

PREDICTING STUDENT ATHLETES' MOTIVATION TOWARDS ACADEMICS AND
ATHLETICS

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ABSTRACT

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Collegiate athletics has become an integral part of the student experience for both athletes and non-athletes. Student-athletes' individual experiences have received considerable attention in the popular media and literature as the pressures to perform both athletically and academically are vast (Benford, 2007; Meyer, 2005). The purpose of this study was to examine whether gender (men's vs. women's sports), sport visibility (highly visible versus non-highly visible sports), race (white vs. non-white), and perceived motivational climate (task- and ego-involved) significantly predicts motivation towards academics, athletics, and career. Finally, this study attempted to establish possible correlational explanations for the lack of academic integrity in intercollegiate athletics.

Approximately 310 Division I student-athletes were contacted to participate in the study. Student-athletes in this study were recruited from one Midwest University. Gender, race, and sport visibility were assessed using the demographic questionnaire. To measure players' perceptions of the motivational climate on each team, the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2); (Newton, Duda, & Yin, 2000) was used. The dependent variable of motivation was measured by using the Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ); (Gaston-Gayles, 2004; 2005) to assess academic, athletic, and career motivation.

To describe underlying structure principal components analysis was conducted. On the items of the PMCSQ-2, the analysis produced a three-component solution. The task-involving component accounted for 20.64% of the total variance, ego-involving approach accounted for 13.97% of the total variance, and the ego-involving avoidance accounted for 10.28% of the total variance. On the items of the SAMSAQ, the analysis produced a two-component solution. After

rotation, the academic motivation component accounted for 21.60% of the total variance, while the sport motivation component accounted for 20.20% of the total variance.

To describe and examine the existence of predictable relationships among the independent (gender, sport visibility, race, and perceived motivational climate) and dependent (motivation) variables, multiple regression was conducted. Results indicate an overall model of three predictors (gender, race, and task-involving climate) that significantly predict academic motivation, $R^2=.205$, $R^2_{adj}=.189$, $F(6,302) = 12.946$, $p < .001$. Results also indicated an overall model of three predictors (gender, race, and task-involving climate) that significantly predict sport motivation, $R^2=.396$, $R^2_{adj}=.384$, $F(6,302) = 33.018$, $p < .001$.

This study provides support for the need to monitor the perceptions of the motivational climate and the academic and sport motivation of collegiate athletes. If opportunities can be created for student-athletes to transfer their athletic skills and motivation to the classroom, then student-athletes might rise to the occasion of academic achievement. Further investigation could provide researchers, administrators, and coaches with a better understanding of how to maximize the potential of student-athletes.

This dissertation is dedicated to the leaders...

“Leadership, like coaching, is fighting for the hearts and souls of men (and women) and getting them to believe in you.” -Eddie Robinson

...and the players.

“You can motivate by fear, and you can motivate by reward. But both those methods are only temporary. The only lasting thing is self motivation.” -Homer Rice

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“Do not let what you can not do interfere with what you can do.” -John Wooden

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CHAPTER I: INTRODUCTION

Collegiate athletics has become an integral part of the student experience for both athletes and non-athletes. Student-athletes' individual experiences have received considerable attention in the popular media and literature as the pressures to perform both athletically and academically are vast (Benford, 2007; Meyer, 2005). Thus, college student-athletes have to balance both academics and athletics responsibly. Studies have explored the athletic environment in terms of the emergence of leadership, team dynamics, team cohesion, and the motivational climate (Adie, Duda, & Ntoumanis, 2008; Allen, & Howe, 1998; Balaguer, Duda, & Crespo, 1999; Medic, Mack, Wilson, & Starkes, 2007; Tsang, 2007). Other studies have focused more on individual attributes such as motivation to perform and participate, perceived ability, perceived competence, personal satisfaction, enjoyment, and social status (Amorose, & Horn, 2001; Hollembeak, & Amorose, 2005; Reinboth, & Duda, 2004; Sheldon, & Eccles, 2005; Van-Yperen, & Duda, 1999). Although these concepts have been studied extensively in other areas of behavior within different contexts, fewer studies have examined these variables among college student-athletes. Accordingly, it is important to advance our understanding of these attributes within the collegiate student-athlete population as student athletes spend a great deal of time, effort, and energy on athletic related tasks (Gaston-Gayles, 2004; 2005).

Background of the Problem

There has been an immense amount of attention in the last several years on academic “scandals” in intercollegiate athletics. A commonality among most sport reformers in intercollegiate athletics suggest “the university’s increasing involvement in the entertainment industry, or as many in the movement sardonically refer to as ‘edutainment,’ is yet another way college sports undermine academe’s lofty values” (Benford, 2007, p. 15). Academic scandals

have been discovered at several big-time universities (Minnesota, Tennessee, LSU, Texas Tech, Georgia, Ohio State, Alabama, Auburn, etc.), which included “cheating by athletes with the assistance of tutors, academic support services, and faculty” (Benford, 2007, p. 17). The National Collegiate Athletic Association (NCAA), like many governing bodies in collegiate athletics, is therefore committed to supporting and augmenting the athletic and academic experiences of student-athletes. This has led to the NCAA undergoing countless college sports reforms.

Due to major violations of NCAA rules such as academic fraud and exploitation, in 1991, the Knight Commission on intercollegiate athletics issued a “one-plus-three model” in which presidents of universities had a responsibility to gain control of intercollegiate athletics according to three aspects: academic integrity, financial integrity, and independent certification of athletics programs (Parks, Quarterman, & Thibault, 2007, p. 78). In 2001, the Knight Commission met again and found that one of the most blatant problems in intercollegiate athletics was that of academic improprieties. An additional proposition of the one-plus-three model stated that the control of intercollegiate athletics would “no longer [be under] individual college presidents but a coalition of presidents who represented the most powerful athletics conferences” (Parks et al., 2007, p. 78). While these commissions met and provided reports of their findings, there continued to be a concern for the academic integrity of higher education with regard to college sports and its constituents (Benford, 2007).

Additionally, there have been several academic standards changes in the college sports reform, which include the Academic Progress Rate (APR) and the 40/60/80 progress-toward-degree requirements (Meyer, 2005). The Coalition on Intercollegiate Athletics (COIA) proposed further changes to NCAA bylaws, including suggestions for campus policies in the admission of

athletes, awarding of scholarships, curricular integrity, time athletes devote to sports, and the academic advising for players (Suggs, 2005). These NCAA academic standards put further pressure on coaches and universities to push student-athletes academically, which might have affected their academic motivation.

Academic performance of student-athletes in the last ten years has been under a microscope in both the media and the popular literature (Benford, 2007; Meyer, 2005; Pappano, 2012). Athletes reached an all-time high graduation rate of 60%, according to the National Collegiate Athletic Association (NCAA), which was higher than the national average for the nonathletic population (58%; NCAA, 2002). The most recent release of Division I men's basketball and Bowl Subdivision football graduation rates indicated a new record high graduation rate that reached or exceeded 70% (NCAA, 2012). As Mark Emmert, current NCAA President has noted, the overall Graduation Success Rate (GSR) “for the 2005 entering class is 7 points higher than the 1995 entering class” (NCAA, 2012). Despite these high numbers, not all subgroups of athletes are graduating at the nationally published rates. For example, White basketball and football players graduated at a rate of approximately 20% higher than did Black basketball and football players in the last ten years (NCAA, 2012; NCAA, 2002). Differences in student-athletes' academic performance warrants additional investigation beyond traditional variables such as graduation rates. Such investigation deserves an inclusion of factors that might predict student-athletes' academic, athletic, and/or career motivation.

Rationale

Although previous research is limited in the extent to which student-athletes are motivated towards academics and athletics, it is crucial for researchers and leaders in collegiate athletics to understand factors that might influence student-athletes' academic motivation and

performance. Recent research suggests that minority student-athletes are less academically prepared when entering college (Gaston-Gayles, 2004; Hrabowski, 2002). Additionally, minority student-athletes exhibited less academic motivation than White student-athletes. Such findings potentially explain the discrepancies in the graduation rates previously mentioned. Additionally, early research has yielded evidence that a fundamental application of sport participation is to promote skill development and boost perceptions of competence and long-term motivation (Newton, Duda, & Yin, 2000). Student-athletes, therefore, should be encouraged to take responsibility for successes and failures in both academics and athletics (Gaston-Gayles, 2004). Based on the most current and relevant research (Carter, 2012; Gaston-Gayles, 2005; Shuman, 2009) and the lack of research in examining differences among groups, this study examined the effects of such variables; namely, motivation towards academics and athletics was examined.

Purpose of the Study

The purpose of this study was to examine the effects of gender (men's versus women's sports), sport visibility (highly visible versus non-highly visible sports), race (white versus non-white), and perceived motivational climate (task- and ego-involved) on motivation towards academics, athletics, and career. Further, this study sought to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career. That is, the meaning and motivations of being a student-athlete in intercollegiate athletics was examined through how much emphasis is placed on academics and athletics. Finally, this study attempted to establish possible correlational explanations for the lack of academic integrity in intercollegiate athletics.

Approximately 310 Division I student-athletes were invited to participate in the study. Of this accessible population, there are seven men's sports and ten women's sports. Players were recruited from their respective teams, which assisted in attaining an adequate sample size. Student-athletes are normally between the ages of 18-24.

Three questionnaires were given to participants to complete in-person at team meetings. Each participant completed a brief demographic questionnaire, which included age, sex, race, year in school, scholarship status, player role (starter or non-starter), and sport currently playing. In addition, participants completed the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and the Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ).

The independent variables of gender, race, and sport visibility were assessed using the demographic questionnaire. The independent variable of perceived motivational climate for each individual was determined by a score on the PMCSQ-2. The dependent variable of motivation towards athletics and academics was determined by a score on the SAMSAQ. Scores on each questionnaire were run through SPSS's descriptive statistical analyses to measure for central tendency and variability for each independent variable.

Research Questions

Utilizing multiple regression, this study sought to address the following questions:

1. Does gender significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
2. Does sport visibility significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?

3. Does race significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
4. Does the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
5. Taken together, do gender, sport visibility, race, and the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes?

Hypotheses

The following were the hypotheses regarding the primary questions that guide this study:

1. Null: Gender does not significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

Alternate: Gender significantly predicts academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

2. Null: Sport visibility does not significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

Alternate: Sport visibility significantly predicts academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

3. Null: Race does not significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

Alternate: Race significantly predicts academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

4. Null: The perceived motivational climate does not significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

Alternate: The perceived motivational climate significantly predicts academic/athletic/career motivation among student-athletes, controlling for other variables in the model.

5. Null: Taken together, gender, sport visibility, race, and the perceived motivational climate do not significantly predict academic/athletic/career motivation among student-athletes.

Alternate: Taken together, gender, sport visibility, race, and the perceived motivational climate significantly predicts academic/athletic/career motivation among student-athletes.

Theoretical Framework

Perceived Competence

According to Harter (1978), individuals are innately motivated to be competent in all areas of human achievement. Individuals historically participate in sport for intrinsic reasons, such as enjoyment in the activity, and the pleasure and sense of mastery that comes from learning skills, improving skills, and the thrill of competition. To satisfy the urge to be competent in sport and/or academics, the athlete attempts to master the sport and/or academics. Perceptions of competence then lead to subsequent motivation. As competence motivation increases, the athlete is encouraged to make further mastery attempts. Thus, perceived competence can be defined as how the individual views his/her ability to master the skill successfully.

Perceived Motivational Climate

Nicholls (1984) presents a paradigm of achievement motivation. He defines achievement motivation as a way for an individual to develop or demonstrate high ability in two ways: reference to one's own performance or mastery, or reference of oneself relative to others. Individuals perceive success as localized within the task itself or within their own ability. In other words, the task-involved person will define success through the mastery of skills and will

therefore gain a sense of competence upon the successful accomplishment of the task. This individual therefore shows characteristics of a task-orientation and mastery respectively. The ego-involved person will define success when s/he demonstrates superior performance to others and will also gain a sense of competence when this is achieved; the athlete shows characteristics of an ego-orientation and performance respectively. Additionally, Ames (1992) suggests that the educational and sport domains are very similar and promote a development of motivational behaviors in similar ways. For example, if an athlete is task-oriented in athletics, similar strategies consistent with this motivational orientation should be evident in academic motivation as well.

Nicholls (1989) also found that although peers and parents may contribute to the motivational climate, the coach is often the major influence of the motivational climate and for determining successful performance. When the environment is task-involved, the focus is on the athlete's improvement and successful performance is determined through mastery of the skill. When the environment is ego-involved, the focus is on winning, and athletes may try to avoid punishments, and sometimes cheat due to the emphasis on winning. The perceived motivational climate is a crucial determinant of perceived success of the individual. Goal orientation is deemed to be a relatively enduring personality characteristic, and motivational climate, often reflects a coach's philosophy on success.

Motivation

The concept of intrinsic and extrinsic motivation is frequently associated with success in the educational setting. Deci and Ryan (1985) and Ryan and Deci (2000) define intrinsic motivation as doing an activity for its own sake, whereas extrinsic motivation refers to doing an activity to achieve an instrumental goal, such as a championship trophy. Furthermore, the

authors postulate that all intrinsically and extrinsically motivated individuals have an innate sense towards personal growth. Although Nicholls' (1984) concept of achievement motivation and the concept of intrinsic and extrinsic motivation (Deci & Ryan, 1985; Ryan & Deci, 2000) are theoretically related, the two variables are conceptually distinct. Further research is needed to clarify this issue in the sport setting.

Expectancy-value frameworks have often been used in motivational research in the collegiate athletic setting. Here, motivation definitions include the intensity and direction of behavior (Silva & Weinberg, 1984). Intensity can be referred to as the amount of effort an individual applies to a certain task and direction can be referred to as the choice to pursue such task. Thus, the individual's choice of and effort placed toward a task would signify his/her motivation. Student-athletes, therefore, have made a choice to participate in both athletics and academics; however, the amount of effort they put forth towards each might vary significantly. In Expectancy-value theory, an individual's self-concept about their ability to complete a task successfully, along with the level of difficulty associated with such task influences the probability, or expectancy of success (Eccles, 1983). Additionally, an individual will place a value on a specific task, which is a utility of the extent to which the task satisfies a need, aids in current goal attainment, and is important in fulfilling a future goal.

While much of the research on motivation among student-athletes focus on athletic motivation (Amorose & Horn, 2001; Hollembeak & Amorose, 2005; Medic, et al., 2007), few studies have examined motivation towards academics in the student-athlete population. Much of the research examines predictors of academic performance for student-athletes, such as Sellers' (1992) exploration of Black and White student-athletes. Results indicated no differences

between the two populations; however, Black athletes were less academically prepared when entering college.

Gaston-Gayles (2004, 2005) used a scale called the Student Athletes Motivation toward Sports and Academics Questionnaire (SAMSAQ) in order to address the dearth in the research literature of motivation towards academics among student-athletes. Here, she defined academic motivation as the student-athlete's desire to excel in tasks related to academics and athletic motivation as the student-athlete's desire to excel in tasks related to athletics (Gaston-Gayles, 2004). Her results revealed significant differences of academic motivation when predicting GPA among all student-athletes. Gaston-Gayles called for further research utilizing the SAMSAQ in order to expand the literature further validate the SAMSAQ with other populations of student-athletes (Gaston-Gayles, 2005).

Significance of the Study

This study is an important practical contribution to the leadership and participants of collegiate athletics in that it seeks to help leaders (including coaches, athletic departments, and student-athlete services personnel) and athletes alike become aware of personal and situational factors that are influenced by the athlete's sport visibility and role on his/her team, which are related to the athlete's personal motivation towards athletics and/or academics. This study is also a significant contribution to the existing research literature, answering Gaston-Gayles' (2005) call for studies that examine motivation towards athletics and academics among student athletes. Findings from this study may assist advisors to aid student athletes in developing a balance between academics and athletics. Discussions about the flagrant problems in intercollegiate athletics, along with the disproportionate graduation rates between sports have also called for further research (Benford, 2007; Meyer, 2005). Thus, this study attempted to

inform athletic departments, student-athlete services, coaches, and athletes about the differences in motivation towards athletics and academics.

Definition of Terms

The following terms were used in the content of this study.

Highly Visible Sports/Revenue Generating Sports: Used interchangeably, this phrase is used to refer to collegiate athletic sport teams that historically have generated financial revenue through ticket and other merchandise sales and produce a large amount of public attention. While most college sports at smaller Division I universities do not typically “generate revenue,” generally, men’s football and basketball teams are considered to be highly visible sports, as demonstrated by the Harris Poll (2013). College football was the most watched and favorite college sport in America (11%) and college basketball was the second most watched and favorite college sport in America (3%; The Harris Poll, 2013). Additionally, previous relevant studies consider men’s basketball and football as high-profile or highly visible men’s sports and women’s basketball as a high-profile or highly visible sport (Gaston-Gayles, 2004). For purposes of this study, men’s football, men’s basketball, and women’s basketball are included as a “Highly Visible Sport” while all other teams are included as a “Non-Highly Visible Sport.”

Player Role: Referring to how much or how little a player plays during competition; also known as starting status. For example, if a player starts the majority of competitions, s/he would be considered a starter versus if a player does not start the majority of competitions, s/he would be considered a non-starter.

Scholarship Status: In Division I athletics, athletes are usually offered a full scholarship, which covers all tuition and living expenses, a partial scholarship, which might cover some tuition,

books only, meals only, living expenses only, etc., or no scholarship, which does not cover any of the athlete's expenses.

NCAA Divisions. Colleges and universities are divided into Division I, II, and III by the National Collegiate Athletics Association according to various requirements including the number of sports teams sponsored, participant minimums, attendance requirements, and financial aid awards.

Mid-American Conference (MAC): The MAC is a conference in NCAA Division I.

Motivational Climate: Often considering the coach as the major influence on determining successful performance; can be task-involved or ego-involved. When the environment is task-involved, the focus is on the athlete's improvement and successful performance determined through mastery of the skill; when the environment is ego-involved, the focus is on winning, athletes may try to avoid punishments, and sometimes cheat due to the emphasis on winning.

Academic Progress Rate (APR): Calculated by each institution is a term-by-term measurement of eligibility, retention, and graduation.

40/60/80 progress-toward-degree requirement: Once student-athletes declare their majors, they must have completed 40% of degree-program requirement going into their third year, 60% going into their fourth year, and 80% going into their fifth year.

Delimitations/Limitations

While there are several potential parameters to study issues of academic integrity in intercollegiate athletics, the focus of this study was on the athlete's motivations towards athletics and academics. The variables in the study were chosen on the basis of available instruments and time constraints.

A delimitation to the study is the time period and the stratification of the sample. The researcher collected data during the winter 2014 (Spring semester), which is another parameter that is based on time constraints on the researcher. Ideally, student-athletes' motivation towards athletics and academics would be studied both in-season and during the off-season for all participants. This study had participants who were in-season and participants who were in the off-season.

The majority of limitations come with the sample that the study used. That is, due to the sample coming from one Division I University, it was not possible to generalize the results beyond this MAC University and the sample of student-athletes. Teams and athletes in different areas and conferences with players of varying skill levels may differ for each variable being tested. In particular, the way a player perceived his/her leader's motivation might differ at larger or smaller Universities.

Further, a non-random sampling method of convenience was utilized due to the accessibility of the institutional population to the researcher. That is, student-athletes attend the same University as the researcher. Additionally, the researcher has experience and rapport with the athletic department in which the participants reside. Thus, the student-athletes were invited to participate as part of a convenience sample.

Organization of Remaining Chapters

In conclusion, perceived competence, perceived motivational climate, and motivation are key dimensions in collegiate athletics. While there is abundant research in the educational setting, there is less research on these variables within the student-athlete population. Moreover, these variables have not been collectively examined in a Division I college athletic domain. Given the theoretical relationship of these variables, it would be of interest to simultaneously

measure these variables and the ability of gender, sport visibility, and perceived motivational climate to predict student-athletes' academic, athletic, and career motivation.

The remaining chapters in this study include an extensive review of the literature and an overview of the proposed methodology for this study. Included in the review of literature, there will be a discussion of prominent research in Achievement Goal Theory, perceived motivational climate, and motivation, as these are factors that have been influential in athletics. It will then focus specifically on student-athletes' motivation towards athletics and academics. Finally, the common research methodologies and techniques used in the field will be briefly summarized and discussed.

CHAPTER II: LITERATURE REVIEW

The areas of perceived motivational climate, motivation towards academics, and motivation towards athletics are attributes that have shown promising results in the sport domain (Allen, & Howe, 1998; Amorose, & Horn, 2001; Hollembeak, & Amorose, 2005; Medic, Mack, Wilson, & Starkes, 2007; Reinboth, & Duda, 2004; Sheldon, & Eccles, 2005; Tsang, 2007; Van-Yperen, & Duda, 1999). This study seeks to examine the effects of gender (men's versus women's sports), sport visibility (highly visible versus non-highly visible sports), race (white versus non-white), and perceived motivational climate (task- and ego-involved) on motivation towards academics, athletics, and career. Further, this study seeks to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career.

The following review of literature will begin with a brief history of the NCAA, including the student-athlete experience and identity of student-athletes in academics, then examine research in Achievement Goal Theory, perceived motivational climate, and motivation in student-athletes separately as current research in intercollegiate athletics tends to be grouped around such topical areas.

History of the NCAA

The early nineteenth century was a time in which informal games of baseball, football, rowing, golf, tennis, and track became more formal and competitive among collegiate men. What began as a way for men to form a college community and a way to know and understand one's social position, turned into a major enterprise across the United States (Rader, 2009). Intercollegiate athletics dates back to 1852's first intercollegiate sport competition of Yale versus Harvard Regatta (Parks et al., 2007). While competitions such as this were relatively social

occasions, there were also very competitive games in sports such as football. The events became so competitive, in fact, that by 1905 President Theodore Roosevelt summoned coaches, faculty, and alumni representatives from different universities to two conferences at the White House. These conferences were held to discuss football rules and regulations to put forth for intercollegiate athletic competitions. The result of the conference was the formation of the Intercollegiate Athletic Association of the United States (IAAUS) which later became known as the National Collegiate Athletic Association (NCAA) in 1910 (Crowley, 2006; Parks et al., 2007). The NCAA is now the most influential governing body of intercollegiate athletics, constituting for more than 1,250 colleges, universities, and sport organizations (NCAA, 2002, 2012).

In 1973, the NCAA made the decision to divide into three competitive divisions, classified as Division I, II, or III. Such division was and is currently based on financial base, number and types of sports offered, focus of the program, and existence of athletics grants-in-aid (Parks et al., 2007). Division I institutions are among the most significant revenue generating programs as collegiate athletics play a powerful role in American society and university life (Meyer, 2005). Participation in intercollegiate athletics, therefore, has become an important topic of research in the last half-century.

Student-Athletes in Intercollegiate Athletics

American society has had college athletics at its core for over a century (Rader, 2009) and is ubiquitous in University life. Student-athletes' performances both on and off the field, therefore, have been scrutinized in both popular and academic literature. For example, as previously mentioned, college sports reforms have attempted to improve academic integrity among student-athletes in intercollegiate athletics. Although student-athletes are the ultimate

decision makers, the leadership in intercollegiate athletics (including athletic directors, coaches, and student-athlete services) has put pressure on student-athletes to do whatever it takes to remain eligible to play. This is especially true in highly visible sports such as basketball and football. As Kirwan, the co-director of the Knight Commission states, “We’ve reached a point where big-time intercollegiate athletics is undermining the integrity of our institutions, diverting presidents and institutions from their main purpose” (Pappano, 2012, par. 9). Other examples include the documentation in student development literature that meaningful engagement outside traditional classroom settings can have positive effects on a student’s personal development (Pascarella & Terenzini, 2005).

While some studies have shown that the student-athlete experience can have a positive impact on academics, improve interpersonal skills, leadership abilities, and peer relationships (Ryan, 1989), other research has revealed that there are negative impacts on student-athletes’ competence motivation or other outcomes (Pascarella, Bohr, Nora, & Terenzini, 1995). There is still much debate about the mission of higher education and the student-athlete experience, however. As Bok (2003) contended, “big-time athletics have certainly caused many universities to compromise their admissions standards, water down curricula, and provide many athletes with a pale imitation of college education” (p. 44).

Many researchers have consequently suggested that student-athletes who are more motivated by their athletic experiences rather than their academic experiences have lower grade point averages and graduation rates (Simons, Van Rhee, & Covington, 1999). Benford (2007) exposed such corruption and discrepancies in higher education, describing academic advising at the University of Nebraska in 1995 as having the “propensity to treat athletes paternalistically and to expect other members of the faculty and staff to make special

accommodations on athletes' behalf" (p. 3). Additionally, Benford (2007) suggested that athletes are given special treatment in which they learn how to become 'helpless' by relying too much on advisors or tutors in the student-athlete services departments.

Although there are several factors included in the pressures of intercollegiate athletics (e.g., excessive spending, escalating commercialization, poor financial accountability, etc.), student-athletes, in spite of everything, should focus on academics first, and athletics second (Meyer, 2005). Without an adequate understanding of the student-athlete experience, then, athletic departments and program administrators are unable to provide adequate support for the balance between academics and athletics. The reasons behind academic improprieties, as well as the importance of leadership in student-athlete services might be in the motivations student-athletes towards academics in intercollegiate athletics. Student-athletes are mandated a certain amount of academic support as members of the NCAA. This includes, but is not limited to: receiving full educational experiences; counseling services for career awareness, and other areas; appropriate financial needs for any academic-support services; and learning life skills and assessment of learning disabilities (Meyer, 2005). Much of the academic research in examining the student-athlete population, however, has focused on stereotypes, identity issues, and discrimination among faculty members as well as black and white athletes and non-athletes. It is important to include such research in the discussion about the student-athlete population.

Engstrom, Sedlacek, and McEwen (1995) found that faculty held prejudicial beliefs against student-athletes. A prejudice is a negative belief about a group other than one's own group; discrimination occurs in the treatment of an individual based on one's prejudice about such group (Berry, Poortinga, Breugelmans, Chasiotis, & Sam, 2011). That is, when faculty

members in Engstrom et al.'s (1995) study had students in class that were student-athletes in revenue-producing sports, there was a prejudicial belief against such athletes.

Moreover, in certain scenarios of student-athletes having luxury items such as an expensive car, faculty members reported believing that the student-athletes must have attained such items illegally (Engstrom et al., 1995). To that effect, African American student-athletes reported that faculty members (33%) and other students (59.1%) had a high degree of negative perceptions when compared to their teammates of different races (Simons, Bosworth, Fujita, and Jensen, 2007). Additionally, in this study, 29% of African American student-athletes reported being suspected of cheating in class and only 15% of student-athletes reported feeling positive perceptions from faculty (Simons et al., 2007). Finally, the researchers found that 29.9% of faculty's comments reflected thoughts about student-athletes lacking academic motivation. The authors suggested that one explanation for such negative treatment and perceptions towards African American student-athletes might be in concerns for lowering academic admissions, such as those in affirmative action universities. They explained "because the archetype of an athlete in the revenue sports is an African American, criticizing the academic legitimacy of athletics, which is acceptable, is implicitly questioning the academic legitimacy of African Americans, which is not acceptable" (Simons et al., 2007, p. 270). Fuller (2011) contended that such discrimination in the academic setting for student-athletes has negative effects on academic achievement.

Student-athletes face scrutiny from other college students. Sailes (1996) sought to focus on the academic and athletic stereotypes about athletes in the college setting by asking Black and White college students about intelligence, academic preparation, athletic style, and mental temperament of student-athletes (both Black and White). He found that White students thought

that Black athletes were significantly less intelligent, less academically prepared, and more temperamental. On the other hand, Black students thought of White athletes as significantly less competitive and having less athletic style (Sailes, 1996). This showed that student-athletes, according to racial stereotypes, will be perceived positively and negatively, depending on the focus. That is, Black athletes are usually perceived as having “natural” athletic ability, but are less intelligent whereas White athletes have less athletic ability, but are more intelligent and harder workers (Sailes, 1996). With negative perceptions associated with race among student-athletes coming from faculty (Engstrom et al., 1995) and other students (Fuller, 2011; Sailes, 1996), it is crucial to examine how a student-athlete is motivated both academically and athletically.

Academic success of student-athletes is a responsibility that is shared among athletic departments, academic affairs personnel, faculty, academic support services, and the athletes themselves. Thus, any type of failure in academics could be a danger to a student-athlete’s eligibility. Highly visible sports bring further scrutiny and attention to student-athletes and academic success and/or failure usually serves as recruiting tools for universities (Simons et al., 1999). Such pressures and rewards associated with being a student-athlete affects motivation and academic identification (Adler & Adler, 1987). Student-athletes, therefore, must negotiate such demands of time, physical demands and effort, coaches, faculty, and family (Simons et al., 1999). Success includes such qualities of hard work and motivation that student-athletes often exhibit in the sport domain, but should also be shifted to the academic domain. Such a shift often is exhibited in the research in the form of identity of student-athletes.

Identity of Student-Athletes in Academics

There have been few studies examining student-athletes' motivation towards academics in intercollegiate athletics. It is therefore important to recognize current research in athletic, racial, and gender identity in student-athletes in academics. The extant bodies of research in education yields results to further examine and understand student-athletes in the academic realm. To begin, some studies have examined the athletic identity of student-athletes based on their perceptions of what it means to be a student-athlete. Racial identity can be defined as “the sense of collective identity based on a perception of common racial heritage” (Steinfeldt, Reed, & Steinfeldt, 2010, p.7). Athletic identity, then, is the degree to which a person identifies with the athletic role. Intercollegiate athletics demonstrates several areas of social and racial resistance in which African Americans define themselves (Steinfeldt et al., 2010). Accordingly, minority student-athletes face perceptions from campus members that they are admitted under certain circumstances (e.g. athletic ability), which leads to a marginalization of their academic potential (Engstrom, Sedlacek, & McEwen, 1995; Steinfeldt et al, 2010). In particular, a prejudicial belief is held against Black student-athletes in revenue-producing (highly visible) sports (Engstrom et al., 1995).

To examine racial and athletic identity, Steinfeldt, Reed, and Steinfeldt (2010) conducted a study including 163 African American football players in both Historically Black Colleges and Universities (HBCU) and Predominantly White Institutions (PWI). Results indicated that social adjustment and institutional attachment were both significantly correlated with athletic and racial identity (Steinfeldt et al., 2010). Accordingly, athletes with a stronger sense of athletic and racial identity were better able to adjust to college. Athletes at HBCUs had lower athletic identity ($M=36.28$; $SD=6.74$) than athletes at PWIs ($M=39.17$; $SD=7.66$). As the authors suggested, this

might be due, in part, to the high saliency of athletic identity in PWIs. That is, African American football players might be adhering to the identity of the social perception of the “archetypal African American football player” (Steinfeldt et al., 2010, p. 17).

In their study of 160 freshman college students in HBCUs, Smith and Hopkins (2004) reported a significant interaction between cultural identity, academics, and sense of self [$F(1,152)=4.32, p<.05$]. Although they did not find a significance in comparing the academic performance alone with students with high cultural identity (Smith & Hopkins, 2004), they contended that having a stronger identity and sense of self will lead to higher academic performance.

A prejudice is a negative belief about a group other than one’s own group. Discrimination occurs in the treatment of an individual based on one’s prejudice about such group (Berry, Poortinga, Breugelmans, Chasiotis, & Sam, 2011). A pertinent study examining prejudices and discrimination on college campuses found that experiences of discrimination on campus and in the classroom negatively influences adjustment, sense of belonging, and institutional attachment in both White and racial minority students (Smedley, Myers, & Harrell, 1993). The psychological stressors associated with discrimination, according to the authors, presents barriers to student adjustment in minority groups. Discrimination can also result in poor academic performance among students of color (Smedley et al., 1993).

To further support the significance of racial identity, however, Fuller (2011) studied 168 African American male student-athletes at Division I PWIs. She found that racial identity was a significant predictor of athletic and academic racial discrimination. That is, racial discrimination has negative effects on academic performance, especially when the individual has a lower sense of racial identity. This racial discrimination was found to be a predictor of academic

achievement in African American student-athletes (Fuller, 2011). As a result, racial and athletic identity was found to have significant effects on academic outcomes such as academic self-concepts.

To connect the influences of prejudices and negative discrimination in racial minority and nonminority first-year students, Nora and Cabrera (1996) found that discrimination negatively influenced the academic and social adjustment of minority students. Further, the results showed that perceptions of discrimination significantly and negatively affect nonminority persistence both directly and indirectly through academic integration and institutional commitment (Nora & Cabrera, 1996). Additionally, they found that African American students were more likely to perceive discrimination on campus than their European American counterparts. Minority students were also more likely to report having experienced prejudice from faculty members (Nora & Cabrera, 1996).

Stone, Lynch, Sjomeling, and Darley (1999) conducted an experiment involving 82 male and female Black and White undergraduates. They sought to determine whether Sailes' (1996) findings were true in a setting in which groups were either race-primed or no-primed control conditions about athletic ability and performance. Results indicated that Black participants showed significantly better performance when the test was framed as a measure of natural athletic ability ($M=23.1$), instead of framed as a measure of intelligence ($M=27.2$) or a primer of race ($M=27.3$), $F(1,72)=6.27$, $p<.01$ (Stone et al., 1999, p. 1217). Thus, when race or intelligence was more salient, the performance of the Black participants would be destabilized. On the other hand, White participants showed significantly lower performance when the test was framed as a measure of athletic ability ($M=27.8$), instead of framed as a measure of intelligence ($M=23.3$) or a primer of race ($M=22.9$), $F(1,72)=8.04$, $p<.005$ (Stone et al., 1999, p. 1218). This

shows that the prejudices and racial stereotypes described in Sailes' (1996) study might affect the actual performance of Black and White athletes accordingly. They further purported that majority group members (White athletes) might also feel negative effects of racial stereotypes, according to their racial identity (Stone et al., 1999).

As the literature points out, there is an ongoing practice of stereotypical beliefs about student-athletes from faculty members as well as from student-athletes themselves (Engstrom et al., 1995; Fuller, 2005; Steinfeldt et al., 2010). Although there is no current literature about administration's beliefs and perceptions, it can be assumed that student-athletes in highly visible sports, often football and basketball, are often treated the same way by coaches, student-athlete services members, and athletic directors as a large part of such sports are made up of minority student-athletes. Moreover, as Simons et al. (2007) mentions, when coaches focus more on athletics (as most normally do in highly visible sports), athletes tend to have the same perception of the importance of athletics. Hence, when the leaders around such student-athletes are focusing on athletics and assuming that academics come second, student-athletes tend to depict this ideology. Such contexts of the influence of leadership on motivation can relate to the research in Achievement Goal Theory and the perceived motivational climate.

Research in Achievement Goal Theory

Research has supported Nicholls' (1984, 1989) Achievement Goal Theory's influence of a task- or ego-orientation in an achievement domain. At the core of this theory, it is stated that an individual's motivational orientation dictates the manner in which they develop perceptions of ability, effort, success, and failure within a specific achievement setting. As the concept began in the educational setting, it is important to examine each orientation and its effect on the individual in the sport setting. According to Nicholl's theory (1984, 1989), achievement goal

orientations may be categorized as task- and ego-oriented. Nicholls' (1984) theory of achievement motivation has been widely accepted in the educational setting; further research has been done to relate this paradigm to athletics (Duda, 1989; Duda & Nicholls, 1992). Thus, the task-oriented individual will believe that sport is a way to gain personal growth by working hard and learning new skills. The ego-oriented individual will believe that superiority in sport will give them success through improved social status.

Nicholls viewed each goal orientation as a representation of the theory of success for the individual in a particular achievement domain (e.g., sport). Since goal orientations are orthogonal (e.g., independent and uncorrelated), individuals can vary in their levels of each goal orientation. For example, an individual could possess a high level of task-orientation and a high level of ego-orientation, or any other combination (e.g., high task and low ego, low task and high ego, low task and low ego). Individuals with a task-orientation are assumed to be working to improve, attempt mastery, and rate successful performance through personal growth. Individuals with an ego-orientation works to prove their ability and superiority, value success as being the "top" athlete, and rate success through demonstrating that they are "better than everyone else."

Early research in goal orientation as it relates to sport assessed young male and female basketball players ($N=55$) who were recruited to participate in a summer camp were measured on their goal orientations and beliefs about success, ability, and competence (Hom, Duda, & Miller, 1993). They demonstrated that task-oriented athletes believed that success was the result of motivation and hard work ($r = .34, p < .01$), and were concerned more with the "task at-hand" and favored the importance of motivation and effort. Ego-oriented athletes, on the other hand, believed that success was the result of having high ability (compared to others) and deception (or somehow proving that they were better athletes; $r = .31, p < .05$). These athletes valued winning

and proving their competence. Levels of perceived ability and competence were also found to be high in both task-orientation and ego-orientation. Ability can be thought of as an ability to perform the task, and competence as an ability to perform the task well. As long as athletes are able to achieve the standards through which they define success, then perceived ability and competence will be high. This study provided support for Nicholls' (1984, 1989) Achievement Goal Theory in the sport domain.

A related construct into achievement motivation is perceived competence. Perceived competence can be defined as an innate drive to reach desired competence levels in any situation. Harter (1978) viewed competence motivation as a multidimensional construct that influences domain-specific (sport) mastery attempts and the development of achievement cognitions (e.g., perceived competence) and behaviors. Perceived competence varies as a function of the achievement domain (sport/education) in which the individual attempts mastery behaviors. She found that success at any type of task or activity is not sufficient to alter competence motivation. That is, an unsuccessful attempt of a difficult task is not necessarily discouraging, and may be associated with a gain in competence due to the experience itself. 'Competence' is a perception of success based on the individual's belief in his/her ability to perform.

Horn (2002) suggested that perceived competence is a mediator of the achievement outcomes an individual might face. That is, the level of perceived competence (high or low) is a strong predictor of achievement-related cognitions. When a task-involved student-athlete 1) desires to gain in skill and knowledge, 2) performs at an acceptable level of self-rated competence, and 3) experiences personal involvement, s/he reports a high level of competency and successful performance. On the other hand, when an ego-involved athlete is preoccupied with the adequacy of his/her ability and demonstration of superior competence as compared to

others, the resulting perceptions of competence and achievement are due primarily to social comparison. The athlete therefore focuses on whether s/he is good enough (if their perceived competence is lower) and to prove (instead of improve) a higher level of competence (if they have higher perceptions of competence). In other words, the task-oriented athlete will be motivated regardless of his/her level of perceived competence, and the ego-oriented athlete will be motivated as long as s/he remains convinced of his/her ability to perform well. As such, an individual's goal orientation and perceived motivational climate can influence perceptions of competence.

One study has examined how motivational goals pursued by student-athletes are linked to various adaptive competence perceptions within the academic setting. Here, male high school student-athletes perceived themselves to be highly competent in academics whereas those with a high ego orientation perceived themselves to be less competent academically (Ryska, 2003). More research is needed to clarify the interaction of the motivational climate and the individual's motivations in sport- and academic- specific settings.

Harwood, Hardy, and Swain (2000) reviewed previous findings and noted that "learning and effort are not the same as mastery and improvement in sport" (p. 252). In other words, athletes' perceptions of their competence and motivation were more important than the actual act of improving and learning. Harwood and Hardy (2001) interpreted achievement goal theory by stating that task involvement is directly linked to "self-referent perceptions of learning, working hard (effort), understanding something more fully, mastery, improvement, and progress" (p. 336). They explained that an athlete may attempt to improve and perceive the situation as one in which s/he may put forth effort, but may fail to achieve mastery at the same time. However, the importance is that the athlete wishes to continue to learn and improve; the failed mastery attempt

will not deter his/her effort. It may be important to separate the perceptions of competence; an athlete's perceptions may be specific to differences in motivational climate and/or individual differences in motivation.

Within this paradigm, it has been argued that the motivational climate could also affect an athletes' behavior toward developing achievement goals more congruent with that of the climate or environment (Nicholls, 1984, 1989). Specifically, a task climate emphasizes personal improvement while an ego climate emphasizes social comparison and competition (Ames, 1992). In other words, an athlete may typically be motivated to achieve in one way (i.e., orientation) yet behave in a different manner (i.e., involvement) based on the motivational climate. Congruence and incongruence between achievement goal orientation and perceived motivational climate can have positive and negative consequences on variables such as perceived competence and motivation. The coach is typically the strongest influence for establishing the motivational climate in sport settings.

Perceived Motivational Climate

While there are several aspects of life an individual deals with, the motivational climate can affect how the individual is satisfied in the sport domain (Nicholls, 1989). Further, when the coach puts an emphasis on task-involvement (e.g., improvement and mastery) or ego-involvement (e.g., winning and performance), the athlete would also need to value this to feel satisfied. If there is a contradiction in standards of living between the coach and the athlete, the athlete might show lower levels of satisfaction.

The perceived motivational climate can cause perceptions of competence or motivation in athletes to fluctuate. For example, the interaction of the motivational climate and perceived ability with perceived competence was studied by Reinboth and Duda (2004) in which the

perceived motivational climate can also cause differences in self-esteem and self-worth among adolescent male athletes ($N=265$). Athletes in an environment where ego goals were the focus ($M = 2.67$, $SD = 0.83$) exhibited significant correlations with contingent self-esteem ($M = 2.64$, $SD = 0.75$), emotional/physical exhaustion ($M = 2.43$, $SD = 0.80$), and physical symptoms ($M = 2.67$, $SD = 1.08$). Moreover, when an athlete perceived an ego-involved motivational climate, self-esteem and perceived ability interacted to show negative effects. Thus, perceptions of competence and motivation may vary depending on feedback in the motivational climate, which supports Horn's (2002) suggestion about the mediation of perceived competence and achievement.

In another study done to assess perceived competence as a possible result of the motivational climate, Allen and Howe (1998) assessed female hockey players ($N=123$) from ten teams and seven coaches on the afore-mentioned variables. Specifically, the effect of coaches' feedback, which is the primary function of the motivational climate, was related to individuals' self-perceptions and motivation. The results of the study supported the claim that ability and the motivational climate affected the athletes' perceived competence. When individuals perceived the coaches as giving more positive reinforcement ($M = 3.83$, $SD = 1.55$) as opposed to negative reinforcement (or none at all; $M = 6.01$, $SD = 0.88$), higher perceptions of competence followed ($M = 4.66$, $SD = 1.25$; $M = 1.70$, $SD = 1.11$, respectively). That is, athletes' perceptions of competence were higher when the coach emphasized a more positive climate. This can relate to the task-oriented climate in that positive reinforcement is usually linked to improvement of the task, which then leads to higher levels of perceived competence, as was seen in Reinboth and Duda's (2004) findings. This shows that perceived competence can be directly related to the motivational climate.

While there is less research in intercollegiate athletics, more recent research such as Kaye, Conroy, and Fifer's (2008) assessment of college students ($N = 372$) in the physical activity setting is appropriate to observe as well. They found that an ego-involved motivational climate causes individuals to avoid feelings of incompetence by showing some sensitivity to punishments ($M = 3.05$, $SD = 0.85$; on a 5-point Likert scale) due to a fear of shame and embarrassment. In the ego-involved motivational climate, the emphasis is on winning and performance-based. Often times, this motivational climate involves punishment when participants do not perform well. As such, someone with low perceived competence will adopt avoidance strategies in ego environments where they may feel like they will be punished for poor performance ($p < .01$). Kaye et al. (2008) identified that situational cues such as the individual's desire to be perfect ($M = 4.51$, $SD = 1.04$) may in fact affect perceived competence in either achievement goal orientation. When the motivational climate is ego-involved and the emphasis is on winning, not making errors and proving superiority, athletes are less inclined to improve and feel uneasy about performing due to fear of losing and actually making errors. They also noted that an individual's motivation may play a part in this function. Few studies have examined such motivation as it is influenced by the perceived motivational climate for student-athletes in the academic domain.

Other research into these constructs includes different populations. For example, in further support of the perceived motivational climate and the importance of positive feedback playing a role in perceived competence and motivation, Balaguer, Duda, and Crespo (1999) conducted a study including male and female ($N=219$) Spanish tennis players' satisfaction with competition, level of play, and his/her coach in a non-collegiate setting. This study also demonstrated the criteria athletes focus on. Those subjects who perceived an ego-involving

motivational climate reported lower perceived competence (by 30%). Therefore, perceived motivational climate may predict levels of perceived competence and motivation in the athletes and supports research in determining how a task-involved climate is beneficial to the perceived competence and motivation of athletes (Dweck, 1986; Nicholls, 1989).

Fry and Newton (2003) studied achievement goal theory and its relationship to perceived motivational climate in male and female youth tennis players ($N = 167$). They indicated that those athletes who perceived the motivational climate as task-involving ($M = 3.5$, $SD = 1.72$) had positive attitudes ($p < .01$) towards their instructors ($r = .51$), fellow players ($r = .26$), and for sportpersonship ($r = .32$). The coach's and/or instructors encouraged athletes to improve and master skills instead of having an emphasis on winning and being better than others, allowing the athlete to focus on his/her motivation to improve. When the athletes perceived their instructors to focus on task goals, their attitudes ($p < .01$) towards their instructors were more positive. When the athletes perceived their instructors to focus on ego goals (Ego-Involving Climate; $M = 3.82$, $SD = 1.82$), their attitudes towards their instructor ($r = -.27$), their fellow players ($r = -.24$), and sportpersonship ($r = -.32$) were negative. When the motivational climate was ego-involved, participants had less positive attitudes. The emphasis was on being better than others and errors were discouraged (i.e. ego-involved motivational climate), causing the athletes to steer away from a motivation to improve. The authors concluded that a task-involved setting might be more beneficial for intrinsically motivated athletes.

Research has also shown that there are not many differences between males and females in elite sport (Abrahamsen, Roberts, & Pensgaard, 2008; Chalabaev, Sarrazin, Stone, & Cury, 2008). Recent research by Chalabaev et al. (2008) examined perceived ability and competence as well as motivational orientations in elite female soccer players ($N=51$). The results indicated

that women tended to perceive their ability and competence as low, which led to poorer performance in overall athletic ability and technical skills.

Abrahamsen et al. (2008) found that male and female elite athletes tended to view the motivational climate in similar terms. In other words, elite athletes are aware of the differences between a task-involved motivational climate and an ego-involved motivational climate (although they may not know the specific names of each). Females were more impacted by the motivational climate than their male counterparts in that it caused them to lose concentration more. This may show that the motivational climate does in fact play a larger role in female athletes as opposed to male athletes. Mastery (task) climate was associated with a high level of perceived ability for both male and female athletes, although females tended to show lower perceptions of ability than their male counterparts. Therefore, it is important to assess perceived motivational climate, and its relationship to other factors such as motivation and team membership among student-athletes in college setting. Much of the research on the motivational climate among student-athletes is in the sport domain. As such, the perceived motivational climate among student-athletes in the academic domain and the motivation towards academic performance needs further investigation.

Motivation

Motivation is a construct that has been examined in several different historical contexts. Additionally, there are different theoretical frameworks from which motivation is considered. In the concept of intrinsic motivation, for example, the reward of any activity is found in the activity itself, as opposed to extrinsic motivation, which is a reward in the external environment (Harter, 1978). Although intrinsic and extrinsic motivations are both frequently associated with success, intrinsic motivation is an attribute within the control of the behavior of the individual.

Deci and Ryan (1985) contended that individuals have an innate need to be competent in any attempt of success. However, there are internal and external factors that influence the athlete in the sport domain, and as such, motivation can be influenced by internal variables such as goal orientation and perceived motivational climate or external variables such as sport visibility, player role, or scholarship status. Much of the following research into intrinsic and extrinsic motivation includes such variables.

Ntoumanis (2001) found that males tended to have higher intrinsic motivation and higher perceived competence, compared to females. Task-involved individuals (male and female), on the other hand, possessed both high intrinsic motivation and perceived competence. Allen and Howe (1998) suggested that adolescent females might be more sensitive to coaching feedback, which then influences perceived competence and motivation. Further research is needed in intercollegiate athletics and the differences between male and female athletes.

To add the variable of motivation to the aforementioned research, Hollembeak and Amorose (2005) found that perceived competence was influenced by intrinsic motivation ($r = .78, p < .05$) in their sample of male and female ($N=280$) student-athletes in Division I sports. Additionally, similar to Allen and Howe's (1998) and Reinboth and Duda's (2004) findings, when positive feedback from the coach was perceived to be the highest level of feedback, perceived competence increased ($p < .05$). The authors suggested that perceived competence is an internal variable and linked to the athlete's intrinsic motivation to perform. An athlete with a high level of perceived competence shows continual high levels of perceived competence and motivation when reinforced by positive feedback from the coach. Thus, the motivational climate exhibited by coach's feedback can relate to fluctuating levels of perceived competence and motivation.

Amorose and Horn (2001) tested pre- to post-season changes in motivation. This study measured the relationship between coaching behavior and scholarship status on intrinsic motivation in male and female ($N=72$) first year Division I athletes, using the Intrinsic Motivation Inventory (IMI). The results indicated that athletes who perceived positive coaching behaviors (Instruction, $M = 3.73$, $SD = 0.58$; Positive feedback, $M = 3.63$, $SD = 0.87$) resulted in higher intrinsic motivation from pre-season to post-season. It was also found that the athletes who perceived their coaches as exhibiting a task-involved climate ($M = 2.76$, $SD = 0.93$) increased their intrinsic motivation. In other words, these athletes believed in the ability to improve and exhibit a sense of success through mastery of skills in the future and were motivated to work towards improvement. In contrast, those who perceived the climate to be ego-based ($M = 3.04$, $SD = 0.74$) decreased in intrinsic motivation because the coach was putting an emphasis on external factors such as winning. Therefore, a task-involved climate which emphasized individualized improvement may be more beneficial to the athlete, by maintaining or enhancing intrinsic motivation in the athlete.

Another prominent study in motivation included male and female scholarship basketball players ($n=46$) and a group of non-scholarship basketball players ($n=70$) (Medic, Mack, Wilson, & Starkes, 2007). Differences in motivation were shown to be dependent on athlete scholarship status for non-self-determined types of motivation, such as perceived future motivation. Differences occurred in motivation and were dependent on the athlete's scholarship status (Non-scholarship, $M = 5.10$, $SD = 1.08$; Scholarship, $M = 5.29$, $SD = 1.05$). Male athletes with scholarships ($M = 4.83$, $SD = 1.01$) reported higher extrinsic motivation than females with scholarships ($M = 3.60$, $SD = 1.51$; $ES = .95$). It was also found that intrinsic motivation decreased when scholarship status was subject to change (a scholarship would become available

or unavailable). The scholarship status (an external factor) was determined to be a negative controller of intrinsic motivation across the athletes' behavior.

Intrinsic motivation in this study decreased when the athlete was introduced to an external factor, such as a scholarship being taken away or becoming available (Medic et al., 2007). External factors (e.g., sport visibility, scholarship status) may prohibit an individual from focusing on their intrinsic motivation for success. This conclusion is similar to Amorose and Horn's (2001) findings that intrinsic motivation decreased when there was an emphasis on external factors like winning or scholarship availability. Hence, several variables in the sport domain can affect an individual's motivation, which is important to consider with player role and sport visibility as well. Similar findings were reported by Hollembeak and Amorose (2005).

In Hollembeak and Amorose's (2005) study, results indicated that there was a strong correlation between coaching style and players' motivation. Namely, all types of coaching styles positively predicted intrinsic motivation because the perceptions of the motivational climate can influence the athlete's perception of ability to perform well, which is an internal factor in motivation. Scholarship status was also a strong predictor of intrinsic motivation. Specifically, non-scholarship athletes reported lower intrinsic motivation ($M = 3.86$) relative to partial scholarship ($M = 4.08$) and full scholarship athletes ($M = 4.13$), including low levels of perceived competence ($M_{non} = 3.86$; $M_{partial} = 4.08$; $M_{full} = 4.13$). These findings support the importance of athletes' high levels of motivation and the factors that relate to intrinsic motivation. That is, as was found in Medic et al.'s (2007) and Amorose and Horn's (2001) research, the motivational climate created by the coaching style was shown to have the strongest effect on intrinsic motivation, thus emphasizing the importance of perceived motivational climate on an athlete's motivation. While motivation may be mediated by coaching behavior, sport visibility (e.g.,

playing a highly visible vs. non-highly visible sport), which can be comparable to previous research on scholarship status, may have an effect on motivation. There is a theoretical appeal to include this situational variable along with applying such constructs to the academic domain.

Athletes who are intrinsically motivated tend to perform at higher levels because they are motivated by themselves to continue to play, improve, and perform well (Amorose & Horn, 2001; Medic et al., 2007; Papaioannou et al., 2006). More research is needed on motivation in athletes as relatively few studies have examined sport and academic motivation in student-athletes. For example, motivation may change over time but is there an interaction of factors such as perceived motivational climate and academic or athletic motivation. The perceived motivational climate might also be related to how student-athletes perceive their coaches to be motivated towards academics, which could bring further interesting results to the body of research. Other situational cues such as sport visibility may impact such motivation, and should be examined in conjunction with perceived motivational climate.

While the aforementioned research has focused on Harter's (1978) and Deci and Ryan's (1985) concepts in competence motivation in which individuals have an innate need to be competent in attempts of success, much of the research in student-athletes' motivation towards academics is influenced by Vroom's (1964) Expectancy Theory of Motivation to inform how researchers measure and predict academic performance in college student athletes. Using this model, student-athletes' motivation focuses on the reward, such as obtaining a college degree, much like the extrinsic motivation that Harter's (1978) model explains. Further, some college student-athletes might be intrinsically motivated towards academics due to a belief of their capability of accomplishing the task (similar to task-orientation), and others will be extrinsically motivated due to an awareness of the value of completing a college degree (similar to ego-

orientation). However, as some of the previously mentioned research suggests, there is a strong perception that student-athletes continue to be athletically motivated as student-athletes are confident in their natural abilities to excel in athletics, as opposed to academics (Engstrom et al., 1995; Fuller, 2011; Sailes, 1996). Conversely, student-athletes who do not believe in their skills academically, or who do not value academics may not be motivated to succeed academically, which may cause them to focus more on athletics instead of academics. As Gaston-Gayles (2004) put it, “research on the academic performance of college athletes should focus on factors related to academic success” (p. 75). Therefore, Vroom’s Expectancy Theory of Motivation (1964) has also been used in the student-athlete domain and is more logically cohesive for this particular study.

Vroom’s (1964) Theory can help advise how researchers measure and predict academic motivation in college student-athletes. For example, based on this theoretical approach, student-athletes focus on the reward (i.e., college degree) and decide whether or not to approach the task (academics) depending on their perceived skills and energies needed to fulfill the task. Some student-athletes, therefore, will be more academically motivated due to a belief that they are capable of accomplishing the task and their appreciation of the value of completing the task (i.e., obtaining the college degree). It is important to recognize that this belief system might also be affected by the emphasis or value the coach and/or leader is placing on the task; hence, the perceived motivational climate could also be playing a part here. Conversely, student-athletes will be more athletically motivated if they believe that the greater value is placed on the importance to excel in athletics.

Prior research has suggested that athletics and academics make for a negative combination that leads to lower grade point averages, graduation rates, and difficulty formulating

educational goals and motivation in student-athletes compared to their non-athletic counterparts (Purdy, Eitzen, & Hufnagel, 1982; Sowa & Gressard, 1983). As Harrison and Lawrence (2003) mentioned, student-athletes entering college with a perception that athletics will be valued on campus, which should therefore be the priority. In their examination of male and female Black student-athletes at a Southeastern institution impacting the perception of the career transition process, Harrison and Lawrence (2003) analyzed responses to visual narratives of a college student-athlete who had successfully made the transition out of sport. They found that participants often over-committed to their identity as an athlete. That is, although less than two percent of student-athletes will play professionally, many student-athletes believed that college athletics was not the end of their athletic career (Harrison & Lawrence, 2003).

One of the most significant studies to address how participation in both college and sport affects student-athletes' educational motivation was Adler and Adler's (1985; 1987) work with a big-time men's college basketball program. Over a four-year period, the researchers observed the lives of members of a Division I men's basketball team in which extensive documentation of student-athletes' academic progress over the length of their university careers yielded unprecedented insight into their daily lives (Adler & Adler, 1985; 1987). Unlike the popular opinion that student-athletes in highly visible sports use collegiate athletics as a stepping stone to play professionally and have little intention of pursuing a degree, the researchers found that the majority of basketball players had been optimistic about obtaining a degree when they first entered college. Unfortunately, however, the players' athletics, social, and classroom experiences created an anti-intellectual atmosphere that, over time, inhibited academic success. It was found that athletes adjusted their academic plans throughout their college years and lowered their educational goals. Additionally, fatigue from training, traveling and competition,

insufficient time for studying, isolation from the general student population, differential treatment from faculty, and pressures from coaches and alumni prompted and reinforced disengagement from academic matters that resulted in, for many, academic failure and non-completion (Adler & Adler, 1985; 1987).

In a follow-up to Adler and Adler's work, Meyer (1990) focused on female student-athletes' athletic, academic, and social experiences. As a result of in-depth interviews with former and current Division I female basketball and volleyball players, the researcher found several similarities between female student-athletes in this study and the male student-athletes in Adler and Adler's study. However, academic disengagement did not emerge among the female student-athletes as it did among their male counterparts. Instead, conditions in their athletic, academic, and social lives actually encouraged academic achievement among the female student-athletes; they exhibited an increased commitment to academic completion over the course of their degree (Meyer, 1990). Such results revealed interesting insights into the differences between men's and women's teams in intercollegiate athletics.

Snyder (1996) added to the limited research in motivation in their sample of Division I and III male athletes' motivation towards academics and athletics. In this study, participants were asked to respond to "situations in which they had more or less academically versus athletically inclined alternatives available" (p. 658). Among the 327 Black and White student-athletes, participants responded to a series of situations in which they were offered academically inclined alternatives and athletically inclined alternatives. Interesting results from student-athletes at the Division I Institutions revealed that White athletes less favorably responded to the desire to play professionally than did Black athletes, which suggested that the possibility of playing professionally might have an impact on motivation. Although the results provided some

important indications about differences in motivation between Black and White student-athletes, such as how Black student-athletes were more motivated to play professional sports than White student-athletes, the findings did not provide the expected understanding of how motivation affected academic performance. Further research on how motivation impacts academic performance was needed at the time.

Simons, Van Rhee, and Covington (1999) examined achievement motivation in 361 university student-athletes, 228 males and 133 females, using self-worth theory. This theory is thought to examine student-athletes' approach to success and avoidance of failure. The researchers found that commitment to athletics was shown to correlate negatively with college GPA, which meant that the higher students' commitment to their sport, the lower their GPA. Specifically, Simons et al. (1999) used a motivational typology based on self-worth theory and achievement motivation, which was proposed in the earlier work of Covington's (1992) four motivational types: (a) success-oriented; (b) failure-avoiders; (c) overstrivers; and (d) failure-acceptors. Simons et al. (1999) found that those students who were classified as *failure-acceptors* were more committed to their sport than *success-oriented* student-athletes. Additionally, the *failure-acceptor* student-athletes were male and played revenue (highly visible) sports such as football and basketball than the other student-athletes. Since the *failure-acceptors* had little or no interest in academics, motivation towards athletics seemed to be the main factor in attending college. The researchers therefore suggested that the nature of intercollegiate athletics to pressure student-athletes to focus on athletics might lead to a lesser commitment to academics. Accordingly, when student-athletes focus on their athletic motivation, they have lower grades. Student-athletes who were more academically motivated, on the other hand, demonstrated higher academic performance.

A similar study by Simons and Van Rheezen (2000) of the athletic-academic relationship and achievement motivation in 200 Division I intercollegiate student-athletes (126 male, 74 female, in 26 sports at the University of California-Berkeley) revealed that one major problem for student-athletes was finding the appropriate balance between academic and athletic demands. Their study measured variables including (a) athletic-academic commitment, (b) exploitation, (c) academic self-worth, and (d) self-handicapping excuses was administered to the participants. Simon and Van Rheezen (2000) found that academic identity and academic self-worth were crucial to academic success. That is, student-athletes who felt that they were an indispensable part of the academic community and felt assured in their academic abilities were more academically successful. These results provided great support for the significance of motivation towards academics among student-athletes; however, the researchers did not explicitly identify motivation as the variable to predict academic performance.

In contrast to the findings of Simons and colleagues (1999, 2000), Sellers (1992) focused on racial differences and the predictors of academic performance and found that academic motivation was not an accurate predictor of academic success in 409 male basketball players and 917 football players at 42 different Division I institutions. In its place, high school GPA emerged as a significant indicator of college success, as measured by college GPA. This research study was one of the first to take into account background variables such as high school GPA, SAT scores, and parents' occupation. Sellers' (1992) results, however, did not take into account the variables that Simons et al. (1999) and Simons and Van Rheezen's (2000) did, which were operative at predicting academic performance. However, Sellers' (1992) research provided an initial way to operationalize academic motivation by measuring motivation by the number of hours a student-athlete spent studying and by their self-reported aspirations to obtain a college

degree. While this measure might have been a respectable way of operationalizing motivation, it did not seem to provide the most precise report of academic motivation. Motivation towards academics was also only defined as number of hours a student-athlete studied and the importance s/he placed on earning a college degree. Such findings indicated a need for further investigation into the motivations of student-athletes.

Gaston-Gayles (2004) developed the Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ) to examine the relationship between athletic motivation, academic motivation, career athletic motivation, and academic performance as measured by GPA in a stratified sample of 211 student athletes, 142 male and 69 female, at a Division I institution in the Midwest. She further explored whether differences existed as a function of gender and profile of sport (whether or not the sport had a professional team or league in the U.S.). Gaston-Gayles (2004) found that academic motivation was influential in predicting academic performance. Using multiple regression analyses to conclude whether motivation was useful in predicting academic performance, precollege characteristics, including gender, race, profile of sport, parent's education, and ACT scores accounted for 24% of the variance in college grade point average (GPA) ($F=10.70$; $p<.001$). Since ACT scores, father's education, and ethnicity were only significant, precollege characteristics were controlled for, which led to motivation scores accounting for an additional 9% of the variance in academic performance ($F=9.18$; $p<.001$). The regression model explained that 33% of the variance in GPA, ethnicity, ACT scores, and academic motivation were found to be additional significant predictors of academic performance. That is, higher GPA, ACT scores, and motivation meant higher academic performance in college, as measured by GPA.

Gaston-Gayles' (2004; 2005) research was instrumental in academic and athletic motivation in intercollegiate athletics. Research utilizing her constructs is limited, however, and has mainly appeared in the form of doctoral dissertations much like Carter's (2012) examination of the motivations toward both academics and athletics of student-athletes at a Division I university. She found that motivational orientations of student-athletes differed when accounting for gender and starter status. Additionally, she found that self-efficacy was a significant predictor of academic success in student-athletes. Similarly, Shuman's (2009) dissertation assessed 275 Division I student-athletes' motivation towards athletics, academics, and careers by utilizing Gaston-Gayles' (2004) SAMSAQ. He found that female student-athletes were more likely to be academically motivated than male student-athletes, which was similar to Simons et al.'s (1999) findings that female student-athletes were better able to balance athletics and academics than male student-athletes. Such doctoral dissertations are integral to the expansion of research in intercollegiate athletics and student-athlete motivation towards athletics and academics. Further research into such motivation is needed in the domain of intercollegiate athletics.

Summary of Literature Review

As is the case with much of the research in academics and athletics, the vast majority of the literature reviewed has been quantitative in nature. Such research has been focused on relationships among and/or between variables and often includes a theoretical framework. Additionally, the literature has provided systematic techniques to uncover new information about specific accessible populations in order to be able to generalize to large, target populations. That is, in the area of intercollegiate athletics, researchers have often drawn their sample from the accessible population of a geographic area or a specific Division of the NCAA in order for a

generalization to the overall population of student-athletes in the United States. Thus, it has been widely accepted to employ quantitative research methods to investigate the pervasiveness of specific topics. That is, due to the nature of intercollegiate athletics, it continues to be important to use quantitative research methods to address gaps in and expand on the knowledge we already have. Thus, the proposed study will also attempt to not only replicate and add to the knowledge base of student-athletes' perceptions of the motivational climate and their motivation towards athletics and academics, but will also utilize its quantitative findings to help inform athletic and student affairs administrators about academic motivations of student-athletes. As several researchers in this field have suggested, it is important to further the understanding of what motivates student-athletes to perform both athletically and academically.

Much of the current research in intercollegiate athletics focuses on student-athletes' motivation towards athletics while taking into account coach's feedback, motivational climate, and other related factors such as goal orientation, perceived competence, and life satisfaction (Amorose & Horn, 2001; Hollembeak & Amorose, 2005; Medic et al., 2007; Ntoumanis, 2001). Other research in intercollegiate athletics focuses on academic issues among student-athletes while focusing on racial and athletic identity and stereotypes among student-athletes (Engstrom et al., 1995; Fuller, 2011; Nora & Cabrera, 1996; Simons et al., 2007; Smith & Hopkins, 2004; Steinfeldt et al., 2010). The research, however, tends to focus on motivational factors in academics and athletics to predict academic success in student-athletes (Carter, 2012; Gaston-Gayles, 2004; Sellers, 1992; Shuman, 2009; Simons et al., 1999; Simons & Van Rhee, 2000; Snyder, 1996).

While the above studies have addressed perceived competence, motivational climate, motivation towards athletics and academics, and other important variables, there is little research

that assesses the interaction of such factors with situational factors such as gender (male sports vs. female sports), race (white vs. non-white), and sport visibility (highly visible sport vs. non-highly visible sport). Based on current and relevant research (Carter, 2012; Gaston-Gayles, 2004; Shuman, 2009) and the lack of research in examining differences among groups, the current study was designed to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career.

Finally, this study attempted to establish possible correlational explanations for the lack of academic integrity in intercollegiate athletics. The results will be helpful to athletic departments, athletic administrators, and student affairs professionals in supporting student-athletes to be prosperous in both academic and athletic settings. If opportunities can be created for student-athletes to transfer their athletic skills and motivation to the classroom, then student-athletes might rise to the occasion of academic achievement.

CHAPTER III: METHODOLOGY

The current study was designed to examine the effects of gender (men's versus women's sports), sport visibility (highly visible versus non-highly visible sports), race (white versus non-white), and perceived motivational climate (task- and ego-involved) on motivation towards academics, athletics, and career. Further, this study sought to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career. Thus, the research design is correlational.

Gender is considered the variable between men's and women's sports, which allows for the researcher to examine the consequences of such differences. Further, highly visible sports are historically considered those sports that either create revenue (also known as revenue producing sports) such as basketball and football (Benford, 2007; Carter, 2012; Meyer, 2005; Shuman, 2009) or are most visible among spectators (The Harris Poll, 2013). Therefore, in this study, men's and women's basketball and football were grouped into the highly visible sport category, while all other sports were grouped into the non-highly visible sport category. While sports at small universities do not typically create revenue, men's and women's basketball and football at this study's institution are most visible among spectators in the area. Differences between such variables, along with the independent variables of race (white versus non-white) and the perceived motivational climate (task- and/or ego-involved); (Newton, Duda, & Yin, 2000; Nicholls, 1984, 1989) were examined on the dependent variable of motivation towards academics/athletics (or career); (Gaston-Gayles, 2004, 2005). Hence, by exploring the differences and relationships among the aforementioned variables, a correlational research design was most appropriate (Fraenkel & Wallen, 2009).

The following subsections of this chapter will detail the participants, data collection procedures, instrumentation, data analysis, and future findings.

Participants

A total sample of 310 Division I student-athletes were contacted to participate in the study. Of this accessible population, there are seven men's sports (baseball, basketball, cross country, football, golf, hockey, and soccer) and nine women's sports (basketball, golf, gymnastics, soccer, softball, swimming, tennis, track and field, and volleyball). Players were recruited in their respective teams, which assisted in attaining an adequate sample size. Student-athletes are typically between the ages of 18-22, ranging from freshmen to seniors, but the current study had ages range from 18-25. Student-athletes receive scholarships ranging from full (covering all tuition and room and board), partial (covering some tuition, books, etc.), or non-scholarships. Demographic information was collected to gain specific knowledge of age, sex, race, scholarship status, and player role. Student-athletes in this study were recruited from one midwest Mid-American Conference (MAC) University. Table 1 summarizes the frequencies and percentages of these characteristics, with the final sample size being 309 student-athletes ($n=309$). More specifically, the total number of responses was 310, for a response rate of 100%; however, one response was dropped because it was identified as an outlier. Thus, the sample size was decreased to 309 ($N=309$). Although all athletic teams were represented in the sample, approximately fifty student-athletes from the original total number of student-athletes on the rosters of the various teams were not present in the team meetings, yielding a response rate of 86%. Upon closer examination of the student-athletes who were not present, reasons for absence included: having a schedule conflict with classes or training room meetings, graduation, quitting the team, or being late to the meeting.

Table 1

Frequencies and Percentages of the Demographic Variables

Variables	Frequency	Percentage
Sport		
Baseball	29	9.4
Men's Basketball	13	4.2
Men's Cross Country	5	1.6
Football	79	25.6
Men's Golf	9	2.9
Hockey	26	8.4
Men's Soccer	17	5.5
Women's Basketball	12	3.9
Track and Field	37	12.0
Women's Golf	8	2.6
Gymnastics	15	4.9
Women's Soccer	12	3.9
Softball	12	3.9
Swimming	19	6.1
Tennis	6	1.9
Volleyball	10	3.2
Total (n)	309	100
Sex		
Male	178	57.6
Female	131	42.4
Total (n)	309	100
Sport Visibility		
Highly Visible	104	33.7
Non-Highly Visible	205	66.3
Total (n)	309	100
Age		
18 years	35	11.3
19 years	99	32.0
20 years	63	20.4
21 years	57	18.4
22 years	37	12.0
23 years	13	4.2
24 years	4	1.3
25 years	1	.3
Total (n)	309	100
Race		
White	221	71.5
Non-White	88	28.5
Total (n)	309	100
Scholarship Status		
Full	129	41.7
Partial	133	43.0
None	47	15.2
Total (n)	309	100
Player Role		
Starter	188	60.8
Non-Starter	121	39.2
Total (n)	309	100

A non-random sampling method of convenience was utilized due to the accessibility of the institutional population to the researcher. That is, the previously described student-athletes attend the same University as the researcher. Additionally, the researcher has experience and rapport with the athletic department in which the participants reside. Thus, the student-athletes were invited to participate as part of the convenient sample.

Data Collection Procedures

This study was administered during the winter/spring 2013-2014. Contact information for each team was obtained through the athletic department. The Athletics Committee was contacted to obtain permission for contact with student-athletes (See Appendix A) and the Human Subjects Review Board (IRB) was then contacted to obtain permission to conduct the study and it was deemed exempt. The athletic department and athletic director were then contacted to obtain verbal permission to contact coaches of each team. Each prospective coach was contacted to obtain verbal consent, followed by sending a letter of information to explain the purpose of the study (See Appendix B). Protocols for collecting data from student-athletes were followed and the procedures approved before contact with any subject. These steps occurred during the winter/spring of 2013-2014.

Upon receiving permission from the afore-mentioned constituents, meeting dates and times were arranged with the coaches and student-athletes in a place of convenience for each team. The researcher then administered the questionnaires to each team using a recruitment script (See Appendix C). Informed consent was then given and obtained from all willing participants (See Appendix D). After reading the informed consent document, participants were asked if they have any questions or need clarification about the questionnaires involved. Upon satisfactorily answering questions or clarifying any issues, the participants were asked to

complete and sign the informed consent document. Upon receiving informed consent, questionnaires were given to the athletes in an envelope for each individual.

All questionnaires and informed consent documents were given to participants in individual envelopes labeled by number and grouped by sport. Following completion of each questionnaire packet (approximately five to ten minutes), participants were asked to place questionnaires and informed consent documents back into the envelopes and seal the envelopes to maintain anonymity and confidentiality. When data was entered for computer analysis, the number/code on the envelope was used to determine each participant in the computer file.

Instrumentation

As previously mentioned, this study was administered through the Spring 2014 semester to Division I Mid-American Conference (MAC) student-athletes at one University. Three questionnaires were given to participants to complete in-person and as a team. The following sections describe these instruments.

Demographic Questionnaire

Each participant completed a brief demographic questionnaire to assess the participants' age, sex, race, year in school, scholarship status, player role (starter or non-starter), and sport currently playing (See Appendix E). Based on previous research (Carter, 2012; Amorose & Horn, 2001; Gaston-Gayles, 2004; Hollembeak & Amorose, 2005; Medic et al., 2007; Shuman, 2009; Simons et al., 1999; Snyder, 1996) and the purpose of this study, these nominal variables assisted in categorizing participants and drawing conclusions.

Perceived Motivational Climate in Sport Questionnaire-2

To measure players' perceptions of the motivational climate on each team, the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2); (Newton, Duda, & Yin, 2000) was

used (See Appendix F). The 33-item PMCSQ-2 was designed to assess players' perceptions of the motivational climate as either task-involving or ego-involving climates in a multi-dimensional hierarchical structure. The two respective climates are composites of six underlying characteristics. Task-involving climate items refer to three characteristics including a sense that learning is encouraged, each player has important roles on the team, and effort and improvement is the emphasis of the climate. Ego-involving climate items refer to three characteristics including a sense that mistakes are punished, recognition by the coach is reserved for top athletes, and that rivalry to perform well among players on the team exists.

Adopting the task-involving or the ego-involving perspective in achievement activities is based on the theoretical perspective of dispositions in Achievement Goal Theory (Nicholls, 1989) and the characteristics of such achievement (Ames, 1992). Assessments in goal orientation began in the academic setting measuring endorsement of task-orientation or ego-orientation and subsequently in the sport setting, by developing the Task and Ego Orientation in Sport Questionnaire (TEOSQ); (Duda, 1989, 1992). Motivational climate goal structures, therefore, were then assessed in the educational setting in order to make theoretical distinctions between the task- and ego-involved climates (Ames & Archer, 1988). This led to the development of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ); (Seifrez, Duda, & Chi, 1992) in which similar dimensions of the goal orientations and the perceived motivational climate could be utilized in the sport domain. Exploratory factor analysis in Seifrez et al.'s (1992) study of the PMCSQ revealed that the task- and ego-involved climates could be identified in the sport domain.

Walling, Duda, and Chi (1993) went on to test such psychometric properties more rigorously, which led to results showing support for reliability and concurrent validity of the

PMCSQ. That is, the task- and ego-involving scales were found to be adequately internally consistent (0.80-0.82 and 0.80-0.84 respectively). Although these tests supported psychometric and concurrent validity, the researchers suggested that the measure could be enhanced and strengthened by “conceptualizing the motivational climate in a hierarchical manner with subscales underlying the higher-order Task-Involving and Ego-Involving scales” (Newton et al., 2000), which was in agreement with Ames’ (1992) initial conceptual framework.

To further examine the development of such a multi-dimensional structure to measure the motivational climate in sport, Newton et al. (2000) conducted two studies to expand the original questionnaire and develop the hierarchical measure on the motivational climate that was conceptually needed. Theoretically, the previous goal structures that existed in the aforementioned studies were presumed to influence how individuals judge their ability. Thus, Newton et al. (2000) sought to hypothesize a hierarchical model in which the tenets of achievement goal theory are studied, advancing how the motivational climate is conceptualized. More specifically, the first study expanded the original PMCSQ by developing the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and examined its concurrent validity and reliability. Based on the results of the first study, the Newton et al. (2000) went on to refine the PMCSQ-2 in the second study. Additionally, they examined its factor structure and sought to determine its internal reliability and concurrent validity. In doing so, the instrument asked participants to think about what the environment is like on their team in general. The stem for each question is “On this team...”. Responses are indicated on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Results are scored by calculating the mean score for the two respective climates. Thus, athletes may be categorized as perceiving the motivational climate as either task-involving or ego-involving by scoring above the mean.

Adequate internal consistency of each subscale was demonstrated (Newton et al., 2000). The task-involving climate had a Cronbach alpha of 0.88 and the ego-involving climate of 0.87. Correlations of the task-involving climate and ego-involving climate to subscales were found to be significant (Task-Involving $r = .80-.88$; Ego-Involving $r = .49-.90$). Concurrent validity was found for the PMCSQ-2 to support hypotheses of significance among perceived motivational climate and subscales. Thus, the PMCSQ-2 has been found to have adequate internal reliability and factorial validity, as the authors have concluded that the utility of conceptualizing the motivational climate in the sport domain in a hierarchical manner has been substantiated (Newton et al., 2000). Further, the authors suggest that examining the perceived motivational climate in other contexts of sport should be continually examined. Thus, the current study further examined what the authors suggest of “the factorial structure and internal consistency of the PMCSQ-2 among both male and female athletes in a variety of sports” (Newton et al., 2000) by also testing for internal consistency.

Student-Athlete’s Motivation toward Sports and Academics Questionnaire

The Student Athlete’s Motivation toward Sports and Academics Questionnaire (SAMSAQ); (Gaston-Gayles, 2004) was used to assess academic and athletic motivation (See Appendix G). Since this questionnaire is copyrighted by the author, written consent was obtained by contacting Dr. Gaston-Gayles and receiving an email giving permission to use the questionnaire, which can be found after the SAMSAQ in Appendix H. This instrument was constructed from an expectancy-value motivation framework (Shuman, 2009). Further, achievement motivation theories have a basic assumption that motivation toward a specific task is determined by an individual’s choice of, persistence on, and amount of effort applied to a task (Weiner, 1984). Thus, theoretically speaking, individuals who are highly motivated to approach

achievement would give a great deal of energy and time toward successful completion of a specific task. As Eccles (1983) postulates, expectancy is influenced by the individual's perception about their capability to successfully complete a task and the level of difficulty associated with completing the task. The value, therefore, attached to a task is a function of the extent to which the task fulfills a need, aids in current goal attainments, and is important in fulfilling a future goal. Thus, the SAMSAQ was developed to measure student athletes' motivation towards sports and academics based on this expectancy-value framework (Gaston-Gayles, 2004; 2005).

The SAMSAQ is a 30-item instrument to which students responded on a 6-point Likert-type scale from 6 (*very strongly agree*) to 1 (*very strongly disagree*) and was developed to measure academic and athletic motivation of college athletes (Gaston, 2002). The initial scale consisted of 15 items to measure academic motivation and 15 items to measure athletic motivation. Exploratory factor analysis and reliability estimates were conducted by Gaston (2002) to confirm the underlying structure of the initial scale, which led to a rotated three-factor solution. Common characteristics for each factor were found, which led to re-naming the factors appropriately. The SAMSAQ now consists of three different subscales: (a) student athletic motivation (SAM) which measures the extent to which participated to pursue their sport (8 items), (b) academic motivation (AM) (16 items) which measures the extent to which an individual participated and was motivated toward academic related tasks, and (c) career athletic motivation (CAM) (5 items) which measures a reflection of the desire to play sports at the professional or Olympic level (Gaston-Gayles, 2005). As such, each subscale measures the extent to which student athletes are motivated toward related tasks. For example, an item on the SAM subscale states, "achieving a high level of performance in my sport is an important goal for

me this year” and an AM subscale example states “I am confident that I can achieve a high GPA this year (3.0 or above)” (Gaston-Gayles, 2005, p. 326). Scores for each of the subscales requires reverse coding eight items (items 5, 9, 11, 18, 21, 25, 26, and 30), summing the responses for each subscale, and calculating the mean score for each subscale. A higher score, therefore, indicates a higher degree of motivation.

Adequate internal consistency was confirmed, with a Cronbach’s alpha coefficient reported for each subscale by Gaston-Gayles (2005), ranging from .79 to .86. That is, alpha coefficients were computed to measure internal consistencies of the items of each sub-scale and reliability was found to be acceptable (Gaston-Gayles, 2005). Moreover, the AM subscale had a Cronbach alpha of 0.79 and the SAM subscale had a Cronbach alpha of 0.86, which further suggests adequate internal consistency of the subscales.

The predictive validity for the SAMSAQ was also examined (Gaston-Gayles, 2005). Scores from the instrument should be meaningful, make sense, and allow the researcher to draw conclusions from the sample (Creswell, 2005). Therefore, multivariate analyses of variance examined main effects of race/ethnicity, gender, and sport on the three subscales in Gaston-Gayles’ (2004; 2005) study. Results indicated that females had significantly higher academic motivation than males ($F = 8.08, p < .01$), males had significantly higher athletic motivation scores than females ($F = 16.64, p = .000$), and revenue athletes had higher scores on career athletic motivation than nonrevenue athletes ($F = 3.86, p < .05$). These findings support further examination into such factors, as the author suggests that “perhaps the most meaningful application of the scale might be as an assessment of student athletes’ motivation on the three subscales” (Gaston-Gayles, 2005, p. 324). The academic motivation (AM) was found to be a significant predictor of grade point average, but no validity information for the other two

subscales were provided. Due to the SAMSAQ being a relatively new instrument, the validity has not been examined in other published studies. The results, however, contribute to the generalizability and transferability of the SAMSAQ, which suggests that the instrument should be utilized in further studies as student athletes spend an immense amount of time and energy on athletic related tasks.

Data Analysis

The purpose of this study is to determine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career.

As previously mentioned, the main independent variables of this study are gender (men's or women's sport), sport visibility (highly visible vs. non-highly visible sport), race (white vs. non-white), and perceived motivational climate (task- and ego-involved). Gender, sport visibility, and race were assessed using the demographic questionnaire. Additionally, to measure players' perceptions of the motivational climate on each team, the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2); (Newton, Duda, & Yin, 2000) was used. The 33-item PMCSQ-2 was designed to assess players' perceptions of the motivational climate as either task-involving or ego-involving climates in a multi-dimensional hierarchical structure. Additionally, the dependent variable of motivation was measured by using the Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ); (Gaston-Gayles, 2004; 2005) to assess academic, athletic, and career motivation. The SAMSAQ is a 30-item instrument which consists of three different subscales: (a) student athletic motivation (SAM) (8 items), (b) academic motivation (AM) (16 items), and (c) career athletic motivation (CAM) (5 items).

Descriptive statistics were obtained through running scores through SPSS's descriptive statistical analyses to measure for means and standard deviations for each independent variable.

In order to first describe the underlying structure that might explain the sets of variables in perceived motivational climate and motivation towards sports, academics, and/or career, principal components analysis was conducted. This allowed the researcher to determine the extent to which there was an overlap of measurement or shared variance among the set of variables in each instrument. This also allowed the researcher to determine whether or not the measures for the different variables are actually measuring the common component within the instrument (Mertler & Vannatta, 2010). Upon running the principal components analysis, the underlying, hypothetical variables or factors were examined and dimensions were identified by determining which variables clustered together. This helped to explain the groupings of variables that are measuring a common construct. As such, the common factors were extracted and the linear combinations were examined to determine which combinations accounted for the variability within the set of intercorrelations among the original variables (Mertler & Vannatta, 2010). After deciding how many factors to retain and interpret by examining the eigenvalues and scree plots, the researcher interpreted the factor rotation of the data. Finally, the researcher then interpreted the rotated solution and interpreted the results, which led to the components being named and utilized in the multiple regression procedures (Mertler & Vannatta, 2010).

To summarize, for each instrument, data were screened to identify any missing data, multivariate outliers (using Mahalanobis distance), linearity and normality (creating scatterplot matrices). Principal components analysis was then run by identifying the dimensions of the data, checking initial solutions, analyzing the correlation matrix, unrotated factor solutions, scree plots, and Eigenvalues. The data were then rotated using Varimax rotations. The appropriate

number of components to retain were determined, interpreted (noting the strength and direction of loadings) and labeled accordingly.

In order to describe and examine the existence of predictable relationships among the independent (gender, sport visibility, race, and perceived motivational climate) and dependent (motivation) variables, multiple regression procedures were conducted. That is, the researcher sought to determine the ability of the independent variables to predict motivation among college student-athletes. Further, upon examining the variables, regression allowed the researcher to understand the value and meaningfulness of the dependent variable from a linear combination of the independent variables (Harris, 1998). More specifically, multiple regression allowed the researcher to measure the variance accounted for differences in motivation by gender, sport visibility, and/or perceived motivational climate. This regression analysis separates the total variability into variability due to regression and variability about the regression (Mertler & Vannatta, 2010, p. 170). Due to the nature of the research questions and the variables, methods of dummy coding were employed and assigned in data entry to give meaning to the categorical variables (Pedhazur, 1997). Thus, the results revealed whether the gender, sport visibility, race, and perceived motivational climate were accounting for, or explaining, a statistically significant amount of variance in motivation among student-athletes.

To test the relationship and degree of predictability among the variables, the assumptions of regression were checked in pre-analysis data-screening procedures by first examining any outliers present, then examining the errors of prediction, or the residuals (Mertler & Vannatta, 2010). This was done by examining the standardized residual plots created in SPSS to check for linearity (along with scatterplots), normality (along with the values for skewness, kurtosis, and Kolmogorov-Smirnov statistics), and homoscedasticity (along with Box's tests). Upon

completion, linearity, multivariate normality, and homoscedasticity was assumed (Pedhazur, 1997). Further, to address multicollinearity prior to the regression analysis, the correlation matrix was examined, along with an assessment of tolerance and the variance inflation factor (VIF) for the predictor variables (Stevens, 2001).

Additionally, model specification was determined and model validation was addressed to strengthen the ability to predict the results of the regression equation. This ensured the predictive power of the equation, which further led to a better generalizability of the results (Stevens, 2001). Finally, the researcher examined and identified any effects of outliers in the data and dealt with them appropriately prior to running the regression analysis. This was also done in the initial examinations of boxplots and scatterplots and more precisely by examining the Mahalanobis distance of the cases (Stevens, 2001). Upon completion of such examinations into the assumptions of multiple regression without violations, evidence of multicollinearity, and/or outliers, the researcher ran the multiple regression using the SPSS computer program.

Upon conducting multiple regression, the output was analyzed by interpreting the model summary, ANOVA table, and coefficients table to determine how well (level of significance) the independent variables predicted the dependent variables. Additionally, as previously mentioned, tolerance was examined to determine which independent variables accounted for a high degree of common variance in the dependent variable (Mertler & Vannatta, 2010).

Reliability measures the consistency of the measurement, which is often measured by Cronbach's alpha, measuring internal consistency. These values were examined for each instrument. Additionally, validity refers to the degree to which the researcher is measuring what s/he intends to measure. As previously mentioned, scores from the instrument should be meaningful, make sense, and allow the researcher to draw conclusions from the sample

(Creswell, 2005). Thus, the generalizability and transferability of the results were examined and discussed as this study's variables of perceived motivational climate and motivation has been grounded in Newton et al.'s (2000) and Gaston-Gayles' (2004; 2005) work.

Future Findings

Upon collecting all pertinent data, there are specific assumptions about the study. One assumption is that participants are willing to participate and answer all questions on the questionnaires honestly, truthfully, and accurately. That is, participants were assumed to sincerely and openly answer each question of each questionnaire. Once participants read and signed informed consent forms, it was assumed that participants were voluntarily participating in the study. That is, participants did not feel any pressure or coercion to participate in the study. Further, participants were assumed to be genuine and thoughtful in answering such questions. In addition, participants were assumed to understand each question fully and precisely in order to accurately answer such questions. Finally, it was assumed that data collection will be consistent across all teams and participants. Utilizing the recruitment script when explaining the study to participants assisted in such consistency. Thus, upon collecting all data per team, the researcher assumed that all participants had an equal understanding of the study and the procedures for filling out the related questionnaires.

Upon completion of multiple regression data analyses, the researcher was able to interpret the significant and/or non-significant findings. The researcher was able to determine the significance of each independent variable and the variables that best predict motivation towards athletics, academics, and/or career among student-athletes. Further, model summary tables indicated how well an independent variable (or combination of independent variables) predicts the dependent variable. The ANOVA table allowed the researcher to examine the

degree to which the relationship between the independent variables and dependent variable is linear. Finally, the coefficients table allowed the researcher to examine the degree to which the independent variables accounted for unique variance in the dependent variable (Mertler & Vannatta, 2010). Thus, the multiple regression technique allowed all four research questions to be answered at once. That is, the research questions are:

1. Does gender significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
2. Does sport visibility significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
3. Does race significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
4. Does the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?
5. Taken together, do gender, sport visibility, race, and the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes?

Based on the existing literature, there were a few expectations. It was expected that through interpretation of the results, student-athletes on women's sports will exhibit a higher motivation towards academics than their male counterparts (Gaston-Gayles, 2004; Medic et al., 2007; Meyer, 1990; Shuman, 2009; Simons et al., 1999). Further, it was expected that student-athletes in highly visible sports will be more athletically motivated than academically motivated (Simons & Van Rheenen, 2000; Simons et al., 1999; Snyder, 1996). Moreover, it was expected that female student-athletes perceive their motivational climate to be more task-involved whereas male student-athletes perceive their motivational climate to be more ego-involved (Allen &

Howe, 1998; Hollembeack & Amorose, 2005; Reinboth & Duda, 2004). As there is void in the literature, the researcher examined further interactions among variables such as examining the relationships among perceived motivational climate and motivation towards academics and athletics. Finally, after all statistical tests were run and analyzed, tables were created to summarize the results.

CHAPTER IV: RESULTS

Introduction

The current study was designed to examine the effects of gender (men's versus women's sports), sport visibility (highly visible versus non-highly visible sports), race (white versus non-white), and perceived motivational climate (task- and ego-involved) on motivation towards academics, athletics, and career. Further, this study sought to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career.

The data for this study were analyzed on several points. Descriptive statistics for the participants were first analyzed and are presented to provide basic information about the student-athletes and their demographic characteristics. Next, factor analysis was conducted on the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and the Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ) to determine whether the items on each questionnaire are measuring a common purpose. Finally, multiple regression was conducted to examine the extent to which, if at all, the independent variables could predict the dependent variable.

Descriptive Statistics

A total of 310 surveys were distributed to teams at one Division I University in the Midwest. Data were collected during separate team meetings in the Winter/Spring, 2014. Participants in this study consisted of sixteen teams (Baseball, Men's Basketball, Men's Cross Country, Football, Men's Golf, Hockey, Men's Soccer, Women's Basketball, Track and Field, Women's Golf, Gymnastics, Women's Soccer, Softball, Swimming, Tennis, and Volleyball). The total number of responses was 310, for a response rate of 100%; however, one response was

dropped because it was identified as an outlier. Thus, the sample size was decreased to 309 (N=309). Although all athletic teams were represented in the sample, approximately fifty student-athletes from the original total number of student-athletes on the rosters of the various teams were not present in the team meetings, yielding a response rate of 86%. Upon closer examination of the student-athletes who were not present, reasons for absence included: having a schedule conflict with classes or training room meetings, graduation, quitting the team, or being late to the meeting.

Participants were categorized as part of Highly Visible Sport (n=104, 33.7%) and Non-Highly Visible Sport (n=205, 66.3%). Ages ranged from 18-25 ($M = 20.07$, $SD = 1.45$). There were 131 female participants (42.4%) and 178 male participants (57.6%). Participants were categorized for race as identifying as either white or non-white. From the sample, 221 participants were white (71.5%) and 88 participants were non-white (28.5%). When asked what the participants would classify their role on the team as, 188 (60.8%) identified as a Starter and 121 (39.2%) identified as a Non-Starter. Finally, scholarship statuses included 129 (41.7%) participants receiving a full scholarship, 133 (43%) participants receiving a partial scholarship, and 47 (15.2%) participants receiving no scholarship. Table 1 in Chapter III: Methods contains a summary of this information about the participants.

Principal Components Analysis

Principal components analysis was conducted on the items of the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) to determine what underlying structures exist for measures on the task-involving and ego-involving variables. Principal components analysis was conducted utilizing a varimax rotation. The analysis produced a three-component solution,

which was evaluated with the following criteria: eigenvalue, variance, scree plot, and residuals. Criteria indicated a three-component solution was appropriate.

After rotation, the first component accounted for 20.64% of the total variance in the original variables, the second component accounted for 13.97% of the total variance in the original variables, and the third component accounted for 10.28% of the total variance in the original variables. The identified components were all common and had positive loadings above .454. Component 1 consisted of 17 of the 33 items, with loadings ranging from .463-.709, all of which are labeled as task-involving items. Component 2 consisted of 9 items, with loadings ranging from .454-.746 and was labeled ego-involving approach items. Component 3 consisted of 5 items, with loadings ranging from .639-.846 and was labeled ego-involving avoidance items.

Principal components analysis was also conducted on the items of the Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ) to determine what underlying structures exist for measures on the academic motivation, sport motivation, and/or career motivation variables. Principal components analysis was conducted utilizing a varimax rotation. The analysis produced a two-component solution, which was evaluated with the following criteria: eigenvalue, variance, scree plot, and residuals. Criteria indicated a two-component solution was appropriate, with the career motivation items loading into the sport motivation component.

After rotation, the first component accounted for 21.60% of the total variance in the original variables, while the second component accounted for 20.20% of the total variance in the original variables. The identified components were all common and had positive loadings above .437. Component 1 consisted of 15 of the 30 items, with loadings ranging from .439-.767, all of which are labeled as academic motivation items. Component 2 consisted of 13 items, with

loadings ranging from .437-.750 and was labeled sport motivation items. As previously mentioned, the original career motivation items from the questionnaire all loaded into the sport motivation component.

Reliability

To determine the consistency and stability of the instruments in measuring what they were intended to measure and the ability to be repeated over time with consistent result, Cronbach's alphas were calculated for the responses in this study. This common method for measuring reliability allowed for a determination of the internal consistency of the scale. The alpha coefficients range from 0 to 1, and higher coefficients indicate a high level of consistency on the scale.

Walling, Duda, and Chi (1993) tested the psychometric properties of the original PMCSQ and found that the task- and ego-involving scales were found to be adequately internally consistent (0.80-0.82 and 0.80-0.84 respectively). The PMCSQ-2 was also tested and adequate internal consistency of each subscale was demonstrated (Newton et al., 2000). The task-involving climate had a Cronbach alpha of 0.88 and the ego-involving climate of 0.87. The resulting Cronbach's alphas for this study were consistent with the aforementioned research. The alpha value for the task-involving scale was .89; the alpha value for the ego-involving approach scale was .84; and the alpha value for the ego-involving avoidance scale was .84. These results are consistent with the previous studies' internal reliability scores (Newton et al., 2000; Walling, Duda, & Chi, 1993), which contributes to the generalizability of the PMCSQ-2.

Adequate internal consistency was previously confirmed for the SAMSAQ, with a Cronbach's alpha coefficient reported for each subscale by Gaston-Gayles (2005), ranging from .79 to .86. Moreover, the AM subscale had a Cronbach alpha of 0.79 and the SAM subscale had

a Cronbach alpha of 0.86. The resulting Cronbach's alphas for this study were also consistent with the aforementioned research. The alpha value for the academic motivation (AM) subscale was .86 and the alpha value for the sport motivation (SAM) subscale was .78. These results are consistent with Gaston-Gayles' (2005) study's internal reliability scores, which contributes to the generalizability of the SAMSAQ.

Correlations

Bivariate correlations were used to examine the relationships among the variables. Table 2 presents correlations among the independent variables for academic motivation and Table 3 presents correlations among the independent variables for sport motivation, each using Pearson correlation.

Accordingly, a relationship of .80 or higher is considered strong and extremely important, .61-.80 is considered very theoretically important and moderately high, .41-.60 is considered moderate with some practical and theoretical importance, and .00-.40 is considered weak with little practical importance (Mertler & Vannatta, 2010). Academic motivation had a weak significant positive relationship with task-involving motivational climate ($r=.292, p=.000$). Sport motivation had a weak to moderately significant positive relationship with task-involving motivational climate ($r=.334, p=.000$). Other significant scores were very weak.

Table 2

Correlation Matrix of Variables for Academic Motivation

Variables				
	AM	Task	EgoAp	EgoAv
AM	1.000			
Task	.292**	1.000		
EgoAp	-.100*	-.443**	1.000	
EgoAv	-.180**	-.302**	.459**	1.000

Note: AM = academic motivation (range from 1 [*low*] to 6 [*high*]); Task = task-involving motivational climate (range from 1 [*low*] to 5 [*high*]); EgoAp = ego approach-involving motivational climate (range from 1 [*low*] to 5 [*high*]); EgoAv = ego avoid-involving motivational climate (range from 1 [*low*] to 5 [*high*]).

* $p < .05$; ** $p < .01$

Table 3

Correlation Matrix of Variables for Sport Motivation

Variables				
	SAM	Task	EgoAp	EgoAv
SAM	1.000			
Task	.334**	1.000		
EgoAp	-.166**	-.443**	1.000	
EgoAv	-.109*	-.302**	.459**	1.000

Note: SAM = sport motivation (range from 1 [*low*] to 6 [*high*]); Task = task-involving motivational climate (range from 1 [*low*] to 5 [*high*]); EgoAp = ego approach-involving motivational climate (range from 1 [*low*] to 5 [*high*]); EgoAv = ego avoid-involving motivational climate (range from 1 [*low*] to 5 [*high*]). * $p < .05$; ** $p < .01$

Multiple Regression

Simultaneous multiple regression was conducted to determine the accuracy of the independent variables (gender, sport visibility, race, and perceived motivational climate) predicting academic and sport motivation. Data screening led to the elimination of one case, which exceeded the chi-square criteria based on the Mahalanobis Distance. That is, using a chi-square table, the critical value of chi-square at $p < .001$ with $df = 5$ was determined to be 20.515. Case 153 exceeded this critical value and was therefore deleted from the analysis. Upon closer examination of Case 153's descriptive statistics, scores included the task-involving climate ($M=1.76$), ego-involving approach climate ($M=2.33$), ego-involving avoidance climate ($M=2.60$), academic motivation ($M=3.56$), and sport motivation ($M=3.62$). These scores indicate that this participant scored well below the means for the perceived motivational climate and had neutral scores for both academic and sport motivation. Linearity was then analyzed by creating a scatterplot matrix and indicated normal distributions. Residual plots were also examined to determine multivariate normality and homoscedasticity and were found to be normally distributed. Therefore, multivariate normality and homoscedasticity was assumed.

Multiple regression was then conducted using the Enter method to determine whether the independent variables significantly predict academic motivation. Tolerance statistics were examined and there were no violations. Regression results indicate an overall model of three predictors (gender, race, and task-involving climate) that significantly predict academic motivation, $R^2=.205$, $R^2_{adj}=.189$, $F(6,302) = 12.946$, $p < .001$. This model accounted for 21% of variance in academic motivation. When excluding the non-significant variables, the model including the significant variables of gender, race, and the task-involving climate accounted for 20% of variance in academic motivation. These results suggest that when the independent

variable of gender increases by one, academic motivation changes by 25%, holding the other independent variables constant. Gender contributed to the model of predicting academic motivation with a $t=-4.266$. When the independent variable of race increases by one, academic motivation changes by 15%, holding the other independent variables constant. Race contributed to the model of predicting academic motivation with $t=2.584$. When the independent variable of the task-involving climate increases by one, academic motivation changes by 27%, holding the other independent variables constant. The task-involving motivational climate contributed to the model of predicting academic motivation with $t=4.688$. A summary of the regression model is presented in Tables 4 and 5.

Table 4

Model Summary – Academic Motivation

Model	R	R^2	R^2_{adj}	F	p	df_1	df_2
1	.452	.205	.189	12.946	.000	6	302

Table 5

Coefficients for Final Model – Academic Motivation

	B	β	t	p
Visibility	-.047	-.037	-.589	.556
Gender	-.298	-.247	-4.266	.000
Task	.342	.271	4.688	.000
EgoAppr	.045	.054	.870	.385
EgoAvoid	-.068	-.097	-1.650	.100
Race	.193	.146	2.584	.010

Multiple regression was then conducted using the Enter method to determine whether the independent variables significantly predict sport motivation. Tolerance statistics were examined and there were no violations. Regression results indicate an overall model of two predictors (gender and task-involving climate) that significantly predict sport motivation, $R^2=.396$, $R^2_{adj}=.384$, $F(6,302) = 33.018$, $p < .001$. This model accounted for 38% of variance in sport motivation. When excluding the non-significant variables, the model including the significant variables of gender, race, and the task-involving climate accounted for 39% of variance in academic motivation. These results suggest that when the independent variable of gender increases by one, sport motivation changes by 48%, holding the other independent variables constant. Gender contributed to the model of predicting sport motivation with a $t=9.549$. When the independent variable of race increases by one, sport motivation changes by 17%, holding the other independent variables constant. Race contributed to the model of predicting sport motivation with $t=-3.442$. When the independent variable of the task-involving climate increases by one, sport motivation changes by 36%, holding the other independent variables constant. The task-involving motivational climate contributed to the model of predicting academic motivation with $t=7.120$. A summary of the regression model is presented in Tables 6 and 7.

Table 6

Model Summary – Sport Motivation

Model	R	R^2	R^2_{adj}	F	p	df_1	df_2
1	.629	.396	.384	33.018	.000	6	302

Table 7

Coefficients for Final Model – Sport Motivation

	<i>B</i>	β	<i>t</i>	<i>p</i>
Visibility	.016	.011	.207	.836
Gender	.637	.482	9.549	.000
Task	.495	.359	7.120	.000
EgoAppr	.038	.042	.773	.440
EgoAvoid	-.054	-.071	-1.379	.169
Race	-.246	-.170	-3.442	.001

Overall, this study found that gender (men's and women's sports), race (white and non-white), and the task-involving perceived motivational climate were significant predictors of both academic and sport motivation. Females had higher academic motivation ($M = 4.85$, $SD = .40$) than males ($M = 4.47$, $SD = .67$; see Figure 1). Females had lower sport motivation ($M = 3.95$, $SD = .53$) than males ($M = 4.59$, $SD = .61$; see Figure 2). Additionally, female student-athletes had higher academic motivation than sport motivation and male student-athletes had slightly higher sport motivation than academic motivation. White student-athletes had higher academic motivation ($M = 4.70$, $SD = .59$) than non-white student-athletes ($M = 4.43$, $SD = .59$; see Figure 3). Non-white student-athletes had higher sport motivation ($M = 4.55$, $SD = .66$) than white student-athletes ($M = 4.22$, $SD = .63$; see Figure 4). Additionally, white student-athletes had higher academic motivation than sport motivation and non-white student-athletes had higher sport motivation than academic motivation. Sport visibility, ego approach-involving

motivational climate, and ego avoidance-involving motivational climate were not significant predictors of academic or athletic motivation.

Figure 1. *Female vs. Male Academic Motivation*

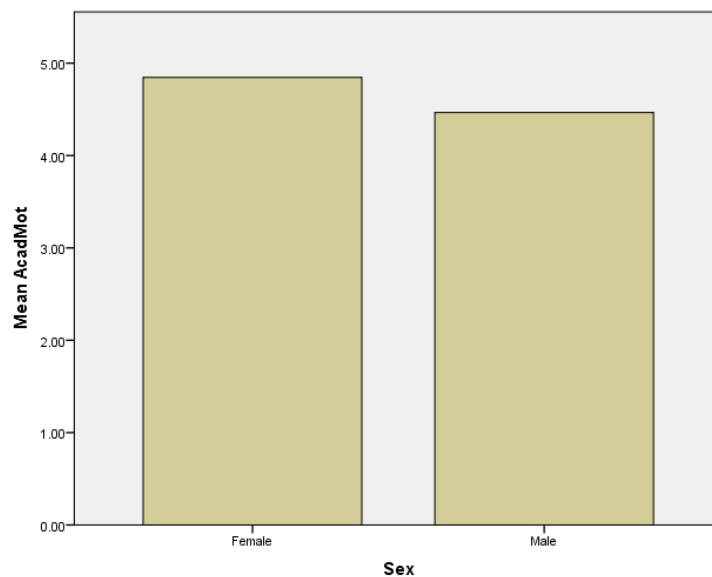


Figure 2. *Female vs. Male Sport Motivation*

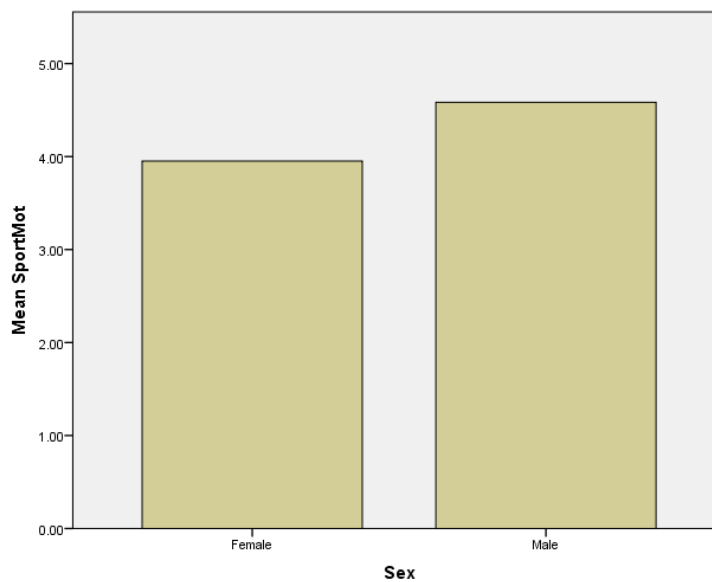
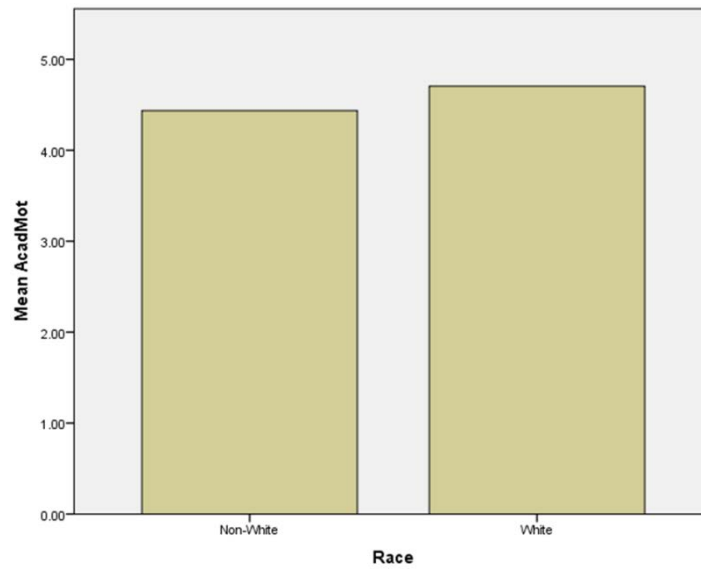
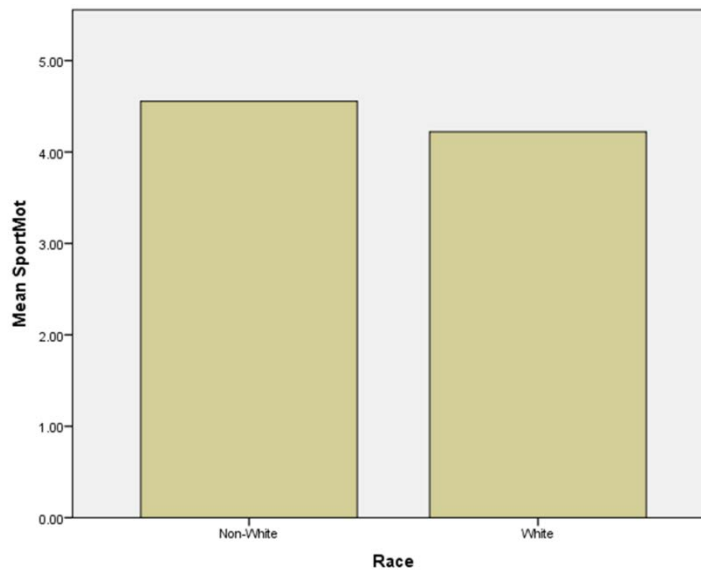


Figure 3. *Race and Academic Motivation*Figure 4. *Race and Sport Motivation*

Although the overall regression model did not find that sport visibility was a significant predictor of academic or sport motivation, further examination of the descriptive statistics show that student-athletes playing highly visible sports had higher sport motivation ($M = 4.57$, $SD = .64$) than academic motivation ($M = 4.44$, $SD = .65$). Student-athletes playing non-highly visible sports had higher academic motivation ($M = 4.73$, $SD = .55$) than sport motivation ($M = 4.20$, SD

= .63). Additionally, participants in highly visible sports had slightly higher sport motivation and lower academic motivation than those in non-highly visible sports (see Figures 5 and 6).

Figure 5. *Highly Visible vs. Non-Highly Visible Academic Motivation*

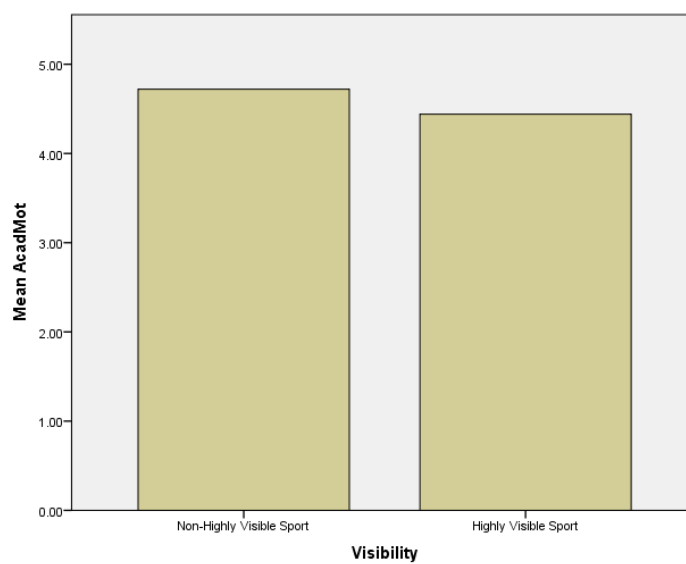
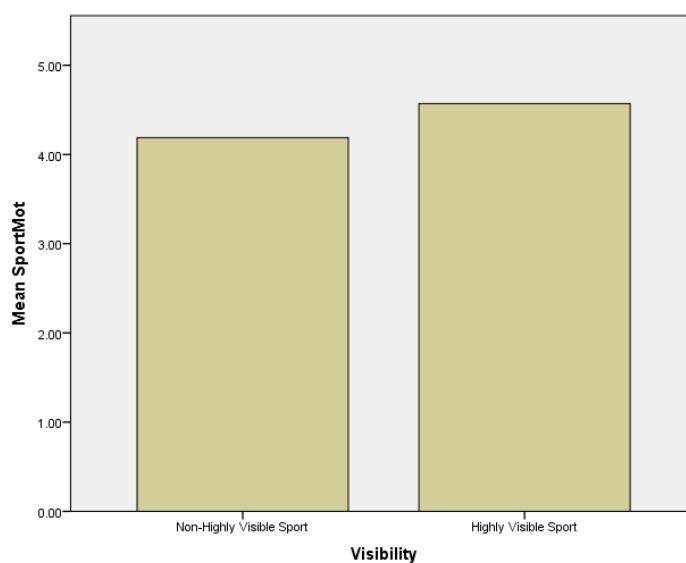


Figure 6. *Highly Visible vs. Non-Highly Visible Sport Motivation*



Interactions between the factors were not examined in this model. That is, specific interactions of the independent variables and the dependent variables were not examined because of the simultaneous nature of the regression model. Future studies might want to examine specific interactions in order to gain a better sense of such the variables and how they interact with one another.

The current study was designed to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and career. Results have suggested that gender, race, and the task-involving perceived motivational climate significantly predicts student-athletes' motivation towards academics and athletics (including career motivation). Table 8 provides a summary of the findings. These results will be helpful to athletic departments, athletic administrators, and student affairs professionals in supporting student-athletes to be prosperous in both academic and athletic settings. The next section will provide an in-depth discussion of the findings, implications for practice and research, and future directions.

Table 8

Summary of Findings

Research Question	Findings
1. Does gender significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?	<ul style="list-style-type: none"> • Gender significantly predicted academic and athletic/career motivation among student-athletes • Males had higher athletic motivation than females • Females had higher academic motivation than males
2. Does sport visibility significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?	<ul style="list-style-type: none"> • Sport visibility does not significantly predict academic and athletic/career motivation among student-athletes
3. Does race significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?	<ul style="list-style-type: none"> • Race significantly predicted academic and athletic/career motivation among student-athletes • White student-athletes had higher academic motivation than non-white student-athletes • Non-white student-athletes had higher athletic motivation than white student-athletes
4. Does the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model?	<ul style="list-style-type: none"> • Task-involving perceived motivational climate does significantly predict academic and athletic/career motivation among student-athletes • Ego-involving Approach and Ego-involving Avoidance perceived motivational climate does not significantly predict academic/athletic/career motivation among student-athletes
5. Taken together, do gender, sport visibility, race, and the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes?	<ul style="list-style-type: none"> • Taken together, the overall model indicates that the IV's significantly predict the DV's • Gender, race, and the task-involving perceived motivational climate significantly predicts academic and athletic/career motivation among student-athletes

CHAPTER V: DISCUSSIONS, IMPLICATIONS, AND CONCLUSIONS

Introduction

The focus of this study was to investigate whether gender (male vs. female sports), sport visibility (highly visible vs. non-highly visible), race (white vs. non-white), or the perceived motivational climate (task/ego-involving) significantly predicts academic or sport motivation. Academic motivation of student-athletes has been an area of concern for researchers, colleges, universities, and the media in the last few years. As such, academic performance of student-athletes has been under a microscope in both the media and the popular literature (Benford, 2007; Meyer, 2005; Pappano, 2012). Further, student-athletes are a unique group of individuals and differ from the traditional college student in that they have to balance both academics and athletics responsibly.

Previous studies have explored the athletic environment in terms of the emergence of leadership, team dynamics, team cohesion, and the motivational climate (Adie, Duda, & Ntoumanis, 2008; Allen, & Howe, 1998; Balaguer, Duda, & Crespo, 1999; Medic, Mack, Wilson, & Starkes, 2007; Tsang, 2007). Other studies have focused more on individual attributes such as motivation to perform and participate, perceived ability, perceived competence, personal satisfaction, enjoyment, and social status (Amorose, & Horn, 2001; Hollembeak, & Amorose, 2005; Reinboth, & Duda, 2004; Sheldon, & Eccles, 2005; Van-Yperen, & Duda, 1999). Although these concepts have been studied extensively in other areas of behavior within different contexts, fewer studies have examined these variables among college student-athletes. Accordingly, it is important to advance our understanding of these attributes within the collegiate student-athlete population as student athletes spend a great deal of time, effort, and energy on

athletic related tasks (Gaston-Gayles, 2004; 2005). This is what the current study sought to fulfill.

Although previous research is limited in the extent to which student-athletes are motivated towards academics and athletics, it is crucial for researchers and leaders in collegiate athletics to understand factors that might influence student-athletes' academic motivation and performance. Based on the most current and relevant research (Carter, 2012; Gaston-Gayles, 2005; Shuman, 2009) and the lack of research in examining differences among groups, this study examined the effects of such variables; namely, motivation towards academics and athletics. More specifically, the purpose of this study was to examine the effects of gender (men's versus women's sports), sport visibility (highly visible versus non-highly visible sports), race (white versus non-white) and perceived motivational climate (task- and ego-involved) on motivation towards academics, athletics, and career. This study sought to examine whether gender, sport visibility, race, and/or perceived motivational climate significantly predicts student-athletes' motivation towards academics, athletics, and/or career.

Findings

Principal Components Analysis

In order to describe the underlying structure that might explain the sets of variables in perceived motivational climate and motivation towards sports, academics, and/or career, factor analysis was conducted. This allowed the researcher to determine the extent to which there was an overlap of measurement or shared variance among the set of variables in each instrument. This also allowed the researcher to determine whether or not the measures for the different variables are actually measuring the common component within the instrument (Mertler & Vannatta, 2010). Upon running the principal components analysis, the underlying, hypothetical

variables or factors, were examined and rotated by determining which variables clustered together. This helped to explain the groupings of variables that are measuring a common construct or component.

Perceived Motivational Climate. The perceived motivational climate was based on Nicholls' (1984) paradigm of achievement motivation. He defines achievement motivation as a way for an individual to develop or demonstrate high ability in two ways: reference to one's own performance or mastery, or reference of oneself relative to others. Individuals perceive success as localized within the task itself or within their own ability. In other words, the task-involved person will define success through the mastery of skills and will therefore gain a sense of competence upon the successful accomplishment of the task. This individual therefore shows characteristics of a task-orientation. The ego-involved person will define success when s/he demonstrates superior performance to others and will also gain a sense of competence when this is achieved; the athlete shows characteristics of an ego-orientation.

Nicholls (1989) went on to find that although peers and parents may contribute to the motivational climate, the coach is often the major influence of the motivational climate and for determining successful performance. When the environment is task-involved, the focus is on the athlete's improvement and successful performance is determined through mastery of the skill. When the environment is ego-involved, the focus is on winning and being the best, and athletes may try to avoid punishments, and sometimes cheat due to the emphasis on winning. The perceived motivational climate is a crucial determinant of perceived success of the individual. The perceived motivational climate often reflects a coach's philosophy on success.

Adopting the task-involving or the ego-involving perspective in achievement activities is based on the theoretical perspective of dispositions in Achievement Goal Theory (Nicholls,

1989) and the characteristics of such achievement (Ames, 1992). Assessments in goal orientation began in the academic setting measuring endorsement of task-orientation or ego-orientation and subsequently in the sport setting, by developing the Task and Ego Orientation in Sport Questionnaire (TEOSQ); (Duda, 1989, 1991, 1992). Motivational climate goal structures, therefore, were then assessed in the educational setting in order to make theoretical distinctions between the task- and ego-involved climates (Ames & Archer, 1988). This led to the development of the Perceived Motivational Climate in Sport Questionnaire (PMCSQ); (Seifriz, Duda, & Chi, 1992) in which similar dimensions of the goal orientations and the perceived motivational climate could be utilized in the sport domain.

To further examine the development of such a multi-dimensional structure to measure the motivational climate in sport, Newton et al. (2000) conducted two studies to expand the original questionnaire and develop the hierarchical measure on the motivational climate that was conceptually needed. Theoretically, the previous goal structures that existed in the aforementioned studies were presumed to influence how individuals judge their ability. Thus, Newton et al. (2000) sought to hypothesize a hierarchical model in which the tenets of achievement goal theory are studied, advancing how the motivational climate is conceptualized. More specifically, the first study expanded the original PMCSQ by developing the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and examined its concurrent validity and reliability. Based on the results of the first study, the Newton et al. (2000) went on to refine the PMCSQ-2 in the second study. They examined its factor structure and sought to determine its internal reliability and concurrent validity. In doing so, the instrument asked participants to think about what the environment is like on their team in general. The stem for each question is “On this team...”. Responses are indicated on a 5-point Likert scale ranging from *strongly*

disagree (1) to *strongly agree* (5). Results will be scored by calculating the mean score for the two respective climates. Thus, athletes may be categorized as perceiving the motivational climate as either task-involving or ego-involving by scoring above the mean.

Factor analysis was conducted in the current study of the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) and results supported Nicholls' (1989) paradigm of the perceived motivational climate being task-involving and/or ego-involving. Additionally, it provided further support for the original work on the instrument. That is, it was originally found that the two respective climates are composites of six underlying characteristics. Task-involving climate items refer to characteristics including a sense that learning is encouraged, each player has important roles on the team, and effort and improvement is the emphasis of the climate. These characteristics all loaded into the task-involving component in the current study. Ego-involving climate items refer to three characteristics including a sense that mistakes are punished, which loaded into the ego-involving avoidance component, recognition by the coach is reserved for top athletes, which loaded into the ego-involving approach component, and that rivalry to perform well among players on the team exists, which did not load into any of the components. Based on the current study's findings, it was therefore theoretically appropriate to identify the three components as task-involving, ego-involving avoidance, and ego-involving approach components. As Newton et al. (2000) suggested, examining the perceived motivational climate's interactions with different situations should be examined further. Thus, the current study further examined what the authors suggest of "the factorial structure of the PMCSQ-2 among both male and female athletes in a variety of sports" (Newton et al., 2000).

Motivation. The concept of intrinsic and extrinsic motivation is frequently associated with success in the educational setting (Deci and Ryan, 1985; Ryan & Deci, 2000). Although

Nicholls' (1984) concept of achievement motivation and the concept of intrinsic and extrinsic motivation (Deci and Ryan, 1985; Ryan & Deci, 2000) are theoretically related, the two variables are conceptually distinct. Further research is needed to clarify this issue in the sport setting. However, the construct of motivation in the current study is theoretically based on the expectancy-value frameworks.

Expectancy-value frameworks have often been used in motivational research in the collegiate athletic setting. Here, motivation definitions include the intensity and direction of behavior (Silva & Weinberg, 1984). Intensity can be referred to as the amount of effort an individual applies to a certain task and direction can be referred to as the choice to pursue such task. Thus, the individual's choice of and effort placed toward a task would signify his/her motivation. Student-athletes have made a choice to participate in both athletics and academics; however, the amount of effort they put forth towards each may vary significantly.

Research utilizing the SAMSAQ defined academic motivation as the student-athlete's desire to excel in tasks related to academics; athletic motivation as the student-athlete's desire to excel in tasks related to athletics (Gaston-Gayles, 2004). Her results revealed significant differences of academic motivation in student-athletes. Gaston-Gayles called for further research utilizing the SAMSAQ in order to expand the literature further validate the SAMSAQ with other populations of student-athletes (Gaston-Gayles, 2005).

The Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ); (Gaston-Gayles, 2004) was used to assess academic and athletic motivation. This instrument was constructed from an expectancy-value motivation framework (Shuman, 2009). Further, achievement motivation theories have a basic assumption that motivation toward a specific task is determined by an individual's choice of, persistence on, and amount of effort

applied to a task (Weiner, 1984). Thus, theoretically speaking, individuals who are highly motivated to approach achievement would give a great deal of energy and time toward successful completion of a specific task. The SAMSAQ was developed to measure student athletes' motivation towards sports and academics based on this expectancy-value framework (Gaston-Gayles, 2004; 2005).

In its early stage, the SAMSAQ was a 30-item instrument to which students responded on a 6-point Likert-type scale from 6 (*very strongly agree*) to 1 (*very strongly disagree*) and was developed to measure academic and athletic motivation of college athletes (Gaston, 2002). The initial scale consisted of 15 items to measure academic motivation and 15 items to measure athletic motivation. Exploratory factor analysis and reliability estimates were conducted to confirm the underlying structure of the initial scale, which led to a rotated three-factor solution (Gaston-Gayles, 2005). Common characteristics for each factor were found, which led to re-naming the factors appropriately. The current SAMSAQ consists of three different subscales: (a) student athletic motivation (SAM) which measures the extent to which participated to pursue their sport (8 items), (b) academic motivation (AM) (16 items) which measures the extent to which an individual participated and was motivated toward academic related tasks, and (c) career athletic motivation (CAM) (5 items) which measures a reflection of the desire to play sports at the professional or Olympic level (Gaston-Gayles, 2005). As such, each subscale measures the extent to which student athletes are motivated toward related tasks. For example, an item on the SAM subscale states, "achieving a high level of performance in my sport is an important goal for me this year" and an AM subscale example states "I am confident that I can achieve a high GPA this year (3.0 or above)" (Gaston-Gayles, 2005, p. 326). Scores for each of the subscales requires reverse coding eight items (items 5, 9, 11, 18, 21, 25, 26, and 30), summing the

responses for each subscale, and calculating the mean score for each subscale. A higher score, therefore, indicates a higher degree of motivation.

While exploratory factor analysis in Gaston-Gayles's (2005) identified three factors, the current study's factor analysis identified two factors, combining sport motivation (SAM) and career motivation (CAM). The academic motivation (AM) items remained the same. These findings suggest that the original version of the SAMSAQ's subscales (Gaston, 2002) were more comparable to those found present in this study. This might be due to the utilization of a different sample from a smaller Division I University. It might also be due to the amount of time in between the two analyses (2005-2014). Further, as Creswell (2005) states, scores from the instrument should be meaningful, make sense, and allow the researcher to draw conclusions from the sample. The results contribute to the generalizability and transferability of the SAMSAQ, which suggests that the instrument should continue to be utilized in further studies with different samples in different contexts as student athletes spend an immense amount of time and energy on athletic related tasks.

Multiple Regression

The findings from this study suggest that the task-involving perceived motivational climate, race (white vs. non-white), and gender (male vs. female sport) are significant predictors in the overall regression model measuring academic motivation and sport motivation. Sport visibility (highly visible vs. non-highly visible sport), ego-involving approach perceived motivational climate, and ego-involving avoidance perceived motivational climate, however, were not found to be predictive of academic or sport motivation. While sport visibility was not significant in the overall regression model, descriptive statistics revealed interesting results in

both academic and sport motivation, which might give way to further investigation into the variable of sport visibility in future studies.

Question one: Gender. Motivation is frequently associated with success, and success contributes to personal growth (Deci & Ryan, 1985; Ryan & Deci, 2000). An athlete is motivated towards personal growth in his/her chosen sport, which in turn is associated with personal success. This study sought to determine whether being a member of a men's versus women's sport (gender) can significantly predict motivation towards academics and/or athletics. The first research question was: Does gender significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model? It was found that gender was in fact a significant predictor of motivation towards both academics and athletics. More specifically, descriptive results revealed that females had higher academic motivation ($M = 4.85$, $SD = .40$) than males ($M = 4.47$, $SD = .67$). Females had lower sport motivation ($M = 3.95$, $SD = .53$) than males ($M = 4.59$, $SD = .61$). Additionally, female student-athletes had higher academic motivation than sport motivation and male student-athletes had slightly higher sport motivation than academic motivation.

In support of the current findings of gender being a significant predictor of motivation, Medic, Mack, Wilson, & Starkes (2007) found that male athletes with scholarships ($M = 4.83$, $SD = 1.01$) reported higher extrinsic motivation than females with scholarships. It follows that this study supports such a concept that male athletes reported higher motivation towards athletics than female athletes. Similarly, Adler and Adler's (1987) and Meyer's (1990) results indicated several similarities and differences among male and female student-athletes. That is, academic disengagement did not emerge among the female student-athletes as it did among their male counterparts. Instead, conditions in their athletic, academic, and social lives actually encouraged

academic achievement among the female student-athletes; they exhibited an increased commitment to academic completion over the course of their degree (Meyer, 1990). As such, this study also found that female student-athletes were more academically motivated than their male counterparts. Such results in both Meyer's (1990) study and the current study revealed interesting insights into the differences between men's and women's teams in intercollegiate athletics.

Another similar study to add substance to the current findings that gender is a significant predictor of academic and sport motivation and unlike the findings that sport visibility does not significantly predict motivation, Simons et al. (1999) used a motivational typology based on self-worth theory and achievement motivation, which was proposed in the earlier work of Covington's (1992) four motivational types: (a) success-oriented; (b) failure-avoiders; (c) overstrivers; and (d) failure-acceptors. Simons et al. (1999) found that those students who were classified as *failure-acceptors* were more committed to their sport than *success-oriented* student-athletes. Additionally, the *failure-acceptor* student-athletes were male and played revenue (highly visible) sports such as football and basketball than the other student-athletes. Since the *failure-acceptors* had little or no interest in academics, motivation towards athletics seemed to be the main factor in attending college. The researchers therefore suggested that the nature of intercollegiate athletics to pressure student-athletes to focus on athletics might lead to a lesser commitment to academics.

Different perspectives of student-athletes might also explain differences between male and female athletes. For example, Abrahamsen et al. (2008) found that male and female elite athletes tended to have similar and different views of the motivational climate. In other words, elite athletes are aware of the differences between a task-involved motivational climate and an

ego-involved motivational climate (although they may not know the specific names of each). Females were more impacted by the motivational climate than their male counterparts in that it caused them to lose concentration more. This may show that the motivational climate does in fact play a larger role in female athletes as opposed to male athletes, which might also explain differences in motivation among athletes.

Additionally, male and female student-athletes might have different beliefs about their ability in either athletics or academics, which could affect differing levels of motivation. For example, the mastery (task) climate was associated with a high level of perceived ability for both male and female athletes, although females tended to show lower perceptions of ability than their male counterparts (Abrahamsen et al., 2008). Therefore, it is important to assess perceived motivational climate, and its relationship to other factors such as motivation and team membership among student-athletes in collegiate settings.

Examining main effects of race/ethnicity, gender, and sport on motivation in Gaston-Gayles' (2004; 2005) study, results indicated that females had significantly higher academic motivation than males ($F = 8.08, p < .01$), males had significantly higher athletic motivation scores than females ($F = 16.64, p = .000$). This was also true in the current study. These findings support further examination into such factors, as the author suggests that "perhaps the most meaningful application of the scale might be as an assessment of student athletes' motivation" (Gaston-Gayles, 2005, p. 324).

Gaston-Gayles' (2004; 2005) research was instrumental in academic and athletic motivation in intercollegiate athletics. Research utilizing her constructs is limited, however. Similar to the current findings, Carter's (2012) examination of the motivations toward both academics and athletics of student-athletes at a Division I university demonstrated that

motivational orientations of student-athletes differed when accounting for gender. Moreover, Shuman's (2009) dissertation assessed 275 Division I student-athletes' motivation towards athletics, academics, and careers by utilizing Gaston-Gayles' (2004) SAMSAQ. Similar to the current study's results, Shuman (2009) found that female student-athletes were more likely to be academically motivated than male student-athletes, which was also similar to Simons et al.'s (1999) findings that female student-athletes were better able to balance athletics and academics than male student-athletes. This study also found that gender significantly predicted academic and athletic motivation. Specifically, female student-athletes were more academically motivated than male student-athletes and male student-athletes were more athletically motivated than female student-athletes.

Question two: Sport visibility. The second research question was: Does sport visibility significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model? Although the regression model did not find that sport visibility was a significant predictor of academic or sport motivation, descriptive results were examined further. As Simons et al. (2007) mentions, when coaches focus more on athletics (as most normally do in highly visible sports), athletes tend to have the same perception of the importance of athletics. Therefore, further examination of the descriptive results showed that student-athletes playing highly visible sports had higher sport motivation ($M = 4.57$, $SD = .64$) than academic motivation ($M = 4.44$, $SD = .65$). Student-athletes playing non-highly visible sports had higher academic motivation ($M = 4.73$, $SD = .55$) than sport motivation ($M = 4.20$, $SD = .63$). Participants in highly visible sports had slightly higher sport motivation and lower academic motivation than those in non-highly visible sports. Thus, this variable should be explored further in future investigations.

Similarly, Simons et al. (1999) found that student-athletes in highly visible sports such as football and basketball than the other student-athletes were more athletically motivated. More specifically, those student-athletes in highly visible sports had little or no interest in academics, which led the researchers to conclude that motivation towards athletics seemed to be the main factor in attending college for student-athletes in highly visible sports. The researchers therefore suggested that the nature of intercollegiate athletics to pressure student-athletes to focus on athletics might lead to a lesser commitment to academics. Such findings, along with the current study's findings, should be explored further.

Question three: Race. The third research question was: Does race significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model? Results revealed that race was a significant predictor of both academic and athletic motivation among student-athletes. Descriptive statistics revealed that White student-athletes had higher academic motivation ($M = 4.70$, $SD = .59$) than non-white student-athletes ($M = 4.43$, $SD = .59$). Non-white student-athletes had higher sport motivation ($M = 4.55$, $SD = .66$) than white student-athletes ($M = 4.22$, $SD = .63$). Additionally, white student-athletes had higher academic motivation than sport motivation and non-white student-athletes had higher sport motivation than academic motivation. The NCAA reports further support this notion as athletes have reached an all-time high graduation rate of 60%, according to the National Collegiate Athletic Association (NCAA), which was higher than the national average for the nonathletic population (58%; NCAA, 2002). The most recent release of Division I men's basketball and Bowl Subdivision football graduation rates indicated a new record high graduation rate that reached or exceeded 70% (NCAA, 2012). Despite these high numbers, not all subgroups of athletes are graduating at the nationally published rates. For example, White basketball and

football players graduated at a rate of approximately 20% higher than did Black basketball and football players in the last ten years (NCAA, 2012; NCAA, 2002). Differences in student-athletes' academic performance warrants additional investigation.

In further support to examine race as a predicting variable for motivation, recent research suggests that minority student-athletes are less academically prepared when entering college (Gaston-Gayles, 2004; Hrabowski, 2002). Additionally, minority student-athletes exhibited less academic motivation than White student-athletes. Such findings potentially explain the discrepancies in the graduation rates previously mentioned. As Harrison and Lawrence (2003) mentioned, student-athletes entering college with a perception that athletics will be valued on campus, which should therefore be the priority. In their examination of male and female Black student-athletes at a Southeastern institution impacting the perception of the career transition process, Harrison and Lawrence (2003) found that participants often over-committed to their identity as an athlete. That is, although less than two percent of student-athletes will play professionally, many student-athletes believed that college athletics was not the end of their athletic career (Harrison & Lawrence, 2003). Such characteristics should be explored further as they could warrant interesting results from utilizing the SAMSAQ with student-athletes.

In further support of exploring race as a possible predictor of motivation, interesting results from student-athletes at Division I Institutions revealed that White athletes less favorably responded to the desire to play professionally than did Black athletes, which suggested that race might have an impact on motivation (Snyder, 1996). Although the results provided some important indications about differences in motivation between Black and White student-athletes, such as how Black student-athletes were more motivated to play professional sports than White

student-athletes, the findings did not provide the expected understanding of how motivation affected academic performance. As such, it should be explored in future studies.

On the other hand, similar to the current study's findings, Sellers (1992) focused on racial differences and the predictors of academic performance and found that academic motivation was not an accurate predictor of academic success in male basketball players and football players at 42 different Division I institutions. Sellers' (1992) results, however, did not take into account the variables that Simons et al. (1999) and Simons and Van Rhee'n's (2000) did, which were operative at predicting academic performance. Further investigation and exploration is therefore needed as there continue to be conflicting findings when it comes to race.

Question four: Perceived motivational climate. The fourth research question was: Does the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes, controlling for other variables in the model? Perceptions of the motivational climate are an influence on the athlete's determination of success (Nicholls, 1989). The motivational climate often reflects a coach's philosophy on success. In the current study, the perceived motivational climate was examined to see whether or not it significantly predicted academic or athletics motivation. When the climate is task-involved, the focus is on the athlete's improvement and successful performance is determined through mastery of the skill. In support of the hypothesis, this task involvement significantly predicted student-athletes' motivation towards both academics and athletics. That is, when the motivational climate was perceived to be focused on improvement and successful performance by mastering the skill, participants had more motivation towards academics and athletics. In Expectancy-value theory of motivation, an individual's self-concept about their ability to complete a task successfully, along with the level of difficulty associated with such task influences the probability, or expectancy of success

(Eccles, 1983). Additionally, an individual will place a value on a specific task, which is a utility of the extent to which the task satisfies a need, aids in current goal attainment, and is important in fulfilling a future goal. The results of this study further support such a concept in that student-athletes have motivation toward both academics and athletics when the focus of the motivational climate is on the task itself.

When the climate is ego-involved, the focus is on winning and being the best player (ego approach), and athletes may try to avoid punishments (ego avoidance). Both components of ego-involvement did not significantly predict student-athletes' motivation towards academics or athletics. As Eccles (1983) postulates, expectancy is influenced by the individual's perception about their capability to successfully complete a task and the level of difficulty associated with completing the task. The value, therefore, attached to a task is a function of the extent to which the task fulfills a need, aids in current goal attainments, and is important in fulfilling a future goal. As such, the ego-involving motivational climate might not have aided in placing a value on motivation towards academics or athletics in this study.

As previously mentioned, the perceived motivational climate can cause perceptions of competence or motivation in athletes to fluctuate. As Balaguer, Duda, and Crespo's (1999) results demonstrated, perceived motivational climate may predict levels of perceived competence and motivation in the athletes and supports research in determining how a task-involved climate is beneficial to the motivation of athletes (Dweck, 1986; Nicholls, 1989). Ntoumanis (2001) added to the support of the current findings when he found that task-involved individuals possessed both high intrinsic motivation and perceived competence.

Deci and Ryan's (1985) concepts in competence motivation in which individuals have an innate need to be competent in attempts of success, much of the research in student-athletes'

motivation towards academics is influenced by Vroom's (1964) Expectancy Theory of Motivation to inform how researchers measure and predict academic performance in college student athletes. Using this model, student-athletes' motivation focuses on the reward, such as obtaining a college degree, much like the extrinsic motivation that Harter's (1978) model explains. Further, some college student-athletes might be intrinsically motivated towards academics due to a belief of their capability of accomplishing the task (similar to task-orientation), and others will be extrinsically motivated due to an awareness of the value of completing a college degree (similar to ego-orientation).

Additional corroboration with the current study's findings was demonstrated when Hollembeak and Amorose (2005) found that perceived competence was influenced by motivation ($r = .78, p < .05$) in their sample of male and female ($N=280$) student-athletes in Division I sports. Additionally, similar to Allen and Howe's (1998) and Reinboth and Duda's (2004) findings, when positive feedback from the coach was perceived to be the highest level of feedback, perceived competence increased ($p < .05$). An athlete with a high level of perceived competence shows continual high levels of motivation when reinforced by positive feedback from the coach. Thus, the motivational climate exhibited by coach's feedback can relate to fluctuating levels of motivation, which was confirmed in the finding that task-involving climates significantly predicted academic and sport motivation in the current study.

Amorose and Horn (2001) reinforces the current findings of task-involvement being a significant predictor of motivation as indicated in their results that athletes who perceived positive coaching behaviors (Instruction, $M = 3.73$, $SD = 0.58$; Positive feedback, $M = 3.63$, $SD = 0.87$) resulted in higher motivation from pre-season to post-season. It was also found that the athletes who perceived their coaches as exhibiting a task-involved climate ($M = 2.76$, $SD = 0.93$)

increased their intrinsic motivation. In other words, these athletes believed in the ability to improve and exhibit a sense of success through mastery of skills in the future and were motivated to work towards improvement.

In Hollembeak and Amorose's (2005) study, results indicated that there was a strong correlation between coaching style and players' motivation. Namely, all types of coaching styles positively predicted motivation because the perceptions of the motivational climate can influence the athlete's perception of ability to perform well, which is a factor in motivation. This is comparable to the current finding the task-involved perceived motivation climate significantly predicted motivation. As was found in Medic et al.'s (2007) and Amorose and Horn's (2001) research, the motivational climate created by the coaching style was shown to have the strongest effect on intrinsic motivation, thus emphasizing the importance of perceived motivational climate on an athlete's motivation.

Overall, student-athletes who perceived the task-involving climate to be higher, academic motivation was higher than their athletic motivation. Additionally, when the task-involving climate was perceived to be lower, the overall scores of both academic and athletic motivation were also lower than when the task-involving climate was perceived to be higher. This shows a positive relationship of perceptions of the task-involving climate, which was also revealed in the correlations. Although the ego-involving approach motivational climate was not found to be a significant predictor of academic or athletic motivation, the correlations revealed that an inverse relationship was present. Further investigation involving perceptions of the motivational climate and academic and athletic motivation among other student-athletes at different institutions of different sizes and demographics would be needed to draw more firm conclusions and any possible trends and/or differences.

Question five: Overall Model. The final question was: taken together, do gender, sport visibility, race, and the perceived motivational climate significantly predict academic/athletic/career motivation among student-athletes? The overall model indicated that gender, race, and the task-involving motivational climate significantly predicted academic and athletic motivation among student-athletes. Since motivation is associated with feelings of personal growth (Ryan & Deci, 2000), it follows that student-athletes are choosing to participate in their sport, creating a sense of motivation. Much of the research in student-athletes' motivation towards academics is influenced by Vroom's (1964) Expectancy Theory of Motivation to inform how researchers measure and predict academic performance in college student athletes. Using this model, student-athletes' motivation focuses on the reward, such as obtaining a college degree, much like the extrinsic motivation that Harter's (1978) model explains. Further, some college student-athletes might be intrinsically motivated towards academics due to a belief of their capability of accomplishing the task (similar to task-orientation), and others will be extrinsically motivated due to an awareness of the value of completing a college degree (similar to ego-orientation). However, as some of the previously mentioned research suggests, there is a strong perception that student-athletes continue to be athletically motivated as student-athletes are confident in their natural abilities to excel in athletics, as opposed to academics (Engstrom et al., 1995; Fuller, 2011; Sailes, 1996). Conversely, student-athletes who do not believe in their skills academically, or who do not value academics may not be motivated to succeed academically, which may cause them to focus more on athletics instead of academics. Taken together, gender and the task-involving motivational climate are the only variables in the current study that significantly predicted academic and athletic motivation among student-athletes.

Reasons for motivation toward academics and/or athletics may vary among participants in men's and women's sports. As levels of motivation for such participants were suggested to be explored further to draw more firm conclusions and generalizations by conducting similar studies with different samples (Ryan & Deci, 2000), in the current study, gender was found to significantly predict motivation towards both academics and athletics. Adding substance to the current findings, Gaston-Gayles' (2004; 2005) examined an overall model that included race/ethnicity, gender, and sport visibility. Her significant results also indicated that females had significantly higher academic motivation than males and males had significantly higher athletic motivation scores than females. This was also true in the current study. Additionally, Shuman (2009) found that female student-athletes were more likely to be academically motivated than male student-athletes, which was also similar to Simons et al.'s (1999) findings that female student-athletes were better able to balance athletics and academics than male student-athletes.

The literature and the current study's findings add to discussion about what factors predict academic motivation and performance for student-athletes. Race and gender are social and cultural issues that should be examined further. For example, Gaston-Gayles' (2004) findings suggest that White student-athletes with higher ACT scores and academic motivation had higher GPAs than minority student-athletes with lower ACT scores and academic motivation. Minority basketball and football players have consistently lower graduation rates (NCAA, 2012) and are less academically prepared than white players (Hrabowski, 2002). As minority student-athletes typically enter college with less academic preparation, the motivation towards academics add to the academic problems of such student-athletes in college.

Additionally, these minority student-athletes, along with their male counterparts receive much different messages about sports and the pursuit of a career in athletics than female student-

athletes. Harrison and Lawrence (2003) found that participants often over-committed to their identity as an athlete. That is, although less than two percent of student-athletes will play professionally, many student-athletes believed that college athletics was not the end of their athletic career (Harrison & Lawrence, 2003). More specifically, although only 1.7% of football players, 1.2% of men's basketball players, and 1.3% of men's hockey players go on to play professionally, several male student-athletes receive messages of an "ideal" of playing professional throughout their youth and when entering college (NCAA, 2012). Females, on the other hand, rarely pursue a professional career in athletics (only 0.7% of women's basketball players and far less for any other sport; NCAA, 2012) and do not typically receive messages of playing professionally in their youth and when entering college. This might explain why previous research and this study shows that female student-athletes are less athletically motivated and more academically motivated than their male counterparts.

Popular culture in the aforementioned situations increases student-athletes motivation toward either academics or athletics (Comeaux & Harrison, 2011). Images in the media of successful male student-athletes who play professionally are a part of such use of popular culture. Additionally, the use of popular culture to show female student-athletes examples of relevant issues in college academics have given them ownership of their learning and academic pursuit (Comeaux & Harrison, 2011). Such ownership can lead to higher levels of motivation towards academics for female student-athletes. Additionally, race, gender, and the level of competition have historically been found to be associated with academic success (Eitzen, 1988). More specifically, male student-athletes performed at lower levels academically than other athletes and female student-athletes exhibited academic preparation and performance more similar to non-athletes and far better than their male counterparts (Eitzen, 1988). These findings

have remained consistent over the last 25 years (Adler & Adler, 1991; Carter, 2009; Comeaux & Harrison, 2011; Gaston-Gayles, 2004; NCAA, 2002, 2012; Pascarella et al., 1999; Sellers, 1992; Shuman, 2011; Simons et al., 1999) and add substance to the current study's findings that both females and white student-athletes are descriptively more academically motivated than males and non-whites.

Motivation should also be explored using conceptual and theoretical frameworks. Expectancy-value frameworks have often been used in motivational research in the collegiate athletic setting. Here, motivation definitions include the intensity and direction of behavior (Silva & Weinberg, 1984). Intensity can be referred to as the amount of effort an individual applies to a certain task and direction can be referred to as the choice to pursue such task. Thus, the individual's choice of and effort placed toward a task would signify his/her motivation. Student-athletes, therefore, have made a choice to participate in both athletics and academics; however, the amount of effort they put forth towards each might vary significantly. This study's findings support such variation among student-athletes. Specifically, this theoretical concept can be related to the perceived motivational climate in that the student-athlete perceives an emphasis on how much effort should be put forth towards a specific task. In the task-involving climate, therefore, the emphasis is on improvement and learning is encouraged. It follows, therefore, that this study's results revealed that the task-involving motivational climate significantly predicted student-athletes' motivation towards both academics and athletics. Additionally, the ego-involving approach and avoidance motivational climate did not significantly predict motivation towards academics or athletics, which suggests that when the emphasis is on avoiding mistakes or trying to achieve the highest status on the team, student-athletes' motivation towards academics and/or athletics cannot be predicted.

Prior research has suggested that athletics and academics make for a negative combination that leads to lower grade point averages, graduation rates, and difficulty formulating educational goals and motivation in student-athletes compared to their non-athletic counterparts (Purdy, Eitzen, & Hufnagel, 1982; Sowa & Gressard, 1983). As Harrison and Lawrence (2003) mentioned, student-athletes entering college with a perception that athletics will be valued on campus, which should therefore be the priority. The results of this study suggest that when student-athletes perceive a task-involved motivational climate in which the focus is on the sense that learning is encouraged and effort and improvement are the emphasis, both academic and athletic motivation will follow. The results also suggest that individual differences and characteristics (such as gender and race) should be a focus for leaders in the collegiate setting when attending to student-athletes' motivation towards both academics and athletics.

Implications for Practice and Future Research

This study has several potential implications for leaders in intercollegiate athletics including those among universities, athletic departments, academic support personnel and coaches. Additionally, there are several implications for future research utilizing such variables and constructs. As such, specific findings were that gender and the task-involving motivational climate are significant predictors of student-athletes' motivation towards both academics and athletics.

Practice

This study provides support for the need to monitor the perceptions of the motivational climate and the academic and sport motivation of collegiate athletes. Each member of the team contributes to the success of the team and the reality of the athlete's characteristics can affect motivation to contribute both to the success of the team and in the classroom. While this study

focused on the coach in the motivational climate, taking into account the entire team in motivational climate may bring a better understanding to the findings as well. Coaches and athletes both need to be aware of the differences among individuals and valuing the contributions of each player. The interaction of the coach and players on the team plays a large part in the perceived motivational climate. This evaluation may be essential to improving the performance and overall success of the team and the student-athletes on it. Additionally, since the task-involving climate significantly predicted both academic and athletic motivation, coaches could use this information to provide a more task-involving motivational climate in their practice.

The results from this study, along with the research involved, provide insight and information about practical considerations concerning academic motivation in college student-athletes. For example, it is helpful to confirm that student-athletes participating in men's and women's sports, along with student-athletes of different races differ in the significant prediction of academic motivation. As such, male and female student-athletes should be monitored as individuals in levels of motivation towards academics and athletics. Faculty members, along with student-athlete services members might provide more support for student-athletes. As Comeaux and Harrison (2011) explain, faculty who provided support for student-athletes such as letters of recommendation, encouragement for graduation and graduate school, and help in achieving academic and personal goal made relatively strong contributions to both male and female student-athletes' academic success. This method of providing intensive support provides evidence that academic success can be achieved for both males and females.

It is also helpful to note that those athletes who perceive a task-involved motivational climate serve as a significant predictor of academic and sport motivation. Several Division I institutions already have an academic support program in place for student-athletes

(Holsendolph, 2006), but these findings provide evidence that administrators should not only continue this practice, but also increase their awareness in individual differences among student-athletes. For example, administrators might approach members of men's and women's sports differently, giving specific attention to individuality. These results can also support requests for increased hiring and staffing in student-athlete service departments to adequately suit the needs and requirements of student-athletes' motivation.

Finally, while athletic demands placed on student-athletes are very time-consuming, empowering student-athletes to work toward balancing academic and athletic demands throughout their undergraduate career remains a practical implication. Members of student-athlete services and student affairs should recognize that the level of academic investment among college coaches and other stakeholders who frequently interact with student-athletes have a considerable amount of influence on their success and motivation. More specifically, student-athletes in highly visible or men's sports in which coaches are receiving the message to win (or lose their job) might receive messages of higher motivation towards athletics than academics. As such, attention should be given by student-athlete services and other academic support services to potentially influence student-athletes' motivation towards academics, especially those in different sports with different cultural backgrounds.

Future Research

Likewise, there are several research implications of this study. These results contribute to the body of research that supports further investigation into the academic and sport motivation in college student-athletes (Gaston-Gayles, 2004; Simons & Van Rheened, 2000; Simons et al., 1999; Snyder, 1996). The findings also contribute to the generalizability and further exploration of the factor structures of both the PMCSQ-2 and the SAMSAQ. Refining each instrument to

better reflect the constructs of the variables would be beneficial. Additionally, published work utilizing the SAMSAQ continue to be non-existent since Gaston-Gayles' (2004, 2005) investigation at a large, Division I institution. Utilizing this measurement of motivation in different populations that have different student-athletes in different contexts would contribute to the reliability and validity of the instrument and the overall understanding of its constructs. Although some of the findings from this study were similar to Gaston-Gayles' (2004), Carter's (2012), and Shuman's (2009) results, the differences and further results provide evidence that increasing the use of the instrument and the number of times of administration to student-athletes from varying institutions would provide added substantiation of validity and generalizability of the SAMSAQ.

It should follow that Vroom's (1964) Theory continues to help advise how researchers measure and predict academic motivation in college student-athletes. For example, based on this theoretical approach, student-athletes focus on the reward (i.e., college degree) and decide whether or not to approach the task (academics) depending on their perceived skills and energies needed to fulfill the task. Some student-athletes, therefore, will be more academically motivated due to a belief that they are capable of accomplishing the task and their appreciation of the value of completing the task (i.e., obtaining the college degree). It is important to recognize that this belief system might also be affected by the emphasis or value the coach and/or leader is placing on the task; hence, the perceived motivational climate could also be playing a part here. Conversely, student-athletes motivation towards academics and athletics cannot be predicted if they believe that the greater value is placed on the importance to excel in athletics.

Finally, several variables should continue to be investigated. In particular, sport visibility and/or race should be investigated further as results might be revealed as significant in different

institutions. Additionally, the literature has provided systematic techniques to uncover new information about specific accessible populations in order to be able to generalize to large, target populations. That is, in the area of intercollegiate athletics, researchers have often drawn their sample from the accessible population of a geographic area or a specific Division of the NCAA in order for a generalization to the overall population of student-athletes in the United States. Thus, it has been widely accepted to employ quantitative research methods to investigate the pervasiveness specific topics. As such, a qualitative or mixed-methods investigation might provide further insight into the unique experiences of student-athletes and their identities. Further, with such a vast amount of distinction among student-athletes at Division I institutions being present across the United States, it is crucial to continue the investigation of the relationships among similar and differing variables in different contexts.

Limitations/Future Directions

Several limitations were present within this study that should be noted. One important limitation is the sample of the study. Although the high response rate delivered an accurate depiction of the student-athletes at this particular university, it is crucial to recognize that this sample is, in fact, from just one institution. Teams in different areas and conferences with players of varying skill levels may differ for each variable tested. Further, the size of the institution is smaller than the well-known, larger Division I institutions. The characteristics of the student-athletes in the sample, therefore, are very different from larger Division I institutions. Moreover, as a result of having the sample obtained from a single university, the ability to generalize to other institutions is limited. Thus, future studies should replicate similar procedures utilizing different sample sizes and characteristics at different institutions.

Another limitation was the timing of the data collection. Since data collection occurred over a brief period of time during the Spring 2014 semester, some teams were out of season, some teams were in season, and some teams were pre-season. Due to this cross-sectional nature of the study, it would be interesting to examine similar variables in similar ways during other time points before, during, or after a team's season. Interaction and/or the predictive nature of the variables could potentially provide different or more detailed results. Examining such interactions of the variables might also bring further insight into the predictive nature of the independent variables on motivation towards academics and athletics. Administering the SAMSAQ at a single point in time also does not take into account the possible fluctuating levels of motivation throughout a student-athletes' academic and athletic careers. Thus, a longitudinal study would be appropriate to explore such levels of motivation.

As previously mentioned, it has been widely accepted to employ quantitative research methods to investigate the pervasiveness specific topics such as the perceived motivational climate (utilizing the PMCSQ-2) and motivation towards academics and athletics (utilizing the SAMSAQ). As such, a qualitative or mixed-methods investigation might provide further insight into the unique experiences of student-athletes and their identities. Utilizing different methods of investigation might bring further insight into not only the varying levels of motivation among student-athletes, but the meaning (why) behind such differences. Future research should consider the use of such approaches.

Finally, as was previously mentioned, the data were collected at team meeting for the sixteen sports at this university. Of the accessible sample, 310 student-athletes were present at the meetings, and each participant completed and returned a complete questionnaire packet, resulting in a 100% response rate. However, there were approximately 50 student-athletes from

some teams who were not present at the team meetings. This was due to those individuals attending classes, other meetings, graduating, or other various reasons such as dropping out of intercollegiate athletics. It is therefore possible that these individuals who were not present and did not participate might vary in a significant way from the participants who were a part of the sample. Future research is needed to examine more samples of student-athletes with similar and different characteristics than that of the sample in the current sample. Additionally, efforts should be made to ensure responses being collected from the entire team (including those who might miss a particular meeting). Adapting the procedures of the data collection process can assist in this.

Conclusion

Due to the nature of intercollegiate athletics, it continues to be important to use research methods to address gaps in and expand on the knowledge we already have. Thus, this study has attempted to not only replicate and add to the knowledge base of student-athletes' perceptions of the motivational climate and their motivation towards athletics and academics, but its quantitative findings can also be used to help inform athletic and student affairs administrators about academic and athletic motivations of student-athletes. As several researchers in this field have suggested, it is important to further the understanding of what motivates student-athletes to perform both athletically and academically.

This examination of student-athletes at a small Division I university in the Midwest has revealed that gender (men's vs. women's sports), race (white vs. non-white), and a task-involving perceived motivational climate significantly predicts motivation towards academics and athletics. Although there were no significant findings of sport visibility significantly predicting such motivation, descriptive scores would indicate that there is cause to explore such a

variable further. Results also indicated that the factor structures of the PMCSQ-2 and the SAMSAQ should be explored further.

While there is limited research being done in examining variables that might predict academic and sport motivation, this study provided some evidence for the need to continue examining such variables. The results can be helpful to athletic departments, athletic administrators, and student affairs professionals in supporting student-athletes to be prosperous in both academic and athletic settings. If opportunities can be created for student-athletes to transfer their athletic skills and motivation to the classroom, then student-athletes might rise to the occasion of academic achievement. Further investigation could provide researchers, administrators, and coaches with a better understanding of how to maximize the potential of student-athletes.

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APPENDIX A: Athletics Committee Approval

January 21, 2014

MEMORANDUM

To: Margaret Tudor
Doctoral Student
School of Leadership and Policy Studies

From: Lee A. Meserve
For the ICA Research Subcommittee

Re: Your Proposal to Do Research Using Student-Athletes
Project title: Predicting Student Athletes' Motivation Towards Academics and Athletics.

The Intercollegiate Athletics Committee Research Subcommittee has reviewed your proposal to use BGSU student-athletes as subjects for the survey research project for your doctoral degree, the title of which is mentioned above. The ICA Research Subcommittee approves your use of student-athletes to collect data by means of your survey instrument for this project. Best wishes for successful collection of data and information. The Intercollegiate Athletics Committee Research Subcommittee would be interested in your findings, and would request that you provide us with a summary of the findings of this study at its completion.

cc: Hillary Snyder, Compliance Office
ICA Committee Research Subcommittee
Chris Kingston, Director of intercollegiate Athletics
William Ingle, Doctoral Advisor

APPENDIX B: Recruitment/Information Letter to Coaches

Recruitment/Information Letter

Project Title: Predicting Student Athletes' Motivation Towards Academics and Athletics [546023]

Researchers: Margaret L. Tudor, Graduate Student, Leadership Studies
W. Kyle Ingle, Associate Professor, School of Educational Foundations,
Leadership & Policy

Dear Coach,

I would like to request your permission to allow student-athletes from your team to participate in a research study examining the perceived motivational climate, motivation towards academics, and motivation towards athletics. Student-athletes' involvement in this study includes filling out questionnaires included in a packet given to them. The estimated completion time of all questionnaires is about 20-30 minutes. This is a one-time completion of the questionnaires, and their participation is completely voluntary.

All data provided as a participant in this study will be kept in a locked file cabinet in a locked room to protect the confidentiality of team and student-athlete identity, and only the researchers will see the data that is provided. Each envelope given to student-athletes is labeled with two numbers to assist the researcher in analyzing the data; the first number is for the sport and the second number is for the specific questionnaire packet. Any reference or identification to teams or individual student-athletes is only through the number given on the envelope of the packet of the questionnaires, which will ensure confidentiality and anonymity of the participants. There is minimal or no risk associated with participation in this study, and a goal of this study is to provide information on personal characteristics of collegiate athletes, which may be used to make the athletic experience in college more positive.

If I have any questions about this study, feel free to contact Margaret Tudor (419-705-9945 or mtudor@bgsu.edu), or W. Kyle Ingle (419-372-7313 or wingle@bgsu.edu). You may also contact the Chair, Bowling Green State University's Human Subjects Review Board, 419-372-7716 or hsrb@bgsu.edu, with questions or concerns about the rights of research participants.

Student-athletes will be informed of the following:

- I must be over the age of 18 in order to participate in this study,
- All information that I provide will be confidential,
- My decision to participate in this study is entirely voluntary and will have no impact on my coach or playing status on this team,
- I may withdraw consent and terminate participation at any time during the project,
- I have been informed of the procedures that will be requested of me,
- A copy of this informed consent document will be provided to me, and Upon request, I will receive a summary

APPENDIX C: Recruitment Script

Recruitment Script for Athletes

Research Group: Margaret Tudor, Graduate Student, Leadership Studies
W. Kyle Ingle, Associate Professor, School of Educational Foundations,
Leadership & Policy

I am conducting a research study about the perceived motivational climate, motivation towards academics, and motivation towards athletics. The study will be comprised of a sample of student-athletes from the MAC. Names will not be used and participation will be completely voluntary. The procedure of this study involves a one-time series of questionnaires and will take about 20-30 minutes to complete. The benefit of this study will be to raise awareness of any personal or situational characteristics that are related to the student-athlete experience.

All data that you provide will be kept in a locked file cabinet in a locked room, and only the researchers will see the data that you provide. Fellow players or coaches will not see responses to any questionnaires. Any reference or identifying feature to you will be solely through the number on your envelope and questionnaire packet. Your participation in this study is entirely voluntary, and you may withdraw consent and terminate participation at any time during the project without penalty. Your decision to participate or not participate in this study will have no impact on your playing status or coach in any way.

Student-athletes participating in this study will remain anonymous and confidential by keeping questionnaires in the envelopes given to you. Once you are finished, you may seal the envelope with questionnaires inside to ensure safety of your answers. If you would like more information about this study, please contact Margaret Tudor by phone (419-705-9945), or e-mail (mtudor@bgsu.edu).

APPENDIX D: Informed Consent



BOWLING GREEN STATE UNIVERSITY

School of Educational Foundations, Leadership and Policy Studies
Educational Administration and Leadership Studies

Project Title: Predicting Student Athletes' Motivation Towards Academics and Athletics

Participant Informed Consent Form

Researchers: Margaret L. Tudor, Graduate Student, Leadership Studies
W. Kyle Ingle, Associate Professor, School of Educational Foundations,
Leadership & Policy

I have been asked to participate in a research study examining the perceived motivational climate, motivation towards academics, and motivation towards athletics in a sample of Division I student-athletes. My involvement in this study includes filling out questionnaires included in the packet given to me. The estimated completion time of all questionnaires is about 20-30 minutes. This is a one-time completion of the questionnaires, and my participation is voluntary.

All data that I provide as a participant in this study will be kept in a locked file cabinet in a locked room to protect the confidentiality of my identity, and only the researchers will see the data that I provide. It has been explained that any reference or identification to me is only through the number given to me on the envelope of the packet of the questionnaires. I have been informed that there is minimal or no risk associated with participation in this study, and a goal of this study is to provide information on personal characteristics of collegiate athletes, which may be used to make the athletic experience in college more positive.

If I have any questions about this study, I may contact Margaret Tudor (419-705-9945 or mtudor@bgsu.edu), or W. Kyle Ingle (419-372-7313 or wingle@bgsu.edu). I may also contact the Chair, Bowling Green State University's Human Subjects Review Board, 419-372-7716 or hsrb@bgsu.edu, with questions or concerns about my rights as a research participant.

My signature below indicates that I have been informed:

- I must be over the age of 18 in order to participate in this study,
- All information that I provide will be confidential,
- My decision to participate in this study is entirely voluntary and will have no impact on my coach or playing status on this team,
- I may withdraw consent and terminate participation at any time during the project,
- I have been informed of the procedures that will be requested of me,
- A copy of this informed consent document will be provided to me, and
- Upon request, I will receive a summary of the findings of this study.

INITIALS/SIGNATURE

Date

APPENDIX E: Demographics Questionnaire

Demographics Questionnaire

Directions: Please answer the following questions by circling the best answer based on your opinion and understanding of your role on the team *at the present time*.

What is your age? _____ years old

What is your sex? Male Female

What is your race? _____

What sport do you play? _____

What year in college are you? Freshman Sophomore Junior Senior

Have you been red-shirted? Yes No

What is your current scholarship status? Full Partial None

How many years have you played on this team? 0-1 2 3 4 5+

How would you classify your role on this team? Starter Non-Starter

APPENDIX F: Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2)

Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2)

Directions: Please think about how it has felt to play on your team this season. What is it usually like on your team? Read the following statements carefully and respond to each in terms of how you view the typical atmosphere on your team. Perceptions naturally vary from person to person, so be certain to take your time and answer as honestly as possible. Circle the number that best represents how you feel.

Note: Each item is responded to on a 5-point Likert-type scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

	<i>SD</i>		<i>N</i>		<i>SA</i>
1. On this team, the coach wants us to try new skills.	1	2	3	4	5
2. The coach gets mad when a player makes a mistake.	1	2	3	4	5
3. The coach gives most of his or her attention to the stars.	1	2	3	4	5
4. Each player contributes in some important way.	1	2	3	4	5
5. The coach believes that all of us are crucial to the success of the team.	1	2	3	4	5
6. The coach praises players only when they outplay teammates.	1	2	3	4	5
7. The coach thinks only the starters contribute to the success of the team.	1	2	3	4	5
8. Players feel good when they try their best.	1	2	3	4	5
9. Players are taken out of a game for mistakes.	1	2	3	4	5
10. Players at all skill levels have an important role on this team.	1	2	3	4	5
11. Players help each other learn.	1	2	3	4	5
12. Players are encouraged to outplay the other players.	1	2	3	4	5
13. The coach has his or her own favorites.	1	2	3	4	5
14. The coach makes sure players improve on skills they're not good at.	1	2	3	4	5
15. The coach yells at players for messing up.	1	2	3	4	5
16. Players feel successful when they improve.	1	2	3	4	5

-SEE REVERSE SIDE-

Note: Each item is responded to on a 5-point Likert-type scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

	<i>SD</i>		<i>N</i>		<i>SA</i>
17. Only the players with the best 'stats' get praise.	1	2	3	4	5
18. Players are punished when they make a mistake.	1	2	3	4	5
19. Each player has an important role.	1	2	3	4	5
20. Trying hard is rewarded on this team.	1	2	3	4	5
21. The coach encourages players to help each other.	1	2	3	4	5
22. The coach makes it clear who s/he thinks are the best players.	1	2	3	4	5
23. Players are 'psyched' when they do better than their teammates in a game.	1	2	3	4	5
24. If you want to play in a game you must be one of the best players.	1	2	3	4	5
25. The coach emphasizes always trying your best.	1	2	3	4	5
26. Only the top players 'get noticed' by the coach.	1	2	3	4	5
27. Players are afraid to make mistakes.	1	2	3	4	5
28. Players are encouraged to work on their weaknesses.	1	2	3	4	5
29. The coach favors some players more than others.	1	2	3	4	5
30. The focus is to improve each game/practice.	1	2	3	4	5
31. The players really 'work together' as a team.	1	2	3	4	5
32. Each player feels as if she is an important team member.	1	2	3	4	5
33. The players on this team help each other to get better and excel.	1	2	3	4	5

**APPENDIX G: Student Athletes' Motivation towards Sports and Academics Questionnaire
(SAMSAQ)**

Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ)

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1. I am confident that I can achieve a high grade point average this year (3.0 or above).

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

2. Achieving a high level of performance in my sport is an important goal for me this year.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

3. It is important for me to learn what is taught in my courses.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

4. I am willing to put in the time to earn excellent grades in my courses.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

5. The most important reason why I am in school is to play my sport.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

6. The amount of work required in my courses interferes with my athletic goals.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

7. I will be able to use what is taught in my courses in different aspects of my life outside of school.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

8. I chose to play my sport because it is something that I am interested in as a career.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

9. I have some doubt about my ability to be a star athlete on my team.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

10. I chose (or will choose) my major because it is something I am interested in as a career.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

11. Earning a high grade point average (3.0 or above) is not an important goal for me this year.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree



12. It is important to me to learn the skills and strategies taught by my coaches.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

13. It is important for me to do better than other athletes in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

14. The time I spend engaged in my sport is enjoyable to me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

15. It is worth the effort to be an exceptional athlete in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

16. Participation in my sport interferes with my progress towards earning a college degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

17. I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

18. During the years I compete in my sport, completing a college degree is not a goal for me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

19. I am confident that I can be a star performer on my team this year.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

20. My goal is to make it to the professional level or the Olympics in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

21. I have some doubt about my ability to earn high grades in some of my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

22. I am confident that I can make it to an elite level in my sport (Professional/Olympics).

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

23. I am confident that I can earn a college degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

24. I will be able to use the skills I learn in my sport in other areas of my life outside of sports.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

25. I get more satisfaction from winning a game in my sport than from getting an "A" in a course toward my major.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

26. It is not important for me to perform better than other students in my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

27. I am willing to put in the time to be outstanding in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

28. The content of most of my courses is interesting to me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

29. The most important reason why I am in school is to earn a degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

30. It is not worth the effort to earn excellent grades in my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

Re: FW: SAMSAQ for dissertation research

Joy Gayles <jggayles@ncsu.edu> Margaret L Tudor;

Hi Maggie,

My apologies for the delayed response. You have my permission to use the SAMSAQ under the condition that you provide an executive summary of your findings upon the completion of your study.

Best wishes,

Joy Gayles