1997). Social identity is an individual’s “degree of social awareness regarding their role as an athlete” (Cieslak, 2004, p.32). The second factor, Exclusivity, which is represented by two factors, refers to how heavily...
athletes rely on their athletic identity and how weakly they identify with other roles (Martin et al., 1997). Exclusivity is “the importance of the athlete role in relation to other day-to-day activities” (Cieslak, 2004, p.32). The third factor, also represented by two items, is Negative Affectivity, which refers to the negative emotional responses resulting from the inability to participate in sport (Martin et al., 1997). Negative Affectivity is “the degree to which an individual feels bad or depressed in response to undesirable outcomes of sport participation” (Cieslak, 2004, p.32). Various items on the AIMS correspond to each one of these three factors and together they combine to calculate the strength of an individual’s athletic identity.

**FIGURE 1.1 – Brewer and Cornelius’ (2001) 7-item, 3-factor model of the athletic identity construct.**

Although the original AIMS model posited by Brewer, Van Raalte and Linder (1990) included 10 items, it was later redeveloped by Brewer and Cornelius (2001) into the 7-item, 3-factor abbreviated AIMS seen in Figure 1.1. This abbreviated model proved to be both new and valid, has reported high internal consistency (alpha coefficient = .81) and was found to be “applicable to a university sample of both males and females and athletes and non-athletes”
This granted, the 7-item, 3-factor abbreviated model of the AIMS was selected as the choice measure of athletic identity to be utilized in this study. On the whole, research (Brewer, Van Raalte, & Linder, 1993; Brewer, Van Raalte & Petitpas, 2000) supports the assertion that AIMS is not only a psychometrically sound instrument, but that it is also a valid measure of athletic identity (Brewer & Cornelius, 2001).

In addition to athletic identity, another component of athletic participation that has caught considerable attention from both sport scholars and psychologists over the past two decades is that of moral development. Numerous researchers (Bonfiglio, 2011; Bredemeier & Shields, 2006; Doty, 2006; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015; Priest, Krause, & Beach, 1999) have unearthed significant categorical differences in moral reasoning tendencies between student-athletes and non-athlete students. With this in mind, it is clear that a deeper understanding is needed concerning the manner in which individuals develop their moral codes.

The Moral Foundations Theory (MFT) (Graham, et. al, 2011), inspired by moral theorists, like Lawrence Kohlberg (1981), Milton Fisk (1993) and Richard Shweder (1997), as well as philosophers, such as Immanuel Kant and John Stuart Mill, lays the groundwork for the Moral Foundations Questionnaire (MFQ). Through cross-cultural analyses, Haidt and Joseph (2004) posited five universal moral norms deriving from decades of anthropological research (e.g., Fiske, 1992; Shweder, Much, Mahapatra, & Park, 1997) on the moral domain. The five foundations for universal moral concern as defined by Haidt, Graham and Joseph (2009) are defined as follows (p. 111–112):

1. Harm/care: basic concerns for the suffering of others, including virtues of caring and compassion.
2. Fairness/reciprocity: concerns about unfair treatment, inequality, and more abstract notions of justice.

3. Ingroup/loyalty: concerns related to obligations of group membership, such as loyalty, self-sacrifice and vigilance against betrayal.

4. Authority/respect: concerns related to social order and the obligations of hierarchical relationships, such as obedience, respect, and proper role fulfillment.

5. Purity/sanctity: concerns about physical and spiritual contagion, including virtues of chastity, wholesomeness and control of desires.

Graham (2013) argued that in order for a set of concerns to be considered foundational, they ought to be common in third-party normative judgements, be culturally widespread, have automatic affective evaluations, show evidence of innate preparedness, and have an evolutionary model that demonstrates an adaptive advantage. The moral measure deriving from the Moral Foundations Theory (Graham et al., 2011), namely the Moral Foundations Questionnaire (MFQ), which encompasses the five aforementioned psychological foundations upon which various cultures construct their moralities, was selected as the choice measure of moral decision-making for the purpose of this study. Using both the AIMS and the MFQ, the researcher examined the relationship between the presence of athletic identity and moral decision-making in NCAA Division 1 intercollegiate student-athletes.

**Intercollegiate Student-Athletes**

Shouldering the high expectations of both academic and athletic success in college, intercollegiate student-athletes are a unique student population. Not only do they attend college in an effort to earn a degree like their non-athlete student counterparts, but they are also contracted to their university’s athletic organizations throughout a portion of, if not their entire,
post-secondary education. Typically, in exchange for scholarship funding, student-athletes participate as members of their university-affiliated sports teams and are accountable to their coaches, teammates and the National Collegiate Athletic Association (NCAA). While the majority of college students are relatively able to manage their own affairs, including the formulation of their own class schedules, recreational activities and social lives, student-athletes are bound to an inflexible daily itinerary consisting of rigorous physical exertion and a full academic course load, which ultimately results in severe time constraints and supplementary stress (Gentsch, 2014).

On one hand, it is commonly held assumption that it is a privilege to participate in a sport at the collegiate level, as there are firm NCAA guidelines that must be met before an athlete is permitted to partake. Beyond this, only approximately 3% of college students are offered an athletic scholarship to attend college (O’Shaughnessy, 2009). In addition to sustaining a full academic course load, or a minimum of 12 credit hours per academic term, student-athletes are required to maintain at least a 2.3 grade point average in order to be eligible for competition (NCAA, 2016). While this may not sound altogether difficult, it is worth mentioning that student-athletes must do this in addition to attending anywhere from two to four hours of practice every day (depending on their sport), attending weight lifting sessions as early as 6:00 a.m. in addition to daily team practices, and participating in games and extensive competition travel on weekends. Evidence from a national poll found that when their sport is in season, 82.1% of student-athletes admit spending over 10 hours a week practicing their sport while 40.2% also report spending over 10 hours a week engaged in playing their sport (Potuto & O’Hanlon, 2007). Moreover, it is not uncommon for athletic programs to require their student-athletes to attend mandatory study halls throughout the week. Therefore, after going to weights first thing in the
morning, then bouncing from class to class during the day, then attending practice and possibly even another class afterwards, student-athletes may have to attend study sessions until as late as 9:00 or 10:00 p.m. (Jolly, 2008).

Demands like these often prove to be quite draining on the athletes. It has been suggested that their busy travel schedules, including lost study time and class absences, can lead to emotional and physical stress and can place a heavy burden on this student group (Watt & Moore, 2001; Wilson & Pritchard, 2005). With an already packed schedule, making up missed assignments or exams is not always easy. Furthermore, despite academic senate requirements that they do so, some professors are not altogether willing to provide opportunities for student-athletes to reschedule exams and missed assignments (Jolly, 2008). According to Jolly (2008), approximately half of student-athletes surveyed nationally reported feeling that their professors discriminated against them because they were athletes. Being hesitant to make academic exceptions for student-athletes could be a result of faculty members feeling as though a student receiving any kind of special treatment simply because he or she plays a sport is unfair and a marked display of favoritism.

Time limitations and decreased campus involvement are two components that attribute to a certain level of social alienation in student-athletes. They practice their sport together, weight-lift and condition together, watch game film and attend study halls as well as other mandatory team meetings together, often live together as they arrive on campus for preseason early and before the rest of the student body, and they frequently travel together for competition on weekends (Jolly, 2008). What is more, because they have scheduling restrictions based on practice times and have travel itineraries in common, student-athletes will often take the same courses at the same times. With over 20 hours per week spent on practice and play, student-
athletes not only miss a fair number of classes when their sport is in season, but they also sustain a great deal of bodily injury and fatigue (Watt & Moore, 2001; Wolverton, 2008).

Many Division I level athletic programs, being that they typically offer the most demanding time constraints on their athletes, provide high-quality support services exclusively to their student-athletes to assist them with managing their academic and athletic tasks (Gayles, 2009; NCAA, 2016). With services dedicated to the sole purpose of student-athlete success, and so much of student-athletes’ time spent with fellow athletes and away from the rest of the student population, critics of athletic departments suggest that such programs create a distinct culture in which student-athletes experience not only inferior levels of academic performance, but lower graduation rates, where they tend to cluster in certain academic majors, and where they are often socially segregated from the general student population (Bowen & Levin, 2003; Shulman & Bowen, 2001). While research may support a few of these claims, results from Rishe’s (2003) study, including 252 of the 308 existing NCAA Division 1 schools, show that student-athlete graduation rates are actually statistically greater than undergraduate graduation rates. This may dispel a portion of the previously mentioned athlete-culture criticisms, but the same study produced results indicating that student-athletes face “pressures to succeed athletically [that] compromise their relative academic standing compared to other students” (Rishe, 2003, p. 425), which seems to support at least a fraction of those denunciations.

Elite athletes spend much of their lives in high-intensity competitive atmospheres. Learning not only to survive, but to thrive in high-level competition sports generally begins early on in childhood or adolescence and ultimately, only a minute percentage of high school athletes will reach intercollegiate status. A poll taken during the 2013-14 school year compared the number of athletes participating in varsity sports at US high schools with the number competing
in collegiate athletics (ScholarshipStats, 2015). Results indicated that a little over 7% of high school athletes (about 1 in 14) went on to play a varsity sport in college. Furthermore, about 2% of high school athletes (1 in 50) went on to play at the NCAA Division 1 level.

With limited positions on intercollegiate athletic teams available, and NCAA academic requirements generally being non-negotiable, it is not hard to speculate that standards like these attract only the most highly competitive students-athletes. Research suggests that being athletically qualified to participate in intercollegiate athletics requires years of preparation (Abernethy, Côté, & Baker, 2002). Before making it to the intercollegiate level, student-athletes commit a great deal of time in elementary, middle and high school developing their athletic abilities in addition to earning sufficient academic grades. They play on school teams, select teams, travel teams and typically participate in one or multiple sports year-round. Abernethy, Côté, and Baker (2002) conducted a study on a group of elite athletes on four Australian national teams compared with non-experts from the same sports wherein findings suggested that from ages 5 to 12, experts and non-experts both increased their participation in extracurricular activities; however, for the expert athletes, this was followed by an accelerated decrease in other activities from approximately age 13 onward, which indicates their entry into their specializing years. In keeping with this pattern, researchers report that “the reduction in the number of activities in which expert athletes were involved continues until approximately age 17, the beginning of the investment years” (Abernethy, Côté, & Baker, 2002, p.99).

The aforementioned study established that expert athletes were involved in an average of three sporting activities where they remained involved in other sports for the purposes of either relaxation or cross-training during their off-seasons, and data from the non-expert athletes suggested that these individuals never experienced the pronounced specializing and investment
periods that their expert counterparts did. This indicates that by the time they have made it to college, student-athletes, or “expert athletes” as they are sometimes referred to, have spent a significant amount of time dedicated to playing their sport. Evidence from Abernathy, Côté and Baker’s (2002) study suggest that expert athletes engage in quite a different lifestyle than their non-athlete peers beginning as early as age 12, and continuing until the end of high school. Research on the student-athlete experience suggests that not only does the contrast in lifestyle between student-athletes and non-athlete students increase once they enter the university atmosphere, but also that sports, since childhood, have influenced everything from a student-athletes’ schedule, work-ethic and friendships, to their value-development, self-esteem, and identity formation (Jolly, 2008; Watt & Moore, 2001; Ferrante, Etzel & Lantz, 1996; Howard-Hamilton & Sina, 2001; Starkes, & Ericsson, 2003).

**Athletic Identity**

Cieslak (2004) describes the term ‘identity’ as the composition of the parts of the self that have meaning and that individuals attach to the various roles they often play in a highly differentiated society. He goes on to state that as a part of a larger self-concept, identity is more of a self-description, or a subjective measure, rather than an evaluation of oneself or an objective measure. Research suggests that identity is a combination of roles, traits and behaviors that appropriately describe an individual in order that they may establish self-esteem and self-worth (Duda, 1998). In short, what people do affects who they are, what they become and how they see themselves. It stands to reason, therefore, that an individual who spends a significant portion of their lives dedicated to participating in competitive sports will likely view themselves as an athlete and maintain a certain degree of what is referred to as an ‘athletic identity’.

Due to the potentially significant social and psychological implications, athletic identity
formation is an important construct for research exploration. Originally declared, “The degree to which an individual identifies with the athlete role” by Brewer, Van Raalte, and Linder (1990) as cited by Brewer and Cornelius (2001), the athletic identity definition has undergone many modifications (p.2). Good, Brewer, Petitpas, Van Raalte, and Mahar (1993) evolved the definition into “the strength and exclusivity of an individual’s identification with the athlete role” (p.2). After that, athletic identity became not only the degree to which an individual identified with the athlete role (Smith, Hale, & Collins, 1998) but also to what extent that individual “looks to others for acknowledgement of that role” (Martin, Mushette, & Smith, 1995, p.114). Compartmentalizing various aspects of the self-concept, Lantz and Shroeder (1999) clarified it as only “one aspect of the self-concept and the degree to which an individual identifies with the athletic role” (p.547). Finally, in an attempt to merge these definitions, Cieslak (2004) identified athletic identity in his dissertation as “the degree of importance, strength and exclusivity attached to the athlete role that is maintained by the athlete and influenced by their environment” (p.39). The latter is the definition chosen for this study.

A single commonality among the aforementioned definitions is that there exists both differing and measureable degrees of athletic identity. To use an example, an athlete with a markedly high level of athletic identity might aspire to become a professional soccer player and may make sacrifices in other areas of his life in order to ensure that dream is realized. This athlete may spend less time and energy with family and friends, may spend less time on relationships, and may even neglect his academics in the process working towards this one goal. Alternatively, someone with a low level of athletic identity may dedicate more time to these things and athletics may not be the primary activity around which their identity is formed. Identity foreclosure refers to the extent to which a person commits to a role without engaging in
behavior that enables exploration of other identities that surface as a result of demands and expectations of one’s environment or individual choice (Murphy, Petitpas, & Brewer, 1996). In essence, it is possible that athletes with identity foreclosure may see themselves not only primarily, but possibly solely as an athlete and while this may very well benefit them on the sports field, it may simultaneously produce a negative effect in other areas of life.

When considering the intercollegiate student-athlete specifically, Yukhymenko-Lescroart (2014) found that although one dimension may become more dominant or preferred, student-athletes are expected to possess both a student- and an athlete-identity simultaneously. If a student-athlete’s athletic identity took precedence over his or her student-identity, it would logically follow that more time and energy might go into perfecting athletic ability than perfecting grade point average. This, coupled with the fact that student-athletes have been found to have very little free time and be somewhat alienated from the rest of the collegiate student body (Jolly, 2008), could account for a significant number of missed opportunities across campus which the athlete could later regret. In a nation-wide study, 53% of student-athletes stated that they had not spent as much time as they would have liked on all facets of their academic work and of those, 80% cited their participation in athletics as the reason for this (Potuto & O’Hanlon, 2007). Additionally, 68% reported that they would have liked to have pursued more educational opportunities available at their universities. These included things like research projects and internships. Moreover, previous studies have shown that a dominant athletic identity can result in poorer academic performance and emotional difficulty adjusting to nonsport participation (Phoenix, Faulkner, & Sparkes, 2005). Finally, supporting the previously mentioned social isolation factor along with illustrating the relational repercussions of a dominant athletic identity, Shapiro and Martin (2010) found that compared to athletes with
weaker athletic identities, athletes with strong athletic identities are more likely to form relationships with other athletes.

With this in mind, it is important to establish how the strength of individual’s athletic identity can be measured. For example, the Athletic Identity Measurement Scale (AIMS) is a widely used measure of athletic identity (Brewer & Cornelius, 2001). Originally, it was a 10-item instrument with possible responses ranging from strongly agree to strongly disagree on a 7-point Likert-type scale. This instrument, which measures strength and exclusivity of identification with the athlete role, includes items such as "I have many goals related to sport" and "Sport is the only important thing in my life" (Murphy, Petitpas, & Brewer, 1996, p.241). The AIMS has been recognized as a multidimensional, 3-factor structure scale assessing Social Identity, Exclusivity and Negative Affectivity of the athletic identity role. Martin, Eklund & Mushett (1997) define three factors. Social Identity is referred to as the strength with which an athlete identifies with the athletic role. Next, exclusivity is essentially how heavily athletes rely on their athletic identity and how weakly they identify with other roles such as being a student or a friend. Finally, negative emotional responses resulting from the inability to participate in sport (i.e., injured, retired.) comprise negative affectivity.

Visek, Hurst, Maxwell, and Watson (2008) found AIMS to be a psychometrically sound measure of athletic identity in their study of male contact and collision athletes in American and English-speaking Hong Kong Chinese populations. However, they state that “although the instrument has been established as a multi-dimensional (e.g., social identity, exclusivity, negative affectivity), for all practical purposes it has been largely used as a unidimensional measure (e.g., athletic identity).” Most recently, Brewer and Cornelius (2001) conducted a study evaluating the possibility of the AIMS being either a unidimensional or a multidimensional model through a
confirmatory factor analysis.

In their ‘Norms and Factorial Invariance of the Athletic Identity Measurement Scale,’ Brewer and Cornelius (2001) found that results indicated a need for the development of a new model for measuring athletic identity. The three items that were omitted from the original 10-item AIMS were as follows: Item 6- I need to participate in sport to feel good about myself; Item 7- Other people see me mainly as an athlete; and Item 9- Sport is the only important thing in my life. The seven items that remained were renumbered 1-7 and were modeled so that they produced a 3-factor abbreviated model that was both new and valid. A validation sample was used to test the 7-item, 3-factor model in “two multi-group analyses: one comparing the model for males and females and one comparing the model for athletes and non-athletes” (Brewer & Cornelius, 2001, p.106). This abbreviated model has reported high internal consistency (alpha coefficient = .81). The 7-item, 3-factor abbreviated model was also found to be “applicable to a university sample of both males and females and athletes and non-athletes” (Cieslak, 2004, p.79). As such, the 7-item, 3-factor abbreviated model of the AIMS has been selected as the choice measure of athletic identity to be utilized in this study. On the whole, research supports the assertion that AIMS is not only a psychometrically sound instrument, but that it is also a valid measure of athletic identity.

**Moral Development**

Participation in sport is often assumed to elicit positive character building experiences (Bredemeier & Shields 2006; Coakley 2011). Bonfiglio (2011) suggests that across academe, the widely shared viewpoint is that participation in intercollegiate athletics not only has a positive impact on students, but that it contributes to learning and moral development as well. In relation to this, Rudd and Stoll (2004) make a point of distinguishing ‘character development’ and ‘social
development’ in a study wherein they acknowledge that while many people define character in terms of social values such as teamwork, loyalty, self-sacrifice, work ethic and perseverance, this is distinct from the definition of ‘social character’ which is more generally comprised of qualities like honesty, fairness and responsibility. Likewise, evidence from their study suggests that sports may in fact build the former, namely social character, but very little supporting evidence was found to suggest that the latter was developed, namely a character definition that circles around a morally idealistic standpoint (Rudd & Stoll, 2004).

Building character, be it social or moral, falls under the category of psychological development. In recent years, research has shed light on some of the various drawbacks or impediments associated with the overall development of the student-athlete (Carodine, Almond, & Gratto, 2001; Howard-Hamilton & Sina, 2001; Priest, Krause, & Beach, 1999; Riemer, Beal, & Schroeder, 2000). In their (2010) study, Chen, Snyder and Magner outlined some of the negative psychosocial consequences that have been found to be associated with intercollegiate athletic participation (p. 178):

1. violence on and off the court (Fields, Collins, & Comstock, 2007; Jackson& Davis, 2000);
2. eating disorder (Grabmeier, 2002; Women Sports Foundation, 2004);
3. poor academic performance and low graduation rates among major revenue-generating sports (Eitzen & Sage, 2008; Shulman & Bowen, 2001; Miller, Melnick, Barnes, Farrell, & Sabo, 2005; Pascarella, Bohr, Nora, & Terenzini, 1995; Pascarella Truckenmiller, Nora, Terenzini, Edison, & Hagedorn, 1999);
4. alcohol and performance-enhancement substance abuse (Bacon & Russell, 2004; Grossbard, Geisner, Mastroleo, Kilmer, Turrisi, & Larimer, 2009; Miller, Melnick, Barnes, Sabo, & Farrell, 2007)
5. depression and burnout (Meyer, 1997; Coakley, 2007; Watson, 2006):
6. hazing (Alfred University, n. d.; Crow & Rosener, 2002; Hinkle, Smith, & Stellino, 2007);
7. gambling (Butts, 2006; Bacon & Russell, 2004); and
8. lack of social life and experience. (Brewer, Van Raalte, & Linder, 1993; Eccles & Barber, 1999; Miller & Kerr, 2003).

Considering these psycho-social deficits, it is important to note that intercollegiate student-athletes, just like non-athlete students in college, are expected to make decisions about their future careers, establish individual personal values, develop a sense of self-esteem and integrity, build productive interpersonal relationships and eventually achieve a sense of autonomy (Brown, Glastetter-Fender & Shelton, 2000; Jolly, 2008; Martens & Cox, 2000). Accomplishing these things in addition to meeting the demands set forth by collegiate athletic programs could reasonably prove quite challenging for student-athletes. Hence, one facet of development that has continuously fostered intrigue amongst sport scholars is that of transferable moral reasoning. That is, researchers have begun investigating whether the moral decisions student-athletes make within sport contexts contributes to attitudes that transfer to other arenas in everyday life (Ntoumanis & Standage, 2009; Shields & Bredemeier, 2007). In order to explore this notion further, it is worthwhile to consult literature on moral development, specifically that which applies explicitly to college-aged students.

Based on the psychology of Piaget (1965), Lawrence Kohlberg (1969; 1981), in his cognitive-developmental theory of moral development, posited an invariant sequence of six stages beginning with obedience to external rules and fear of punishment, and terminating with adherence to universal and self-distinguished principles of justice (Malinowski & Smith, 1985). Kohlberg’s theory consists of three distinct levels wherein each level consists of two moral
stages (Patton, Renn, Guido, Quaye, Evans, & Forney, 2016). The three levels and details of the six stages are explained by Gibbs (2013): The first, Preconventional, consisting of the first and second stages of moral development, insists that individuals do not yet understand societal rules and expectations and their perspective tends to be individually focused and concrete. The Conventional level of morality, made up of Stage Three and Stage Four, includes individuals who identify with the rules and expectations of others, namely authority, and describes individuals who carry out appropriate social roles and who follow laws because it is essential to the existence of society that they do so. Finally, the fifth and sixth stages consists of individuals who separate themselves from the expectations of others and who base their decisions on self-chosen principles, putting forth equal consideration for the points of view of all involved and acknowledging the existence of a universal set of moral principles that represent the highest form of law and must be followed before the laws set forth by society. Supporters of Kohlberg suggest that:

He championed and elaborated the themes of the cognitive developmental approach to morality and put cognitive moral development on the map of American psychology by relating moral psychology to philosophy and vice versa, encouraging attention to moral judgment development beyond the childhood years and championed the role of reflection or contemplation in the achievement of moral judgment maturity. (Gibbs, 2013, p.76)

Kohlberg’s ideals, while highly regarded in some spheres, have faced their fair share of criticisms. Norma Haan (1978) believed Kohlberg’s stage theory to be incomplete and more likely to be used for hypothetical dilemmas than for real action situations. In her opinion, formal reasoning was not the only factor that affected moral action. Interpersonal and contextual considerations should also be acknowledged. Furthermore, with respect to the relation between
moral judgment and behavior, Rest (1989) claimed that moral judgment tests provide information about subjects’ ideas or concepts of fairness, but that many other psychological processes are necessary for interpreting situations and organizing actions. Turiel (1983) condensed these ideals in an effort to formulate what is now a widely-cited definition of the moral domain. He postulates that “prescriptive judgments of justice, rights and welfare pertaining to how people ought to relate to each other comprise the moral domain” (Turiel, 1983, p.3). Based on a line of enlightenment thinking ranging from Immanuel Kant to John Stuart Mill to John Rawls, it is said that both Kohlberg and Turiel established circumscriptions of the moral domain where the autonomy and welfare of the individual serve as the harbor for ethical inquiry (Graham, et al., 2011). In other words, both theories comprise not only psychological but philosophical frameworks.

In his 1785 work, *Foundations of the Metaphysics of Morals*, Immanuel Kant introduced the notion of deontology; an ethical position that bases what is right and what is wrong in consequence of obeying one’s duty, independent of consequence. The word, “deontology” literally translates to “duty” or “obligation” (Beauchamp, 1991). For example, what is morally “right” is that which aligns with an individual’s duty or obligation to others. According to deontological ethical theory, “there are expected and well-established moral standards related to fair play and sportsmanship that those who participate in sport ought to obey in any context” (Lyons & Turner, 2015, p. 33). However, Donahue, Rip & Vallerand (2009) argue that a long period of involvement and high degree of physical contact in sport may negatively affect participants’ moral reasoning. Therefore, athletes may tend to be more unsportsmanlike than their non-athlete counterparts. In a study conducted by Gardner and Janelle (2002), judgments that legitimized aggressive behaviors were found to be inversely related to respondents’ moral
reasoning where athletes and non-athletes were asked to judge the legitimacy of overtly aggressive acts performed by both contact and non-contact sports participants. Additionally, Long, Pantaléon, Bruant and D’Arripe-Longueville (2006) found that the moral reasoning of young athletes could cause them to associate surpassing oneself with breaking rules, associate team spirit with fighting to defend teammates, and associate the desire to win with harmful acts. In this way, moral impropriety seems to be justified through the agency of defending sports values.

Along these same lines, some scholars postulate that athletes may consider the sporting atmosphere as being a sort of alternate reality. Camiré and Trudel (2010) assert that athletes appear to perceive sport as “different from ‘real life’ since the artificial rules, roles, and boundaries of sport allow for the temporary suspension of normal everyday life morals” (p.194). It is worth mentioning that authority figures (e.g., referees and coaches) are responsible for upholding rules and ensuring the execution of fair and respectable play. In this case, the athlete is somewhat relieved of moral responsibility by default. There is often a sort of ‘anything goes’ or a ‘win at any cost’ mentality associated with the pursuit of victory in elite-level athletic atmospheres. “It ain’t cheating if you don’t get caught” is proposed to be more than just a casual saying, but an actual way of life to some athletes (Jones & McNamee, 2000, p. 493). Sport scholars also introduce the notion of what is called the ‘winners bias’, which essentially posits that those who are determined to win at any cost will inevitably find a way to cheat in sport (Dohrmann, 2007) as cited by (Whitman, 2008). Interestingly, it has been asserted that rather than making a conscious decision to cheat, these athletes are instead driven to do so because they possess an innate obsession with winning (Jones & McNamee, 2000). A discussion on whether or not elite athletes possess inherent victory-related compulsions more so than non-athlete
individuals extends beyond the purpose of this study. However, with principles like
aforementioned at the heart of competitive athletics, it is not unreasonable to assume that
student-athletes, having spent significant amounts of time in competitive sporting atmospheres,
may be substantially developmentally affected by their relative athletic success with respect to
their moral reasoning practices.

Outside of sportsmanship, definitions of morality in philosophical contexts also
frequently emphasize rules or codes of conduct that reduce harm to others (Gert, 2005). Much of
ancient moral philosophy was virtue-based (Graham et al., 2011). Societies from Greece to India
to Japan “valued benevolence and fairness, but they also emphasized group-level concerns about
social order, authority, duty, loyalty to one’s family or group” (Graham et al., 2011, p. 3). With
these views in mind, the moral complexities associated with being a student-athlete are again
considered. While on one hand, an athlete might fully recognize and subscribe to certain
universal reasoning structures, e.g. ‘treat others as you’d like to be treated,’ research suggests
that they may also highly value, if not prioritize concerns about social order in the sport domain
(Doty, 2006; Jones & McNamee, 2000; Lyons & Turner, 2015).

A qualitative study by Long et al. (2006) revealed that elite male athletes regularly
participated in moral disengagement (a term coined by Bandura, Barbaranelli, Caprara, &
Pastorelli in 1996) when they competed in sport. In other words, these athletes knew the
difference between right and wrong yet chose to suspend higher moral reasoning in the heat of
competition due to the competitive sport context. This supports findings from Camiré and
Trudel’s (2010) study that athletes perceive sport as different from real life. Easily observable
actions in popular sport that involve aggressive tendencies and potentially intentional injurious
acts, including what might occur as a result of an intentional foul, contribute to what has been
referred to as the moral erosion of high school and college athletes (Barnes, Karp, Stoll & Gwebu, 2008; Fraleigh, 2003; Loland, 2005).

In response to these findings, explicit consideration must be given to the moral disparities that have been proposed to exist between males and females by numerous developmental theorists, and which may or may not influence the moral decision-making practices of male versus female student-athletes.

Jaffe and Hyde’s (2000) meta-analysis demonstrated that females tended to use somewhat more caring, prosocial moral reasoning than males, but also showed that the standard of reasoning employed by all individuals during moral crises tended to be highly susceptible to both the context and content of each moral scenario presented. Similarly, Eisenberg, Cumberland, Guthrie, Murphy & Shepard (2005) found that during early adulthood, females showed a progressive increase in ‘other-oriented, self-reflective’ reasoning, whereas males did not. Here, other-oriented and self-reflective reasoning was synonymous with higher degrees of introspection, being able to imagine oneself in another’s shoes and sympathizing with other individuals. Essentially, these findings suggested that women were more caring than men and behaved in more prosocial ways, particularly when dealing with people with whom they were familiar or when helping in nonthreatening contexts (Eisenberg et al., 2005). While research seems to support the notion that men and women tend to differ with respect to moral orientation, it is worth mentioning that the highly competitive sporting atmosphere may demand student-athletes engage in certain temporal moral suspensions (Camiré & Trudel, 2010). Therefore, if the sporting atmosphere does, in fact, foster certain antisocial (i.e. aggressive) behaviors, this may not be exclusive to male athletes, but may pertain to female athletes as well.

In Graham, et al.’s (2011) study, participants were asked to define morality in their own
words. In keeping with Turiel’s definition, some participants listed harm and human welfare, while others listed fairness and justice as being central to morality. Responses included statements such as ‘Avoiding harm to others’ and ‘Morality is doing the right thing to ensure fair treatment for all’. Going beyond individual morally-valuable entities, some participants in the study defined morality as “having a system [that] protects the social institutions of family, community and country” (Graham, et. al., 2011, p.3). As the definition of morality tends to vary according to culture, class, politics and era, Haidt and Kesebir (2010) recognized a need for psychologists to define morality independent of specific context areas and consequently proposed a functionalist definition of morality rather than one based justice, rights and/or welfare. In their view,

Moral systems are interlocking sets of values, virtues, norms, practices, identities, institutions, technologies, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make social life possible. (Haidt & Kesebir, 2010, p. 800)

Unlike the context-based approaches, the emphasis in this definition is on the moral system rather than on individual minds and psychological mechanisms. Its focus is outwards. Essentially the idea is that when people interact with one another, culturally and historically specific sets of institutions and technologies constrain and enable certain behaviors within their interactions. As a result, moralities emerge throughout the process. Moreover, it has been asserted that functional definitions like this make it possible to recognize a multitude of diverse societies as embodying moral systems, at least in a descriptive sense, even if researchers believe those societies are constructed in a way that is considered normatively immoral (e.g., patriarchies and theocracies) (Graham, et. al., 2011).
Graham, et al., (2011) created the Moral Foundations Theory (MFT) in an effort to “develop a systematic theory of morality, explaining its origins, development, and cultural variations” (p.5). The results of an extensive cross-disciplinary literature review from enlightenment thinking (Kohlberg, 1971; Turiel, 1983), to harm and rights (Greene, Cushman, Stewart, Lowenberg, Nystrom, & Cohen, 2009; Hauser, Young, & Cushman, 2008), to altruism and prosocial behavior (e.g., Moll et al., 2006), lead authors to conclude that morality, more often than not, remains to be operationalized as helping (vs. harming) or as playing fair (vs cheating)” (Graham et al., 2011, p. 3). Consequently, they identified five primary infrastructures of morality, titled ‘foundations’, that stem across varying cultures that expand upon taxonomies from three primary psychological theorists: 1) Fiske’s (1992) four models of social relationships; 2) Shweder et al.’s (1997) account of the ‘three ethics’ of autonomy, community and divinity that are found widely around the world; and 3) Hogan et al.’s (1978) evolution-based socioanalytic theory of moral development comprise the five foundations. The MFT is understood to be an attempt to illustrate more progressive psychological mechanisms. It allows for intuitive bases of moral judgments, as well as more deliberate reasoning processes than other existing moral measures (Greene, Sommerville, Nystrom, Darley, Cohen, 2001; Haidt, 2001).

After name modification (Haidt & Graham, 2007), the foundations of the Moral Foundations Theory became known as: Harm/care, Fairness/Reciprocity, In-group/loyalty, Authority/respect, and Purity/sanctity that were to be evaluated using a measurement scale known as the Moral Foundations Questionnaire (MFQ). During the questionnaire construction process, authors utilized the ideologies of Shweder and several political theorists to hypothesize that if one were to compare the MFQ scores of political liberals and conservatives, there would be a marked discrepancy in locus of control with liberals, displaying emphasis on moral
regulation revolving around protecting the individual from harm or unfair treatment, and conservatives, who’d likely place a much greater emphasis on virtues and institutions that bind people into roles, duties, and mutual obligations (Graham et al., 2011). With this in mind, hypotheses were formed regarding how each group would score respecting each of the five foundations.

Though the first draft of the MFQ was indeed partially created with intention of testing these hypotheses about ideological differences between liberals and conservatives, and did ask participants to evaluate the relevance of several moral foundation-related concerns (Graham et al., 2011), the second version included additional sections. These asked to what extent participants agreed or disagreed with specific and contextualized moral judgment statements. After a third draft, several pilot tests, additional modifications and item addition and removal, the MFQ was ultimately found to be a reliable and valid scale with substantial evidence in support (Graham et al., 2001). Not only did factor analysis confirm the theoretical divisions of the moral domain into the five foundations aforementioned, but the model provided a good fit for participants in 11 distinct world areas. The scale itself is internally consistent and test-retest analysis showed stability of the foundation subscale scores over time. Consequently, it is suggested that the MFQ will aid in attempting to extend, critique and otherwise improve psychology’s map of the moral domain in the future (Graham et al., 2011). Thus, MFQ was the moral measure selected for the purpose this study.

**Summary**

Current research has provided a great deal of insight towards not only understanding the formation of an athletic identity, but also on developing mechanisms to measure its varying degrees. Likewise, it is clear that both philosophers and psychologists have made continuous
efforts throughout history to define and quantify what it means to be moral. According to the functionalist definition of morality (Haidt & Kesebir, 2010), just like the seemingly immoral practices retained by patriarchies, the athlete-community and sport atmosphere may represent a society unto its own. Beyond this, the definition further suggests that the sport atmosphere could even be comprised of its own individual moral system in that it appears to be built on a ‘victory above all’ mentality, which is an ideology regarded by many as highly immoral. After a review of the literature, it is evident that researchers have indeed attempted to find a correlation between the participation in intercollegiate athletics and moral reasoning practices (Bonfiglio, 2011; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015; Priest, Krause, & Beach, 1999). However, after examining both constructs in detail, it appears not altogether improbable that a correlation may exist between an elite athlete’s degree of athletic identity and his or her moral orientation. In other words, someone who identified very highly as an athlete, theoretically embodying a ‘victory above all’ attitude, may prioritize the sport philosophy over the more universally acknowledged, ‘treat others as you would wish them to treat you’ institution. In this case, the student-athlete’s overall moral reasoning practices could prove to deviate from those athletes with lower degrees of athletic identity. The question remains as to whether the severity of a particular type of identity, specifically athletic identity, influences how individuals formulate, or develop, their moral code.

**Hypotheses**

The current study sought to investigate whether a relationship exists between the possession of an athletic identity in NCAA Division 1 athletes and the moral foundations on which they rely. There were several main hypotheses for this study. First, that the degree of athletic identity in an individual would be negatively related to (at least) the Harm/care and
Fairness/reciprocity foundations of the Moral Foundations Questionnaire (MFQ). This hypothesis was based on previous findings in sport literature which suggest that prolonged involvement in competitive sport is linked to the legitimization of aggressive behavior in sport settings (Conroy, Silva, Newcomer, Walker & Johnson, 2001; Visek & Watson, 2005), and also stems from the multiple negative psycho-social consequences that have been found to be associated with intercollegiate athletic participation, including violence on and off the court, the abuse of performance-enhancing drugs, and hazing, amongst others (Chen, Snyder & Magner, 2010).

Literature indicating that males and females tend to differ on scores of athletic identity is relatively inconsistent (Grossbard, Geisner, Mastoleo Kilmer, Turrisi & Larimer, 2009; Houle, Brewer & Kluck, 2010), therefore the second hypothesis in this study was that there would be no significant relationship between gender and the degree of athletic identity present in student-athletes. However, due to the fact that certain scholars have suggested that men and women sometimes use a different primary lens for moral reasoning, namely a “care” ethic for females and a more egocentric ethic for males (DeSensi & Rosenberg, 2010; Gillian, 1982; Jaffee & Hyde, 2000), it was predicted that gender would play a moderating role respecting MFQ scores. Specifically, it was hypothesized that women would score higher on the Harm/care and Fairness/reciprocity foundations of the MFQ than males.

Although a myriad of scholars have supported the notion that prolonged participation in the highly competitive, elite-level sporting atmospheres leads to the development of an athletic identity (Cieslak, 2004; Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Hurst, Hale, Smith, & Collins, 2000), few studies have been specifically devoted to investigating student-athletes’ degree of athletic identity in relation to the length of their collegiate athletic careers. Therefore,
in the present study, it was predicted that there would be no significant relationship between years of collegiate sporting experience and the degree of athletic identity present in student-athletes. In other words, it was hypothesized that first-year student-athletes would maintain similar degrees of athletic identity to fourth-year (last year) student-athletes. However, being that the majority of research shows the same type of continued competitive athletic participation to be negatively correlated with character development, (Dunn & Dunn, 1999; Beller & Stoll, 1995; Bredemeier & Shields, 1984; Fraleigh, 2003; Jones & McNamee, 2000; Loland, 2005; Ntoumanis & Standage, 2009; Proios, 2013; Whitman, 2008), it was hypothesized that there would be a negative relationship between length of time participated in sport and MFQ scores.

The goal of this study was to determine whether or not a relationship exists between degree of athletic identity and moral foundation proclivity. In the event that athletic identity was found to be associated with a specific structure of moral reasoning, then higher education practitioners and athletic administrators have a responsibility and a professional obligation to utilize this research in program implementation and practice. Without understanding the unique identity development of intercollegiate student-athletes and its relation to their moral orientation, sport and student affairs professionals will fail to meet students where they are and address the specific educational needs of this student group.
CHAPTER III

Methods

Overview

In this chapter, the procedures and participants for this study are introduced; the measures and survey instrument employed are described; the approach to data collection is clarified; and the analysis techniques utilized are outlined. In total, the methods necessary to examine the relationship between athletic identity and moral orientation in NCAA Division I athletes are defined.

Procedure

Quantitative data was solicited from NCAA Division 1 student-athletes, club sport athletes and intramurals sport athletes from one medium-sized, public Midwestern university via email. The general purpose of the study was explained to the Athletic Director of the university, the Director of Internal Operations for Athletics, the Director of Compliance, the Director of the Student Union and Campus Recreation, and all coaching staff members of each athletic team. Additionally, in order to ensure that the parameters of this study aligned with all federal, institutional and ethical guidelines set forth for any research involving human subjects, the final, committee approved draft of the proposal for this study was sent to the Institutional Review Board (IRB) in order to obtain formal permission to begin data collection.

Permission was granted to attend individual team practices and meetings in order to personally invite student-athletes \( n=238 \) to complete a voluntary online survey that would be sent to their university emails (See Appendix VI). Contained in the email was a brief explanation of the study (omitting the hypothesis and relevant information), a letter requesting participants’

39
informed consent (See Appendix I) and a link to the online survey. The email notified participants that their submission of the survey would act as an indication of their informed consent. Beyond this, any student-athlete who returned a completed survey was entered in a drawing to win one of ten $20 gift certificates to the place of their choosing and the first three athletic teams to have full squad participation in the survey earned a pizza dinner for the entire team. A reminder email was sent to each student-athlete who had not completed and returned the survey after one week’s time and informed them that they had an additional three days to complete the survey before access to the link would be closed.

Participants

A total of 261 athletes were recruited to participate in this study. Participants included current NCAA Division I Intercollegiate student-athletes (n=183) as well as club and intramural sport athletes (n=72) who were participating members of university-sponsored athletic teams at one medium-sized, public Midwestern university. Participants consisted of both male and female student-athletes, athletes from multiple sports and athletes with as little as one, and as many as five years of collegiate athletic experience. However, due to the fact that there were only four participating fifth-year/red-shirt student-athletes, fourth- and fifth-year athletes were combined into one group (e.g., fourth-years). Prior to analysis, the data were screened for nonresponses, incomplete surveys and attention checks (See Measures). While the initial response rate was 261, the final n for the study after data screening was 238.

Measures

Qualtrics Online Survey Software was used to craft and distribute the online survey instrument to participants. The 44-item survey (Appendix III) was comprised of two existing measures: the Athletic Identity Measurement Scale (AIMS) (Items 1-7) (Brewer & Cornelius,
2001) and the Moral Foundations Questionnaire (MFQ) (items 8-10, 12-23, 25-34, and 36-40) (Graham, et al., 2011) as well as demographical questions (items 40-44), created by the researcher. Demographic items included gender, athletic year of eligibility (for NCAA Intercollegiate athletes) or years of collegiate athletic experience (club and intramural sport athletes), nature of sport participation (NCCA Division I intercollegiate, club or intramural) and type of sport participated in.

Prior to analysis, the data was screened for attention checks (items 11, 24 and 35). Throughout the survey, three attention check questions (i.e., Please select “agree”) were placed in order to verify that participants were responding in a valid manner rather than simply answering questions arbitrarily. This ideally served to reduce common method bias, and assisted in preventing the researcher from incorrectly inferring a substantive relationship between the independent and dependent variables (Podsakoff & Organ, 1986). Only those participants who answered the three attention check questions correctly were included in the analysis. The surveys that did not meet this screening criterion were not included in the results.

Athletic Identity Measurement Scale. The measure of athletic identity utilized in this study was the Athletic Identity Measurement Scale (Brewer & Cornelius, 2001). This measure was the abbreviated 7-item, multidimensional, 3-factor structure scale that yielded an overall score of athletic identity along with three subscales: social identity, exclusivity, and negative affectivity. ‘Social identity’ refers to the strength with which an athlete identifies with the athletic role, ‘Exclusivity’ refers to how heavily athletes rely on their athletic identity and how weakly they identify with other roles (i.e. student or friend), and ‘Negative affectivity’ refers to the negative emotional responses resulting from the inability to participate in sport (Martin, Eklund & Mushett, 1997). In Brewer and Cornelius’s (2001) work, a validation sample was used
to test the 7-item, 3-factor model in two multi-group analyses. The first compared the model for males and females and the other compared the model for athletes and non-athletes. This abbreviated model has reported high internal consistency (Cronbach’s Alpha = .81) and was found to be applicable to a university sample of both athletes and non-athletes as well as to males and females (Cieslak, 2004). Visek, Hurst, Maxwell and Watson (2008) supported the multidimensional factorial structure of the 7-item abbreviated AIMS and, on the whole, research indicates that the AIMS is not only a psychometrically sound instrument, but it is also a valid measure of athletic identity.

For the purpose of this study, participants were asked to respond to the items on the AIMS by utilizing a Likert scale anchored by 1 (strongly disagree) to 7 (strongly agree). Items 1 through 7 on the 44-item survey instrument corresponded to the items from the 7-item, 3-factor version of the Athletic Identity Measurement Scale (See Appendices IV), with the subscales divided as follows: Social identity factor (items 1-3); Exclusivity factor (items 4-5); and Negative affectivity factor (items 6-7). By averaging the responses, the AIMS yields a composite athletic identity score, as well as scores for each of the three individual subscales, although only composite athletic identity scores were utilized in the present study. Higher composite scores were indicative of greater degrees of athletic identity.

**Moral Foundations Questionnaire.** A measure of moral development that stems from a theory integrating both evolutionary accounts of human sociality and anthropological accounts of the variability of the moral domain (Fisk, 1992; Shweder, Much, Mahapatra & Park, 1997) was chosen for this study. The Moral Foundations Questionnaire (MFQ) (Graham, et al., 2011) includes five universally acknowledged foundations of morality and addresses certain gaps in existing moral literature. Specifically, those that call for a theoretically grounded scale
encompassing the full range of human moral concerns. The MFQ is a 30-item measure that yields scores for 5 distinct foundations of morality: 1) Harm/care; 2) Fairness/reciprocity; 3) In-group/loyalty; 4) Authority/respect, and 5) Purity/sanctity. Consistent with Shweder et al.’s (1997) three category taxonomy of morality, Harm and Fairness correspond to “equality and rights between individuals, independence, freedom of choice, and personal well-being;” Ingroup and Authority equate to “loyalty, duty, honor, respect, self-control and obedience to authority with the basis of a person’s actions being consistent with his or her social roles;” and Purity coincides with “obligations, punishments and rewards set forth by supernatural forces” and is affixed in the concept of divine or natural law (Guerra & Giner-Sorolla, 2010, p.36).

The moral foundations questionnaire provides a conceptual organization for measuring and describing differences in moral concerns across individuals, social groups and cultures (Graham et al., 2011). Unlike other moral development theories that categorize individuals into specific hierarchal moral stages based on participant responses to hypothetical moral dilemmas (e.g., Kohlberg’s Moral Stage Theory), the MFQ instead measures the degree to which any individual’s moral beliefs and concerns rely upon each of the five proposed moral foundations. Seeing as it focuses on ideological differences, various patterns of ‘endorsement levels’ for each of the five foundations is possible (Graham et al., 2011).

Graham et al (2011) were able to demonstrate that the MFQ is not only internally consistent, but that it effectively supports coverage of diverse demonstrations of foundation-related concerns. Test-retest analysis illustrated stability of foundational subscale scores over time, with correlation scores for each foundation being Harm ($r=.71$), Fairness ($r=.68$), Ingroup ($r=.69$), Authority ($r=.71$), and Purity ($r=.82$) (all $p<.001$). Furthermore, “external validations of the MFQ using widely-used scales, as well as attitudes toward conceptually related social
groups, showed convergent, discriminant, and predictive validity” (Graham et. al., 2011, p. 15).

Beyond confirming the categorization of the moral domain into five sets of concerns, factor analyses suggested that the 5-factor model of the MFQ provided a good fit for participants in 11 discrete world areas and consequently, it is proposed that MFQ will assist in attempting to extend, critique and otherwise improve psychology’s map of the moral domain (Graham et al., 2011).

Similar to the AIMS, participants in the current study were asked to respond to items from the MFQ (Appendix V) by way of a Likert scale ranging from 1 (not at all relevant) to 6 (extremely relevant) for items 8 through 24 of the 44-item self-report survey instrument. For items 25 through 40, participants were asked to provide responses ranging from 1 (strongly disagree) to 6 (strongly agree). Responses for items corresponding to the MFQ were grouped into five external criteria scale sets, one for each moral foundation. The items on the 44-item total survey instrument that correspond to the five moral foundations are as follows: Harm/care (items 8-10 and 25-27); Fairness/reciprocity (items 12-14 and 28-30); Ingroup/loyalty (items 15-17 and 31-33); Authority/respect (items 18-20, 34, 36, 37); and Purity/sanctity (items 21-23 and 38-40) (See Appendices V). Based on their responses, participants received a composite score for each of the five moral foundations.

Research Design

A cross-sectional research design was utilized for the purpose of this study. Unlike experimental designs where there is an active intervention performed by the researcher to measure or produce a particular change or induce a specific deviation, cross sectional designs focus on studying and making inferences based on existing variations between people, subjects and/or phenomenon (Singh, 2007). In this case, the researcher elected to utilize two existing
measures representing the events of degree of athletic identity, or AIMS composite score, and moral orientation based scores from the five external criteria scale sets of the MFQ. The participants identified for observation in cross-sectional research designs are often purposely selected based upon existing differences in that chosen sample, rather than by utilizing random sampling procedures. Concerning the present study, sport research suggests that elite-level athletes appear to developmentally deviate from their non-athlete counterparts respecting their identity formation as well as in their moral reasoning practices, which is believed to be due, in part, to their lengthy exposure to highly competitive atmospheres amongst other factors (Bonfiglio, 2011; Howard-Hamilton & Sina, 2001; Lyons & Turner, 2015). For this reason, a purposive sample was chosen. The sample consisted of current participating NCAA Division I intercollegiate athletes as well as club and intramural sport student-athletes from the medium-sized, public Midwestern university where the study was conducted.

While a cross-sectional research design was deemed the most appropriate method for the parameters of this study, it is important to note that this particular design represents results that are static and time bound, and therefore do not necessarily indicate sequence of events or reveal historical or temporal contexts (Labaree, 2009). Additionally, these studies may not serve the purpose of establishing a cause and effect relationship as the design only provides a brief illustration of analysis and there is always the possibility that alternative results may have surfaced if another time frame was chosen for the study. In order to increase reliability, the researcher may consider performing a follow up study to the initial findings in future research.
CHAPTER IV

Analysis and Results

Analysis

Once received, data was analyzed using statistical procedures specifically chosen to answer the research questions in this study and the exact statistical procedures and rationale are outlined in this section. The following is a list of the five research questions that were outlined in Chapter 1:

1. Is there a relationship between the degree of athletic identity present in an individual and the moral foundations on which they rely?
2. Is gender a factor influencing the degree of athletic identity present in university athletes?
3. Is there a difference in degree of athletic identity based on length of time participated in sport (i.e. first-year of athletic eligibility vs. 4-5 year of athletic eligibility)?
4. Are there differences in the moral foundations on which university athletes rely based on their gender?
5. Are there differences in the moral foundations on which university athletes rely based on length of time participated in sport (i.e. first-year of athletic eligibility vs. 4-5 year of athletic eligibility)?

**Correlation.** Correlation is a widely used measure of association between two or more variables which signifies the strength of a relationship between those variables in an equation (Singh, 2007). The most frequently used correlation coefficient is Pearson r, where measures vary from -1.00 (a perfect negative correlation) to +1.00 (perfect positive relationship) and where 0.00 indicates that no correlation exists between the variables being tested (Norris, 2012).
perfect negative correlation (-1.00) communicates that as the value of one variable increases, the value of the other decreases and a positive correlation communicates the opposite; that as the value of one variable increases, the value of the other also increases.

In the present study, the researcher elected to test for correlations between the degree of athletic identity present in student-athletes and the moral foundations on which they rely. Due to the fact that the Likert scale responses from the survey instrument yield both a composite athletic identity score as well as composite scores for each of the five moral foundations outlined in the MFQ, and because various levels of preference or ‘endorsement’ are possible for each of the five moral categories, a correlation test was administered in order to ascertain how degree of athletic identity interacted with each of the five moral foundations individually. While this method allowed the researcher to determine the strength and direction of the relationship between variables, regression analyses were also employed in order to describe the nature of that relationship in greater detail.

**Simple Regression Analysis.** Regression analysis is most often utilized for prediction and causal inference (Singh, 2007). A linear regression allows a researcher to examine the relationship between an exposure, or predictor (independent variable), and an outcome (dependent variable) in two ways. First, it indicates whether an exposure variable accurately predicts an outcome variable while specifying whether or not the model accounts for the variability of the changes in the outcome. Second, a linear regression stipulates which variables in particular are significant predictors of the outcome and reveals the manner in which they impact the outcome in terms of the magnitude and sign of the beta estimates (β). Using ordinary least square method (OLS), or linear least squares, it finds a line of best fit between two variables
in order to estimate the value of one variable based on the value of the other variable (Norris, 2012).

In this study, the researcher set out to assess the possible connection between the degree of athletic identity (Independent Variable) and the moral orientations (Dependent Variables) of elite-level, collegiate athletes. Five linear regressions were conducted in order to describe the relationship between the continuous dependent variables (i.e., each one of the 5 moral foundations outlined in the MFT) and the continuous independent variable (i.e., degree of athletic identity) by calculating the correlations among variables associated with Likert-scale responses from the both the AIMS and the MFQ. This completed, five probability plots were produced in order to show the classification of observations (See Appendix VII). This analysis assisted the researcher in understanding how the value of each dependent variable, or the composite score for each one of the five moral foundations of the MFT, changed when the independent variable, or composite athletic identity score, varied. Thus, linear regression served as the statistical modeling method used to address the hypothesis corresponding to the researcher’s primary research question (RQ1): Is there a correlation between the degree of athletic identity present in an individual, and the moral foundations on which they rely?

It is worth mentioning that this type of analysis can sometimes lead to false relationships in that correlation does not necessarily imply causation. In order for a preliminary measure to imply causation, there needs to be an association (or correlation), a non-spurious association (e.g., it cannot be “explained away” by other variables or alternate explanations) and the causal variable must have temporal priority (X must occur before Y to show that X actually causes Y) (Gingery, 2009). In the present case, the researcher needed to find a correlation between athletic identity and moral development. Demographical information should have supported rather than
contradicted the association, and the causal variable (athletic identity) must have had temporal priority over moral foundation categorization.

**Ordinary Least Squares Method.** Ordinary Least Squares is a method used for estimating unknown parameters in a linear regression model. This method minimizes the sum of the squares of difference between the observed responses, or the values of the variable being predicted in a given data set, as well as the variables predicted by a linear function of an exposure, or explanatory variable (Singh, 2007). The OLS estimator is consistent when regressors are exogenous, or independent of the random error term within the linear model, and capital in the case of linear unbiased estimators when the errors in a sequence have equal variance, or homogeneity of variance, and are serially uncorrelated (Norris, 2012). The OLS method provides a minimum-variance, mean-unbiased estimation when the errors have finite variances and, under the assumption that errors are normally distributed, OLS stands as the maximum likelihood estimator (MLE).

In keeping with classical statistical inference, the researcher assumed that a single population (student-athletes) may generate a large number of random samples. Therefore, sample statistics were used to estimate the population parameters. Here, the researcher was interested in the moral orientations of approximately 238 NCAA Division I intercollegiate, club sport and intramural sport student-athletes with presumably differing degrees of athletic identity. While, the researcher attempted to utilize the total population of student-athletes from the institution where the study was conducted, it is worth mentioning that measuring the degree of athletic identity in every existing student-athlete, in each division of athletic participation (e.g., NCAA, club and intramural), in every sport, of each gender and in each year of collegiate athletic participation corresponding to each one of the five moral foundations of the MFT was
unfeasible. Therefore, assuming that these factors were normally distributed in the present data with some unknown mean and variance, the maximum likelihood estimation (MLE) estimated these (mean and variance), while observing the degree of athletic identity and moral foundation preferences of only the participating athletes at the institution where the study was conducted.

Notably, the researcher acknowledges the questionable generalizability of this information given the relatively small number of participants and the lack of participants stemming from each and every NCAA Division I sport in existence. Ideally, however, the MLE answered this by taking the mean and variance as parameters and finding particular parametric values that make the observed results the most probable given the models (AIMS and MFQ) selected. The maximum likelihood estimation was used to maximize the agreement of the selected model with the observed data.

**Two-Way ANOVA.** An ANOVA, also known as the F test, tests hypotheses that examine the difference between two or more groups by examining the ratio of variability between conditions and variability within each condition (Singh, 2007). Here, an F-ratio tells the researcher how big of a difference there is between the conditions under investigation, and whether or not an effect is more than just chance. While T-tests in many cases serve the same purpose, the more hypotheses a researcher chooses to test, the higher the chance for a type 1 error, or the incorrect rejection of a null hypothesis (a false positive). As a result of this, the t-test has less power than the ANOVA.

In the present study, the researcher ran a series of two-way ANOVAs to test a total of four group differences corresponding to Research Questions 2, 3, 4 and 5 outlined in Chapter 1: 1) Gender in relation to athletic identity; 2) Gender in relation to moral foundation categorization; 3) Year of collegiate sport experience in relation to athletic identity; and 4) Year
of collegiate sport experience in relation to moral foundation categorization. The researcher tested for significant differences in an effort to address the hypotheses HO2, HO3, HO4 and HO5.

**Athletic Identity and Moral Foundations**

As mentioned in the first hypothesis of this study, athletic identity (AIMS) composite scores were predicted to negatively correlate with scores for the Harm/care and Fairness/reciprocity foundations of the MFQ. Table 1 shows the correlations between AIMS scores and each of the five foundations of the MFQ. Regression analyses were conducted in order to investigate the nature of the relationship between athletic identity and the moral foundations. Since five linear regressions were performed, a Bonferroni correction was applied to keep the experiment-wise type I error rate at most alpha = 0.05, which resulted in a level of significance of 0.01 that was used for this portion of the analysis. Because there was no significant linear relationship found between AIMS scores and scores for the Harm/care foundation and the Fairness/reciprocity foundation of the MFQ, the primary hypothesis for this study was not supported.

Interestingly, however, the relationships between AIMS scores and scores for the Ingroup/loyalty foundation, the Authority/respect foundation, and the Purity/sanctity foundation of the MFQ were found to be both positive and significant. The positive linear relationship between the AIMS and the Ingroup/loyalty foundation of the MFQ was the strongest. For each one-point increase in the AIMS score, the Ingroup/loyalty foundation of the MFQ increased, on average, by 0.24 points ($p < .00$). The positive relationship between AIMS scores and the Authority/respect foundation followed, in that for each one-point increase in the AIMS score, the Authority/respect foundation increased, on average, by .23 points ($p < .00$). Finally, for each one-
point increase in AIMS score, the Purity/sanctity foundation increased, on average, by .21 points ($p < .00$), which also indicated a positive linear relationship. Although no support was found for HO1, the significant positive relationships found between AIMS scores and the latter three foundations certainly sheds new light on what could be the culture-specific moral development of student-athletes.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>AIMS</th>
<th>Harm</th>
<th>Fairness</th>
<th>Ingroup</th>
<th>Authority</th>
<th>Purity</th>
</tr>
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<tr>
<td>AIMS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Harm</td>
<td>.04</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ingroup</td>
<td>.27**</td>
<td>.01</td>
<td>.25**</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Authority</td>
<td>.27**</td>
<td>.12</td>
<td>.20**</td>
<td>.60**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Purity</td>
<td>.19**</td>
<td>.24**</td>
<td>.26**</td>
<td>.41**</td>
<td>.50**</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: ** indicates significance at the .01 level. AIMS= Athletic Identity Measurement Scale, Harm= Harm/care foundation of the Moral Foundations Questionnaire (MFQ), Fairness= Fairness/reciprocity foundation of the MFQ, Ingroup= Ingroup/loyalty foundation of the MFQ, Authority= Authority/respect foundation of the MFQ, Purity= Purity/sanctity foundation of the MFQ.

Group Differences in Athletic Identity

It was predicted that there would be no significant relationship between gender and degree of athletic identity present in individual student-athletes. ANOVA analyses for the participants’ scores on the athletic identity measure, the AIMS, are shown in Table 2, respectively. In general, there was no significant difference among males and females regarding the AIMS scores, $p=.15$. These results provided support for the second hypothesis in this study and indicate that gender is not a moderating factor in terms of the degree of athletic identity maintained by individual student-athletes.

Further hypotheses addressed whether length of time participated in collegiate sport
would have an effect on the AIMS scores and MFQ scores. Table 2 also summarizes the ANOVA results for AIMS scores for years of collegiate athletic experience, represented as ‘Time’. This category includes first-year, second-year, third-year and fourth-year athletes (Note: fourth-year athletes consist of both fourth-year and fifth-year athletes combined). There were no significant differences among these groups regarding their scores on the AIMS, \( p = .44 \). Finally, there was also no evidence of a significant interaction between the two factors (i.e., gender and years of collegiate sporting experience) on AIMS score, \( F(3,230) = .43, p = .73 \), so the main effects were analyzed directly. All of these results provided support for the hypothesis that there would be no significant relationship found present between years of collegiate athletic experience and degree of athletic identity possessed by student-athletes.

Table 2

<table>
<thead>
<tr>
<th>ANOVA Results for Athletic Identity</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>( \eta_p^2 )</th>
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<tr>
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<td>2.1</td>
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<td>.00</td>
</tr>
<tr>
<td>Time</td>
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<td>.90</td>
<td>.44</td>
<td>.00</td>
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<tr>
<td>Gender*Time</td>
<td>3, 230</td>
<td>.43</td>
<td>.73</td>
<td>.00</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

Group Differences in Moral Orientation

Harm/care. In keeping with previous research (DeSensi & Rosenberg, 2010; Gillian, 1982; Jaffee & Hyde, 2000), it was predicted that gender would play a moderating role in the moral orientation of student-athletes. Specifically, it was hypothesized that females would score higher than males on the Harm/care foundation of the MFQ. The descriptive statistics for the participants’ Harm/care scores are shown in Table 3. A significant relationship was found
between gender and the Harm/care foundation, $F(1,228) = 27.31$, $p = .00$. Moreover, the largest
effect size was found for the relationship between these two, with females scoring 0.45 points
higher than males ($p < .00$, effect size = 0.66*** ) in this category. These results are consistent
with previous studies suggesting that women, more so than men, appear to utilize more of a
‘care’ ethic in terms of moral reasoning. These findings also provide support the third hypothesis
in this study.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
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<tr>
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</tr>
<tr>
<td>Time</td>
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<td></td>
<td></td>
</tr>
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<td>.63</td>
</tr>
<tr>
<td>Second-year</td>
<td>62</td>
<td>4.82</td>
<td>.73</td>
</tr>
<tr>
<td>Third-year</td>
<td>53</td>
<td>4.87</td>
<td>.65</td>
</tr>
<tr>
<td>Fourth-year</td>
<td>39</td>
<td>4.37</td>
<td>.84</td>
</tr>
</tbody>
</table>

It was also predicted that there would be a negative relationship between years of
collegiate athletic experience (i.e., Time) and MFQ scores. Although not specifically negative in
nature, there was a significant relationship found between time and scores for the Harm/care
foundation of the MFQ, $F(3,228) = 4.24$, $p = .01$. Post hoc analyses on the Harm/care foundation
indicate that fourth-year athletes scored significantly lower than first-, second-, and third-year
athletes. As Table 3 indicates, there was a significant difference between first-year athletes and
fourth-year athletes ($p = .01$), second-year athletes and fourth-year athletes ($p = .01$), and third-year
athletes and fourth-year athletes ($p = .00$). The mean scores for the Harm/care foundation seemed
to increase steadily, though not significantly, from first-years (4.79), to second-years (4.82), to
third-years (4.87), with a significant decrease in fourth-year scores (4.37).

While these results do not necessarily indicate a complete negative relationship between length of time participated in collegiate athletics and scores for the Harm/care foundation of the MFQ, they do coincide with some previous studies which suggest that extended participation in sport is associated with decreased moral reasoning scores (Dunn & Dunn, 1999; Beller & Stoll, 1995; Bredemeier & Shields, 1984; Fraleigh, 2003; Jones & McNamee, 2000; Loland, 2005; Ntoumanis & Standage, 2009; Proios, 2013; Whitman, 2008), and thus, provides minimal support for HO5. Lastly, there was no evidence of a significant interaction between gender and years of collegiate sporting experience, $F(3,228) =1.87, p=.14$, so the interaction term was not analyzed and, once again, only the main effects were investigated here.

Table 4

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1, 228</td>
<td>27.31**</td>
<td>.00</td>
</tr>
<tr>
<td>Time</td>
<td>3, 228</td>
<td>4.24**</td>
<td>.01</td>
</tr>
<tr>
<td>Gender*Time</td>
<td>3, 228</td>
<td>1.87</td>
<td>.14</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

**Fairness/reciprocity.** Similar to the Harm/care foundation, it was predicted that females would score higher than men on the Fairness/reciprocity foundation of the MFQ. Not surprisingly, gender did appear to play a moderating role here. A significant relationship was found between gender and MFQ scores for the Fairness/reciprocity foundation, $F(1,229) =8.64, p=.00$. As depicted in Table 5, females scored significantly higher than males in this category, with a moderate effect size of .40. These results not only provide support for the hypothesis in this study, but are consistent with previous research indicating that men and women operate
differently with respect to moral reasoning (DeSensi & Rosenberg, 2010; Gillian, 1982; Jaffee & Hyde, 2000).

Table 5

Descriptive Statistics for Scores for the Fairness/reciprocity foundation of the MFQ

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>106</td>
<td>4.57</td>
<td>.70</td>
</tr>
<tr>
<td>Female</td>
<td>131</td>
<td>4.84</td>
<td>.67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year</td>
<td>82</td>
<td>4.72</td>
<td>.66</td>
</tr>
<tr>
<td>Second-year</td>
<td>63</td>
<td>4.79</td>
<td>.65</td>
</tr>
<tr>
<td>Third-year</td>
<td>53</td>
<td>4.83</td>
<td>.70</td>
</tr>
<tr>
<td>Fourth-year</td>
<td>39</td>
<td>4.47</td>
<td>.79</td>
</tr>
</tbody>
</table>

Alternatively, no significant relationship was found between years of collegiate athletic experience and scores for the Fairness/reciprocity foundation of the MFQ, $F(3,229) = 2.28, p = .80$. However, similar to the Harm/care foundation, post-hoc analyses revealed that the mean scores for the Fairness/reciprocity foundation appeared to increase, although not significantly, from first-years (4.72), to second-years (4.79), to third-years (4.83), and decrease in fourth-years (4.47). Although not significant at alpha=0.01, the greatest negative relationship found in the data ($p = .05$) between Time and the Fairness/reciprocity foundation of the MFQ was between third-year athletes and fourth-year athletes, which mirrors the results of the post-hoc analyses for the Harm/care foundation. Finally, there was also no significant interaction found between gender and time for the Fairness/reciprocity foundation of the MFQ, $F(3,229) = 1.03, p = .38$, so the interaction term was not investigated and only the main effects were analyzed.
Table 6

ANOVA Results for Fairness/Reciprocity Foundation of the MFQ

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1, 229</td>
<td>8.64**</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>Time</td>
<td>3, 229</td>
<td>2.28</td>
<td>.08</td>
<td>.00</td>
</tr>
<tr>
<td>Gender*Time</td>
<td>3, 229</td>
<td>1.03</td>
<td>.38</td>
<td>.00</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

**Ingroup/loyalty.** Unlike the previous foundations, results indicated that gender did not significantly influence scores for Ingroup/loyalty foundation at alpha=0.01, although a correlational relationship was found \( F(1,229) = 3.814, p=.05 \). While females scored higher than males for both the Harm/care and Fairness/reciprocity foundations, results indicated that males actually scored slightly higher than females on the Ingroup/loyalty foundation, with a small effect size of .25. However, these results provide minimal support for HO4.

There were no significant differences between years of collegiate athletic experience and scores for the Ingroup/loyalty foundation of the MFQ \( F(1,229) = 1.53, p=.21 \). Likewise, no evidence of a significant interaction was found present between gender and time for the Ingroup/loyalty foundation, \( F(3,229) =1.07, p=.36 \), and as such, the interaction term was once again not investigated, and the researcher only analyzed the main effects. Consequently, results did not provide support for the hypothesis that time would be negatively related to scores on the MFQ.
Table 7

ANOVA Results for Ingroup/loyalty Foundation of the MFQ

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1, 229</td>
<td>3.81*</td>
<td>.05</td>
</tr>
<tr>
<td>Time</td>
<td>3, 229</td>
<td>1.53</td>
<td>.21</td>
</tr>
<tr>
<td>Gender*Time</td>
<td>3, 229</td>
<td>1.07</td>
<td>.36</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

Authority/respect. ANOVA analyses indicated that there was no significant relationship found between gender and scores for the Authority/respect foundation of the MFQ, \( F(1,228) = 1.50, p = .23 \). Similarly, there was no significant relationship found between years of collegiate sporting experience (i.e., Time) and scores for the Authority/respect foundation, \( F(3, 228) = 1.67, p = .18 \). Interestingly, however, as Table 8 indicates, the interaction effect between scores for the Authority/respect foundation of the MFQ and the combined moderating variables of gender, and time was on the edge of significance, \( F(3, 228) = 3.42, p = .02 \). Therefore, the interaction was further investigated by testing the simple main effects of both gender and years of collegiate sporting experience.

Table 8

ANOVA Results for Authority/respect Foundation of the MFQ

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1, 228</td>
<td>1.50</td>
<td>.22</td>
</tr>
<tr>
<td>Time</td>
<td>3, 228</td>
<td>1.67</td>
<td>.18</td>
</tr>
<tr>
<td>Gender*Time</td>
<td>3, 228</td>
<td>3.42*</td>
<td>.02</td>
</tr>
</tbody>
</table>
Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

Among second-year, $F(1, 61) = .30, p=.59$, and third-year athletes, $F(1, 51) = 2.07, p=.16$, gender had no significant effect on scores for the Authority/respect foundation of the MFQ. Additionally, although they were not significant, gender had the greatest effect on scores for the Authority/respect foundation of the MFQ for first-year athletes, $F(1, 80) = 4.95, p=.03$, and fourth-year athletes, $F(1, 36) = 4.11, p=.05$. First-year male athletes scored higher on the Authority/respect foundation of the MFQ than first-year female athletes, with a medium effect size of .51, and fourth-year male athletes also scored higher than fourth-year female athletes on the Authority/respect foundation, with a medium to large effect size of .66. Nevertheless, these results do not provide support for the prediction that gender would play a moderating role in MFQ scores, nor do they provide support for the hypothesis that years of collegiate sporting experience would be negatively related to MFQ scores.

Table 9

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 80</td>
<td>4.95*</td>
<td>.03</td>
</tr>
<tr>
<td>Second-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 61</td>
<td>.30</td>
<td>.59</td>
</tr>
<tr>
<td>Third-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 51</td>
<td>2.07</td>
<td>.16</td>
</tr>
<tr>
<td>Fourth-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 36</td>
<td>4.11*</td>
<td>.05</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level.

**Purity/sanctity.** Comparable to the Authority/respect foundation, no significant relationship was found present between gender and scores for the Purity/sanctity foundation of
the MFQ, $F(1, 230) = .14, p = .71$. Likewise, no significant relationship was identified between years of collegiate sporting experience and scores for the Purity/sanctity foundation, $F(3, 230) = 2.88, p = .04$. However, a significant interaction was once again found between scores for the Purity/sanctity foundation of the MFQ and both the moderating variables of gender and time. This interaction effect, $F(3, 230) = 4.19, p = .01$, is displayed in Table 10.

Table 10

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta_p^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1, 230</td>
<td>.14</td>
<td>.71</td>
<td>.00</td>
</tr>
<tr>
<td>Time</td>
<td>3, 230</td>
<td>2.88*</td>
<td>.04</td>
<td>.00</td>
</tr>
<tr>
<td>Gender*Time</td>
<td>3, 230</td>
<td>4.19**</td>
<td>.01</td>
<td>.00</td>
</tr>
</tbody>
</table>

*Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience.*

In order to further investigate the interaction, the simple main effects of gender and time were analyzed. Gender had no significant effect on scores for the Purity/sanctity foundation of the MFQ among first-year athletes, $F(1, 81) = 4.26, p = .04$, third-year athletes, $F(1, 51) = .00, p = .97$, and fourth-year athletes, $F(1, 37) = 1.85, p = .18$. However, gender did have a significant effect on Purity/sanctity scores among second-year athletes, $F(1, 61) = 7.02, p = .01$. Here, second-year female athletes scored higher on the Purity/sanctity foundation of the MFQ than second-year male athletes, with a medium to large effect size of .67. Although these results are significant, they provided minimal support for the hypothesis that gender would play a moderating role in MFQ scores, as there was only a significant difference between second-year male and female athletes. Furthermore, these results do not support the hypothesis that years of collegiate athletic experience would correlate negatively with MFQ scores.
Table 11

Descriptive Statistics for Scores on Authority/respect foundation

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 81</td>
<td>4.26*</td>
<td>.04</td>
</tr>
<tr>
<td>Second-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 61</td>
<td>7.02**</td>
<td>.01</td>
</tr>
<tr>
<td>Third-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 51</td>
<td>.00</td>
<td>.97</td>
</tr>
<tr>
<td>Fourth-year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1, 37</td>
<td>1.85</td>
<td>.18</td>
</tr>
</tbody>
</table>

Note: ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level.

Summary

In order to summarize the various regression tests used to analyze athletic identity in relation to the five moral foundations of the MFQ, Table 12 shows AIMS scores in relation to each. Overall, AIMS appeared to be the most important variable for predicting MFQ scores. While gender and years of collegiate athletic experience had small or moderate effects, degree of athletic identity was shown to be a significant predictor for three of the five foundations.

Table 12

Regression Model for Predicting MFQ Scores based on AIMS score

<table>
<thead>
<tr>
<th>Moral Foundation</th>
<th>AIMS Coefficient</th>
<th>S.E. Coefficient</th>
<th>t</th>
<th>p-value</th>
<th>r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harm</td>
<td>.04</td>
<td>.06</td>
<td>.67</td>
<td>.50</td>
<td>.00</td>
</tr>
<tr>
<td>Fairness</td>
<td>.10</td>
<td>.06</td>
<td>1.81</td>
<td>.07</td>
<td>.01</td>
</tr>
<tr>
<td>Ingroup</td>
<td>.24**</td>
<td>.06</td>
<td>4.26</td>
<td>&lt;.00</td>
<td>.07</td>
</tr>
</tbody>
</table>
**Moral Foundation**  
*AIMS Coefficient*  
*S.E. Coefficient*  
*t*  
*p-value*  
$r^2$

<table>
<thead>
<tr>
<th>Moral Foundation</th>
<th><em>AIMS Coefficient</em></th>
<th><em>S.E. Coefficient</em></th>
<th><em>t</em></th>
<th><em>p-value</em></th>
<th>$r^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authority</td>
<td>.29**</td>
<td>.05</td>
<td>4.32</td>
<td>&lt;.00</td>
<td>.07</td>
</tr>
<tr>
<td>Purity</td>
<td>.21**</td>
<td>.07</td>
<td>3.00</td>
<td>&lt;.00</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note:* ^ = significant at .1 level, * = significant at .05 level, ** = significant at .01 level. Time = Years of Collegiate Athletic Experience

**CHAPTER V**

**Discussion**

The purpose of the current study was to investigate whether a relationship existed between the degree of athletic identity present in NCAA Division I student-athletes and the moral foundations on which they rely, while also examining the factors of gender and time (i.e., years of collegiate sporting experience) in relation to their influence on athletic identity and moral orientation.

**Correlations among Athletic Identity and Moral Orientation**

As previously stated, numerous researchers have asserted that prolonged participation in highly competitive, elite-level sporting atmospheres adversely effects the character development, and specifically the moral maturity, of intercollegiate student-athletes (Chen, Snyder & Magner, 2009). Consequently, the primary hypothesis in this study was that an increased degree of athletic identity (i.e., composite AIMS score) would negatively correlate with scores for the Harm/care foundation and the Fairness/reciprocity foundation of the MFQ. However, results did not support this prediction.

Three significant positive relationships were identified between AIMS score and scores for the Ingroup/loyalty foundation, the Authority/respect foundation and the Purity/sanctity foundation of the MFQ. The strongest relationship existed between AIMS and Ingroup/loyalty, closely followed by AIMS and Authority/respect and then AIMS and Purity/sanctity. These
results seem to suggest that athletic identity does have a moderately strong relationship with moral orientation, although it may be a distinct type of moral orientation. There are a few leading explanations for why these relationships could exist.

As previously evinced, the elite-athlete community and sporting atmosphere may represent a ‘culture’, or society, unto its own. Similar to other cultures, it is not altogether impossible that elite athletics might come with its own set of circumscribed values. Here, an individual who identified strongly as an athlete, or maintained a high degree of athletic identity, could be deemed as less morally mature than non-athletes in some spheres. However, it is possible that this athlete’s moral development process may simply be different than a non-athlete’s. Based on evolutionary accounts of human sociality, Graham et al.’s (2011) Moral Foundations Theory (MFT) was originally created in an attempt to encompass the full range and variability of the moral domain. Unlike previous moral theorists who have posited set hierarchal stages of moral maturity (Kohlberg, 1969; 1981), the MFT offers a new way of perceiving morality, which allows for distinct or mixed values to be placed on various components of moral concern. In effect, sport scholars may need to reevaluate the manner in which student-athlete morality has been measured in the past. Given the amount of research that has been conducted on the student-athlete population, it is surprising that more attention has not been dedicated to this scheme. The researcher will now attempt to speculate on the results of the present study, particularly those that indicate that a higher degree of athletic identity possessed by an individual, the greater the value he or she is likely to place on Ingroup/loyalty, Authority/respect, and Purity/sanctity.

First, it is worth noting that many elite-level athletes, who often begin playing sports at a young age, grow up learning how to work with others and play on teams. Bloom, Stevens and
Wickwire (2003) acknowledge that one of the widely held beliefs in popular sport culture is that enhanced team-building and team synergy generally leads to improved overall team performance. Here, the focus is on cohesion, defined by Zander (1975) as quoted by Bloom, Stevens and Wickwire (2003), as “a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (p. 129). In other words, athletes bond with one another in the pursuit of their goals (e.g., athletic victory) and maintain loyalty to one another throughout. This granted, it is not hard to imagine that the NCAA Division I student-athletes in the present study, who work together and compete to win at the intercollegiate level, placed a higher value on loyalty to their teammates, or ‘Ingroup’, than other components of moral concern.

Next, the results of this study also indicated that higher degrees of athletic identity were significantly correlated with higher scores on the Authority/respect foundation of the MFQ. Here, it is important to remember that elite-level athletes often have years of experience operating under the direction, or authority of, a coach (Hodge & Lonsdale, 2011). Literature suggests that one of the most influential individuals in an athlete’s sporting experience is their coach (Bartholomew, Ntoumanis & Thogersen-Ntoumani, 2010; Gagné, Ryan, & Bargmann, 2003). Not only do coaches and athletes sustain mutual respect, trust and regular communication, all of which have been deemed important interpersonal factors that contribute to healthy and successful relationships, but Lafrenière, Jowett, Vallerand and Carbonneau (2011) posit that an athletes’ perception of a high quality coach-athlete relationship with their coach leads to greater overall athlete happiness. This is perhaps due to the substantial amount of time elite-level athletes (e.g., NCAA Division I athletes) spend practicing, traveling for, and playing their sport.
(Jolly, 2008). Findings from the present study that appear to suggest that the more an individual identifies with their athlete role (e.g., for every 1-point increase in AIMS score), the greater the value they place on respect for authority (e.g., the score for the Authority/respect foundation increases by .228) seems in keeping with research endorsing the significance impact of the athlete-coach relationship.

Perhaps the most surprising correlational relationship identified in this study was the significant positive correlation identified between athletic identity scores and scores for the Purity/sanctity foundation of the MFQ. Results indicated that for every 1-point increase in AIMS score, Purity/sanctity score increased by .21, respectively. Although more research is needed to explain this phenomenon, the researcher will propose a few suggestions as to why this may have occurred. Higher scores on the Purity/sanctity foundation could be a result of participants interpreting the notion of ‘purity’ as an endorsement of a high level of self-restraint or self-discipline, the latter being something athletes are often recognized for (Eide & Ronon, 2001), or even sobriety and the lack of recreational drug use which is strictly mandated by the NCAA (NCAA, 2016). Thus, their perception of their own self-control or even their strict regimen of exercise and prohibition may have influenced their responses to items corresponding to this foundation.

Another possible explanation for the significant relationship found between athletic identity and the Purity/sanctity foundation of the MFQ might provide some support for critics who suggest that student-athletes operate at a less morally mature level than non-athletes. While testing the MFQ, Graham et al. (2011) analyzed individuals of differing political orientations and found that liberals placed higher value on Harm/care and Fairness/reciprocity than conservatives, whereas conservatives consistently placed higher value on Ingroup/loyalty, Authority/respect,
and Purity/sanctity than liberals. The latter three foundations were mirrored by the elite-level student-athlete participants in the present study. According to Kohlberg’s (1969; 1971; 1981) theory, individuals who justify moral decisions based on these group-level concerns, namely authority, loyalty and tradition, are considered to be immature and conventional (i.e., Stage 3 & 4 as opposed to mature Stage 5 & 6). However, critics of Kohlberg argued that his post-conventional (highest level) of morality seemed to enshrine liberal ideologies as the ultimate developmental ceiling, and when conservatives were asked to retake the Defining Issues Test (DIT), a moral evaluation based on Kohlberg’s theory, and specifically instructed to respond ‘like a left-winger would’, conservatives’ scores escalated to liberals’ scores, which indicates they had the ability to reason at the so called “higher stage,” but chose not to presumably because they maintained different priorities in moral reasoning (Elmer, Renwick, & Malone, 1983) as quoted by Graham et al. (2011). Findings from the present study seem consistent with the notion certain cultures and groups, namely student-athletes, may not actually be developmentally inferior in terms of moral reasoning, but developmentally divergent.

**Differences between Groups Regarding Athletic Identity**

In accordance with the assumptions made in this study, all participating NCAA Division I intercollegiate, club sport and intramural sport student-athletes maintained at least some degree of athletic identity. However, a lack of research findings stipulating that one gender of elite level-athletes tends to identify with the athlete role more strongly than the other, led the hypothesis that there would be no significant correlation between gender and the degree of athletic identity present in student-athletes. The results supported this hypothesis, as there was no significant difference in AIMS scores between male and female student-athletes. Furthermore, while extended participation in highly competitive sporting atmospheres has been shown to
contribute to college athletes’ self-identification (Brewer & Cornelius, 2001), direct evidence substantiating the effect that length of one’s athletic career has on their composite AIMS score is few and far between. Therefore, it was hypothesized that there would be no significant relationship between years of collegiate sporting experience and degree of athletic identity in student-athletes. Results of the present study supported this hypothesis, as there were no significant differences between first-year, second-year, third-year or fourth-year athletes’ AIMS scores. In light of these findings, it may be concluded that gender and length of time participated in sport do not necessarily contribute to the development of a strong athletic identity amongst intercollegiate student-athletes.

**Differences between Groups Regarding Moral Orientation**

The latter hypotheses in this study, namely HO4 and HO5, addressed the effects of gender and time (i.e., years of collegiate sporting experience) in relation to student-athletes’ scores for each of the five foundations of the MFQ (Graham et al., 2011). Based on previous research findings indicating that men and women tend to use different primary ‘lenses’ for moral reasoning, specifically a ‘care’ ethic for females and a more egocentric ethic for males (DeSensi & Rosenberg, 2010; Gillian, 1982; Jaffee & Hyde, 2000), it was hypothesized that female student-athletes would score higher on the Harm/care foundation as well as the Fairness/reciprocity foundation of the MFQ than males. The results provided support for this prediction.

Correlation results also indicated that there was a significant relationship ($p=.00$) between gender and the Harm/care foundation of the MFQ, with females scoring .45 higher than males, respectively. Not far behind, Fairness/reciprocity was also significantly correlated ($p=.00$) with gender. Females also scored higher than males in this category with a moderate effect size of .40.
While not significant at alpha=.01, a correlational relationship ($p=.05$) was found between Ingroup/loyalty and gender and, unlike the previous foundations, males scored higher than females in this category with a small effect size of .25. There were no significant relationships found between gender either of the remaining foundations, but the interaction effect of gender and time (i.e., years of collegiate sporting experience) on the Authority/respect foundation was on the edge of significance ($p=.02$). Though the latter results do not shed any new light on the nature of student-athlete morality, the former results, namely the significant relationships found between gender and the Harm and Fairness foundations, provide substantial support for the aforementioned hypothesis and are consistent with research respecting female moral orientation (DeSensi & Rosenberg, 2010; Jaffee & Hyde, 2000).

Years of collegiate athletic experience was the last factor under investigation with respect to moral orientation. In keeping with studies that posit a sort of moral degeneration after prolonged participation in highly competitive sport atmospheres (Fraleigh, 2003; Jones & McNamee, 2000; Loland, 2005; Ntoumanis & Standage, 2009; Proios, 2013; Whitman, 2008), it was hypothesized that there would be negative relationships found between degree of athletic identity and MFQ scores. While no complete negative linear relationships were found between AIMS score and scores for any one of the five foundations of the MFQ, significant relationships were found between fourth-year athletes and each preceding year for the Harm/care foundation of the MFQ. In essence, fourth-year athletes scored significantly lower than first-year athletes ($p=.01$), second-year athletes ($p=.01$), and third-year athletes ($p=.00$) on Harm/care with the greatest effect size being between third-years and fourth-years, .66. Even amidst a lack of evidence supporting a complete negative linear relationship, the marked decrease in Harm/care scores among fourth-year student-athletes here is consistent with the previous motion positing a
sort of moral decay in student-athletes.

Although no significant relationship was found between years of collegiate sport participation and the Fairness/reciprocity foundation of the MFQ, post-hoc analysis revealed that the mean score for fourth-year student-athletes, similar to results for the Harm/care foundation, were lower than all other previous years with the greatest effect size, once again, between third-year and fourth-year athletes. In addition, while no significant relationships were found between ‘Time’ and the Ingroup/loyalty foundation, nor between ‘Time’ and the Authority/respect foundation, significant interactions were identified between this construct and the Purity/sanctity (p=.00) foundation. After further investigation of both interaction terms and main effects, neither results proved to support the hypothesis that years of collegiate athletic participation would correlate negatively with MFQ scores. Whether the aforementioned findings are a result of chance or whether they align with previous literature remains to be determined. Further research and larger scale studies are needed to substantiate the results of this study.

**Theoretical Implications and Future Research**

It is necessary to emphasize that among the moral foundations found to positively correlate with increased levels of athletic identity, Ingroup/loyalty, Authority/respect and Purity/sanctity foundations of the MFQ were small to moderate, these correlations may have crucial impacts in practical application. With the primary mission of higher education administrators centered around fostering the holistic development of a wide variety of student populations, sport and student affairs professionals aim to ‘meet students where they are’ in order to address the unique interpersonal challenges faced by each group. Ultimately, there are a number of external variables that have the power to enhance or inhibit the overall development of any student.
Future research could build upon these findings in a variety of ways. First, attention may be given to investigating the particular moral development process specific to the elite-athlete population. While three aspects of moral concern were found to be significantly related to increased degrees of athletic identity in the present study, more work is needed to determine what other psychosocial factors might contribute to their moral evolution and what other moral foundations, if any, may be overlooked. Beyond this, researchers might investigate the moral orientation of student-athletes over time. The present study utilized self-report measures given at a single point in time. Therefore, results are static and time bound and there is always the possibility that different results would have surfaced if data was collected at a different point in time.

Should further research provide support for results of the present study, then attention may be given to athletic identity in relation to moral orientation immediately following the termination of participants’ (student-athletes’) athletic careers. If an increased degree of athletic identity continues to present as a predicting variable for the Ingroup/loyalty, Authority/respect and Purity/sanctity foundations of the MFQ, then it might be interesting to investigate moral orientation once sport participation has ended and athletic identity is decreased.

Differences in the type of sport an elite-level athlete plays may or may not effect scores on measures of athletic identity or the MFQ. In the present study, a systematic analysis of individual versus team sports was not conducted. While the results did indicate that as composite athletic identity score increased, scores for the Ingroup/loyalty foundation, Authority/respect foundation and Purity/sanctity of the MFQ increased, it is worth mentioning that the majority of data was obtained from team-sport athletes. In other words, in order to shed more light on the moral orientations of elite-level athletes, future researchers may be interested in investigating the
degree of athletic identity present in individual-sport athletes. Along these lines, investigating
various levels of athletic identity in relation to moral orientation amongst elite athletes from the
full range of NCAA Division I intercollegiate sports, club sports and intramural sports offered at
small, medium and large institutions, as well as comparing results between NCAA Division I, II,
and III level universities, may help to fully understand this relationship.

Concerning generalizability, it must be considered that the researcher purposefully
selected university level athletes as the primary participants in this study. This delimitation
controls for extraneous variables such as age, education level, and sport involvement, but lessen
the generalizability of the results. For instance, as university athletes are typically between the
ages of 18-22, all have a high school education, and have spent an above average amount of time
participating in their sport, results from this study may not be generalizable to other populations
associated with athletic participation (i.e. high school athletes, etc.) and may hinder the external
validity of the conclusion to an extent. Additionally, this study was instead limited to the 238
participating intercollegiate, club and intramural sport student-athletes at the university where the
study was conducted. As such, a convenience sample was utilized, meaning random sampling
was not employed, and a larger-scale study may need to be conducted in the future in order to
support findings.

Finally, the data reported in this study consists entirely of self-report measurements of
attributes, attitudes, and judgments given at a single point in time and may not control for
participants who could not respond accurately due to statements they might have deemed
ambiguous, for participants who might have responded with socially desirable responses or with
the intent to enhance their status, and may not control for all participants who responded to
statements arbitrarily, though attention check questions were added to counteract the latter.
Beyond this, the data includes responses from red-shirt student-athletes, who do not currently participate in intercollegiate competition, though they do practice with their team. This may or may not have had an effect on the degree of athletic identity present in the participants and the correlation to their responses on the MFQ. Finally, it is worth mentioning that the researcher was a former student-athlete conducting research on student-athletes, leaving open the potential for bias.

Conclusion

There are three main conclusions that can be made about the results of the present study. First, a significant, positive, linear relationship was found to exist between higher levels of athletic identity and the Ingroup/loyalty, Authority/respect and Purity/sanctity foundations of the Moral Foundations Theory and questionnaire (MFQ). These are important findings for psychosocial and student-development related research because they indicate that social identity formation could ultimately be a predicting, or causal, variable for moral development.

Second, moral orientation can vary by origin, individual, and culture. The fact that the relationships identified between athletic identity and moral foundations were positive, despite numerous researchers (Bonfiglio, 2011; Conroy, Silva, Newcomer, Walker & Johnson, 2001 Howard-Hamilton & Sina, 2001; Kiss & Euben, 2010; Rudd & Stoll, 2004; Visek & Watson, 2005) who seem to suggest that a negative correlation exists between lengthy participation in sport and advanced-level moral reasoning, supports the notion that the elite-level sporting atmosphere may represent a society unto its own. The researcher has added conceptually to the idea of an athlete-specific value culture and this study provides a new way for researchers to evaluate athlete morality.

Finally, with respect to practical implication, it is vital that sport- and student affairs
professionals closely examine and utilize the findings of current research involving the student-athlete population, so that they may make any necessary adjustments to their educational methods, and implement the appropriate programs and practices that will help bolster their holistic development and overall success of this particular student group. Without familiarizing themselves with the unique developmental elements specific to the student-athlete population, including but not limited to the manner in which they construct their social identity and moral code, higher education administrators will be unable to meet these students where they are and, as a result, will fail to accomplish their ultimate goal of educating the ‘whole’ student.

Current reports denote that the number of adolescents and young adults engaging in athletics is increasing (National Federation of State High School Associations, 2015). Should they decide to participate at the intercollegiate level, findings from the present study provide a framework for student affairs professionals to understand, relate to, and support this unique student-population.
REFERENCES


Kant, I. (1785). *Foundation of the metaphysics of morals*. Indianapolis, IN: Bobbs-Merrill.


APPENDIX I

Informed Consent Cover Letter

Dear Potential Participant,

My name is Danielle N. Graham and I am a graduate student in the College of Education and Human Services in the Student Affairs in Higher Education Program. I am also the current Graduate Assistant for Athletic Compliance and am fortunate enough to work closely with many of your coaches. Additionally, I am a former intercollegiate student-athlete. As part of my graduate research, I am reaching out to you to request that you participate in my study, which is described below. This research aims to contribute knowledge to, and ideally impact, educational support programs put in place for intercollegiate student-athletes, and will ultimately lead to the completion of my graduate thesis in April, 2017. As a thank you for your participation, all student-athletes who complete and submit this survey will be entered into a drawing to win one of ten $20 gift certificates to the place of their choosing and the first three sports teams to have all of their members submit a completed survey will win a pizza dinner provided by myself.

Purpose of the study. The purpose of this study is to ascertain to what degree NCAA Division I student-athletes, club sport athletes, and intramural athletes socially identify with their athletic roles in a higher education atmosphere. By examining unique social factors attributed to the intercollegiate student-athlete population as well as to club and intramural athlete populations, this research seeks to increase institutional and national knowledge for understanding and ultimately assisting student-athletes in their educational and athletic endeavors, and to make necessary advancements in educational policy.
Method of Use: Data for this study will be collected via the questionnaire link provided in this email. The survey consists of 40 Likert scale response questions and 4 demographic questions related to athletic participation. This questionnaire should take no more than 15 minutes to complete.

Participant Rights: Participation in this research study is completely voluntary. No risks will result from participation and declining to participation will involve no penalty or risk factors. Submission of the questionnaire provided indicates your consent to participate in the graduate research study.

Collected Data: All data collected for the purpose of this research will be kept confidential. Information will be protected utilizing password protected computers and computer files. All information related to personal identification will be destroyed or deleted upon completion of the research study and thesis. Termination of participation may occur at any time without prejudice or penalty.

Contact Information: If you have any additional questions regarding this research study, please contact the principle investigator, Danielle N. Graham (513-578-5072, graham.169@wright.edu), Carol Patitu, Ph.D. Committee Chair and Advisor (937-775-4148, carol.patitu@wright.edu), or Joanne Risacher, Ph.D. Committee Co-Chair (937-775-2680, joanne.risacher@wright.edu). If you have any questions regarding your rights as a research subject, you may contact the Wright State University Institutional Review Board at (937) 775-4462.

Thank you very much for your time and willingness to participate in my research study.

Sincerely,

Danielle N. Graham
Wright State University
Dear Potential Participant,

One week ago you received an email message inviting you to participate in my graduate thesis study involving Division I student-athletes’ athletic identity and social behavior by filling out a web-based survey. If you are receiving this message, it is because the online software program, Qualtrics, has indicated that the student-athlete attached to this email address has yet to complete and submit this survey.

As a reminder, all student-athletes who submit a completed survey will be entered to win one of ten $20-dollar gift cards to the place of their choosing and the first three teams to have all members submit a completed survey will win a pizza dinner provided by the researcher. There is still time for you to win!

Once again, this message has gone to everyone in the selected population who has not yet participated in this study and no personal data will be retained with the surveys for reasons of confidentiality. This survey will expire exactly three days from now.

To take the web-based survey, click on: link

Thank you for your time.

Gratefully,

Danielle N. Graham
Wright State University
APPENDIX III

Qualtrics Survey Format

Please select the answer that best reflects the extent to which you agree or disagree with each statement regarding your sports participation.

Q1 I consider myself an athlete.
- Strongly Disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q2 I have many goals related to sport.
- Strongly Disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q3 Most of my friends are athletes.
- Strongly Disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q4 Sport is the most important part of my life.
- Strongly Disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)
Q5 I spend more time thinking about sport than anything else.
☐ Strongly Disagree (1)
☐ Disagree (2)
☐ Somewhat disagree (3)
☐ Neither agree nor disagree (4)
☐ Somewhat agree (5)
☐ Agree (6)
☐ Strongly agree (7)

Q6 I feel bad about myself when I do poorly in sport.
☐ Strongly Disagree (1)
☐ Disagree (2)
☐ Somewhat disagree (3)
☐ Neither agree nor disagree (4)
☐ Somewhat agree (5)
☐ Agree (6)
☐ Strongly agree (7)

Q7 I would be very depressed if I were injured and could not compete in sport.
☐ Strongly Disagree (1)
☐ Disagree (2)
☐ Somewhat disagree (3)
☐ Neither agree nor disagree (4)
☐ Somewhat agree (5)
☐ Agree (6)
☐ Strongly agree (7)

Please select the answer that best reflects the relevance, or importance, of the following behaviors to your personal ideals, norms, values, beliefs and social practices in everyday life.

Q8 Whether or not someone suffers emotionally.
☐ Not at all relevant (1)
☐ Not very relevant (2)
☐ Slightly relevant (3)
☐ Somewhat relevant (4)
☐ Very relevant (5)
☐ Extremely relevant (6)

Q9 Whether or not someone cares for someone weak or vulnerable.
☐ Not at all relevant (1)
☐ Not very relevant (2)
☐ Slightly relevant (3)
☐ Somewhat relevant (4)
☐ Very relevant (5)
☐ Extremely relevant (6)
Q10 Whether or not someone was cruel.
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q11 Please select 'Extremely Relevant' if you are a student at Wright State University
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q12 Whether or not some people are treated differently than others
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q13 Whether or not someone acts unfairly
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q14 Whether or not someone denied his or her rights
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q15 Whether or not someone's actions show love for his or her country
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)
Q16 Whether or not someone does something to betray his or her group
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)

Q17 Whether or not someone shows a lack of loyalty
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)

Q18 Whether or not someone shows a lack of respect for authority
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)

Q19 Whether or not someone conforms to the traditions of society
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)

Q20 Whether or not an action causes chaos or disorder
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)

Q21 Whether or not someone violates standards of purity and decency
   - Not at all relevant (1)
   - Not very relevant (2)
   - Slightly relevant (3)
   - Somewhat relevant (4)
   - Very relevant (5)
   - Extremely relevant (6)
Q22 Whether or not someone does something disgusting
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q23 Whether or not someone acts in a way that God would approve of
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Q24 Please select 'Not at all Relevant' to this question
- Not at all relevant (1)
- Not very relevant (2)
- Slightly relevant (3)
- Somewhat relevant (4)
- Very relevant (5)
- Extremely relevant (6)

Please select the answer that best reflects the extent to which you agree or disagree with each statement regarding your overall ideals, norms, values, beliefs and social practices in everyday life.

Q25 Compassion for those that are suffering is the most critical virtue.
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Somewhat agree (4)
- Agree (5)
- Strongly agree (6)

Q26 One of the worst things a person could do is hurt a defenseless animal
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)
Q27 It can never be right to kill a human being
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q28 When the government makes laws, the number one principle should be ensuring that everyone is treated fairly
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q29 Justice is the most important requirement for society
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q30 I think it is morally wrong that rich children inherit a lot of money while poor children inherit nothing.
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q31 I am proud of my country's history
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)
Q32 People should be loyal to their family members, even when they have done something wrong.
○ Strongly disagree (1)
○ Disagree (2)
○ Somewhat disagree (3)
○ Neither agree nor disagree (4)
○ Somewhat agree (5)
○ Agree (6)
○ Strongly agree (7)

Q33 It is more important to be a team player than to express oneself
○ Strongly disagree (1)
○ Disagree (2)
○ Somewhat disagree (3)
○ Neither agree nor disagree (4)
○ Somewhat agree (5)
○ Agree (6)
○ Strongly agree (7)

Q34 Respect for authority is something all children need to learn
○ Strongly disagree (1)
○ Disagree (2)
○ Somewhat disagree (3)
○ Neither agree nor disagree (4)
○ Somewhat agree (5)
○ Agree (6)
○ Strongly agree (7)

Q35 Please select 'Agree' if it is currently Spring Semester of the academic year.
○ Strongly disagree (1)
○ Disagree (2)
○ Somewhat disagree (3)
○ Neither agree nor disagree (4)
○ Somewhat agree (5)
○ Agree (6)
○ Strongly agree (7)

Q36 Men and women each have different roles to play in society
○ Strongly disagree (1)
○ Disagree (2)
○ Somewhat disagree (3)
○ Neither agree nor disagree (4)
○ Somewhat agree (5)
○ Agree (6)
○ Strongly agree (7)
Q37 If I were a soldier and disagreed with my commanding officers, I would obey anyway because that is my duty
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q39 People should not do things that are disgusting, even if no one is harmed
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q39 I would call some acts wrong on the grounds that they are unnatural
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q40 Chastity is an important and valuable virtue
- Strongly disagree (1)
- Disagree (2)
- Somewhat disagree (3)
- Neither agree nor disagree (4)
- Somewhat agree (5)
- Agree (6)
- Strongly agree (7)

Q41 Please select your gender
- Male (1)
- Female (2)
- Other (3) ____________________

Q42 Please indicate what time of athletic participation you are affiliated with at Wright State University (select one).
- NCAA Division 1 Intercollegiate Athletics (1)
- Club Sport Athletics (2)
- Intramural Sport Participant (3)
Q43 If you are an NCAA Division 1 Intercollegiate student-athlete, please indicate your current year of athletic eligibility (i.e. if Freshman, select First year; if Redshirt Freshman, select Second Year, etc.) If you are a club sport or intramural sport athlete, please indicate the number of years you have participated in your sport while in college (i.e. if 2 years, select 'Second-Year,' etc.)

- First Year (1)
- Second Year (2)
- Third Year (3)
- Fourth Year (4)
- Fifth Year (5)

Q44 Please indicate what sport you participate in at Wright State University

- Badminton (1)
- Baseball (2)
- Basketball (Men's) (3)
- Basketball (Women's) (4)
- Bowling (5)
- Cross Country (Men's) (6)
- Cross Country (Women's) (7)
- Fencing (8)
- Golf (9)
- Gymnastics (10)
- Hockey (11)
- Karate (12)
- Kick boxing (13)
- Rugby (Men's) (14)
- Rugby (Women's) (15)
- Ski & Board (16)
- Soccer (Men's) (17)
- Soccer (Women's) (18)
- Softball (19)
- Swimming & Diving (Club Level) (20)
- Swimming & Diving (Men's) (21)
- Swimming & Diving (Women's) (22)
- Table Tennis (23)
- Tennis (Men's) (24)
- Tennis (Women's) (25)
- Track & Field (26)
- Ultimate Frisbee (27)
- Volleyball (28)
- Other (29) ____________________
APPENDIX IV
Athletic Identity Measurement Scale

Version Attached: Abbreviated 7-item, 3-factor version of the AIMS


Instrument Type: Inventory/Questionnaire

Test Format: 7 items; Responses are based on a 7-point scale.

Permissions: Permission was obtained by the authors via a research networking website namely, Researchgate.net
Thank you for providing me with this article. I am responding to you in order to inquire as to how I might go about obtaining official permission to utilize this instrument for my Master’s thesis study. I have been unable to find the answer to this question online, and according to the Author Note at the end of this article, all correspondence regarding use are to be directed to yourself. If there is a formal process I am required to follow in order to obtain official permission for use, could you please let me know how I may go about accomplishing this? If not, may I understand that your providing me with your article, ‘Norms and Factorial Invariance of the Athletic Identity Measurement Scale,’ via this ResearchGate message thread stands as your consent to my official request? Thank you for your time and your assistance and I look forward to your reply!

Very Respectfully,

Danielle Graham
Graduate Student
Wright State University
graham.169@wright.edu

Hello, Danielle! There is no formal process you need to follow. You can use the AIMS in your research. I would greatly appreciate it if you would send me a copy of the results of your study when it is done. Thanks and best wishes,

Britt
**Athletic Identity Measurement Scale (AIMS)**

Version Attached: Abbreviated 7-Item, 3-Factor Version of the Athletic Identity Measurement Scale


Instrument Type: Inventory/Questionnaire

Test Format: 7 items; responses are based on a 7-point scale.

Items: (responded to using the following response options: *strongly disagree*-1, *disagree*-2, *slightly disagree*-3, *neither agree nor disagree*-4, *slightly agree*-5, *agree*-6, *strongly agree*-7)

1. I consider myself an athlete.
2. I have many goals related to sport.
3. Most of my friends are athletes.
4. Sport is the most important part of my life.
5. I spend more time thinking about sport than anything else.
6. I feel bad about myself when I do poorly in sport.
7. I would be very depressed if I were injured and could not compete in sport.
APPENDIX V

Moral Foundations Questionnaire

Version Attached: Full Test

http://dx.doi.org/10.1037/t05651-000

Instrument Type: Inventory/Questionnaire

Test Format: 30 items; responses are based on a 6-point scale.


Permissions:

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Moral Foundations Questionnaire (MFQ)

Part I: Moral Relevance (responded to using the following response options: not at all relevant, not very relevant, slightly relevant, somewhat relevant, very relevant, or extremely relevant)

Harm:
EMOTIONALLY—Whether or not someone suffered emotionally
WEAK—Whether or not someone cared for someone weak or vulnerable
CRUEL—Whether or not someone was cruel

Fairness:
TREATED—Whether or not some people were treated differently from others
UNFAIRLY—Whether or not someone acted unfairly
RIGHTS—Whether or not someone was denied his or her rights

Ingroup:
LOVECOUNTRY—Whether or not someone’s action showed love for his or her country
BETRAY—Whether or not someone did something to betray his or her group
LOYALTY—Whether or not someone showed a lack of loyalty

Authority:
RESPECT—Whether or not someone showed a lack of respect for authority
TRADITIONS—Whether or not someone conformed to the traditions of society
CHAOS—Whether or not an action caused chaos or disorder

Purity:
DECENCY—Whether or not someone violated standards of purity and decency
DISGUSTING—Whether or not someone did something disgusting
GOD—Whether or not someone acted in a way that God would approve of
Moral Foundations Questionnaire (MFQ)

Part II: Moral Judgments (responded to using the following response options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, or strongly agree)

Harm:

COMPASSION—Compassion for those who are suffering is the most crucial virtue.

ANIMAL—One of the worst things a person could do is hurt a defenseless animal.

KILL—It can never be right to kill a human being.

Fairness:

FAIRLY—When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

JUSTICE—Justice is the most important requirement for a society.

RICH—I think it’s morally wrong that rich children inherit a lot of money while poor children inherit nothing.

Ingroup:

HISTORY—I am proud of my country’s history.

FAMILY—People should be loyal to their family members, even when they have done something wrong.

TEAM—It is more important to be a team player than to express oneself.

Authority:

KIDRESPECT—Respect for authority is something all children need to learn.

SEXROLES—Men and women each have different roles to play in society.

SOLDIER—if I were a soldier and disagreed with my commanding officer’s orders, I would
obey anyway because that is my duty.

Purity:

HARMLESSDG—People should not do things that are disgusting, even if no one is harmed.

UNNATURAL—I would call some acts wrong on the grounds that they are unnatural.

CHASTITY—Chastity is an important and valuable virtue.
APPENDIX VI

IRB Permission Letter

DATE: December 1, 2016

TO: Danielle N. Graham, PI, Graduate Student
    College of Education and Human Services
    Carol Patitu, Ph.D., Faculty Advisor

FROM: Jodi Blacklidge
       Program Facilitator, WSU-IRB

SUBJECT: SC# 6356
         ‘Athletic Identity and Moral Development: An Examination of NCAA Division I
         Athletes and Their Moral Foundations’

The above-listed study has been determined to meet Federal exemption criteria 45 CFR
46.101(b)(2). Please note that any material change in the protocol must be
reviewed by the IRB, as the project may no longer be exempt. As a reminder, all
investigators must maintain current CITI training certification.

If your research is being conducted at a facility other than Wright State
University, you must have approval from that facility in order to proceed.

This action will be reported to the Full Board at their next scheduled meeting.

If you have any questions or require additional information, please contact me at
775-3974.

Best wishes for a successful study.
APPENDIX VII

Probability Plots