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Sports involvement and academic functioning in college students

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**SPORTS INVOLVEMENT AND ACADEMIC FUNCTIONING IN COLLEGE
STUDENTS**

by

Mikala Connery

A Thesis

Submitted to the
Department of Educational Services and Leadership
College of Education
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at
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Thesis Chair: Carmelo Callueng, Ph.D.

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Dedication

I am dedicating this thesis to my friends and family, who have been very supportive and encouraging throughout the year.

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I would like to thank my professors and Rowan University for all the help and guidance in completing this thesis.

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Abstract

Mikala Connery

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2016-2017

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Master of Arts in School Psychology

The purpose of this study was to examine positive academic behaviors between high school student athletes and non-athletes. Over 460,000 students participate in college sports yearly (NCAA, 2016). Early research shows sports involvement has a negative impact on academic achievement; however, current research contradicts those findings. Sports has become a popular extracurricular activity, so it is important to determine the actual relationship between sports involvement and academic functioning. This study examined that relationship by comparing grade point averages, academic self-efficacy, and motivation between student athletes and student non-athletes in a northeast university. An online self-reporting survey was administered to gather the data. Independent *t*-test was employed to compare the means of grade point averages, self-efficacy, and motivation between student athletes and non-athletes. Key findings indicated that self-efficacy was higher in student athletes, compared to students who did not participate in sports.

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Chapter 1

The Problem

The goal of this study was to investigate the relationship of sports involvement and academic competence between college athletes and non-athletes. Grade point averages, academic efficacy, and academic motivation comprise of the measures of academic competence.

For the 2015-2016 school year, the National Collegiate Athletic Association (NCAA) (2016) reported that there are more than 460,000 student athletes, who participate in twenty-four college sports across the country. This is the highest number of student athletes so far, and it will continue to increase. The consistently, increasing number of student athletes has sparked an interest in studying the effects of sports participation and achievement in the classroom. With thousands of college students participating in NCAA sports, as indicating an enhanced level of physical activity, this study is important to discover the potential benefits sports and how it relates to academic functioning.

Many studies support the claim that sports involvement is positively associated with academic achievement. Collegiate sports are a type of extracurricular activity that is supportive to the goals of the college or university. However, early research has presented contradictory findings. These studies state that there is no positive association between participation in sports and higher academic functioning. With inconsistent results, it is important to conduct more studies to be able to arrive at a valid conclusion. Evidence supporting the relationship between sports participation and academic achievement can be beneficial to education professionals, school faculty, parents, and

students. The purpose of extracurricular activities in school is to help facilitate academic achievement by developing knowledge, skills, and create a social network (Hanks & Eckland, 1976). This study will help gain a better understanding of the relationship between sports involvement and academic competence, in order to show the importance of sports in the educational system as a successful and beneficial extracurricular activity.

Purpose

The purpose of this research was to investigate the association of sports involvement and academic competence of college students in a northeastern university.

Research Questions

1. Do athletes and non-athletes differ in grades?
2. Do athletes and non-athletes differ in academic self-efficacy?
3. Do athletes and non-athletes differ in academic motivation?

Hypotheses

The first hypothesis is that, athletes have higher grade point averages than non-athletes. A second hypothesis is that, student athletes have higher academic self-efficacy than non-athletes. Student athletes will have a stronger belief they can complete any educational task than students who are not involved in school sports. The last hypothesis is that, student athletes have higher academic motivation compared to non-athletes. Student athletes will have more desire and interest in their academics than non-athletes.

Significance of Study

The main purpose of higher education was to further students' education and help students acquire the skills and knowledge to obtain their desired career. Extracurricular activities, like school sports, can help students reach their highest level of academic potential. Studies have demonstrated that participation in sports can enhance academic performance. However, early research does not agree with these findings and suggest athletic involvement has no association with higher grades and academic performance. With these results, some may argue sports just take time away from instruction and learning. This study can help determine the positive relationship between collegiate sports participation and academic competence. Grade point averages and other measures that contribute to proficient academic success were measured. Evidence supporting the link between sports involvement and certain academic behaviors can help society understand the benefit of sports in the educational system and its potential for enhancing students' academic performance.

Limitations

The following limitations were present in this study:

1. The sample size was limited for the findings to be applicable to universities and colleges with comparable student demographics as the sample of this study.
2. Grade point averages were based the fall 2016 semester. For freshman participants, this was their first semester in college and it does not

capture a more complete and encompassing index of academic achievement of the students.

3. Data on academic motivation and self-efficacy were collected using self-report measures. Use of self-report measures in research has been criticized due to response faking and social desirability bias. In this study, responses of students in measures of academic motivation and self-efficacy can be prone to positive bias as students may be inclined to choose responses to appear more favorable to self and others.

Assumptions

The following assumptions were claimed in this study:

1. Students answered the survey questionnaire accurately and honestly. It could be possible that the answers to the motivation and self-efficacy scales could be falsified, as well as, the responses to sports participation and grade point averages.
2. Academic motivation and self-efficacy measures used in this study have substantial evidences of validity and reliability.
3. It can be assumed that grade point averages from one semester reflects and accurate index of the student's level of academic competence.

Definition of Terms

Academic competence. A combination of behaviors, attitudes, skills that help a student succeed in an educational or learning environment. In this study, academic competence comprises of academic motivation, self-efficacy, and grade point average.

Academic efficacy. It refers to how a person views his/her capabilities in a task or specific context (Bandura, 1997). For this study, efficacy is focused on the domain of academics and the student's beliefs about his/her performance in class and was measured using the College Self-Efficacy Inventory (Solberg, O'Brien, Villareal, Kennel, & Davis 1993).

Academic motivation. It refers to a student's willingness, displayed by his/her level of interest, engagement, or persistence, in a school activity (DiPerna, 2005). In this study, academic motivation was measured using the Student Athletes' Motivation towards Sports and Academics Questionnaire (Gayles, 2002).

Grade point average. A standard scale used to convert letter grades to a number that shows the student's overall level of achievement in all subjects in the fall 2016.

Sports involvement. Membership in one or more NCAA affiliated sports at the university or membership in one or more teams of the university's club sports.

Overview of the Study

This study will look at the relationship between participating in sports at the college level and academic functioning by collecting data from college students. Chapter 2 reviews literature focused on theories relating to motivation, benefits of sports participation, and self-efficacy. The methodology, measures, research design, setting, and participants are stated in Chapter 3. Additionally, Chapter 3 describes the statistical measures used to analysis the data. Chapter 4 explains the results of the study by interpreting the analyses. Chapter 5 consists of a discussion of the study, a conclusion, and recommendations for future research.

Chapter 2

Literature Review

Motivation has been a popular topic in all areas of psychology, including school psychology and neuropsychology. There are two theories of motivation that are relevant and important to this study.

Achievement Goal Theory

Early research emphasizes the cognitive components of motivation. However, recently the focus has shifted to how different goals produce different motivation behaviors (Ames, 1992). This concept of achievement goals combines cognitive and emotional aspects of goal-directed behavior and focuses on the purpose of the achievement behavior (Ames, 1992). The achievement goal theory has been one of the most popular social-cognitive motivation theories and is constantly being revised. Wolters (2004) defines the achievement goal theory as “students’ motivation and achievement-related behaviors can be understood by considering the reasons or purposes they adopt while engaged in academic work” (p. 236). It is also proposed that the type of climate or environment can affect the type of motivation goal. Early research describes two main types of goals; mastery and performance. Mastery goals, also referred to as task goals, involve the desire to learn, self-improvement, and master tasks (Spray, Wang, Biddle, & Chatzisarantis, 2006). On the other hand, performance goals concentrate with winning and outperforming others (Senko, Hulleman, & Harackiewicz, 2011). Current literature includes avoidance behaviors and states there are four principles. In addition to mastery and performance goals, there are also mastery-avoidance and performance-avoidance. Mastery-avoidance are behaviors students use to avoid learning, while performance-avoidance is when students have a desire to avoid looking less than or

incompetent to others (Wolters, 2004). Research findings have concluded that mastery oriented students have an interest in self-improvement and are motivated no matter what their perceived abilities or skills are. In contrast, performance oriented students will lose confidence in their abilities if they doubt themselves because they focus on showing off their self-worth (Spray, Wang, Biddle, & Chatzisarantis, 2006). Further research is needed to understand which orientation is more beneficial. Ames (1992) stated that mastery goals are linked to future positive achievement, preference for challenging tasks, and engagement in learning activities. Performance goals are associated with avoiding difficult tasks and the perception of self-worth becomes a determinant of achievement-related behaviors (Dweck, 1986). However, controversy surrounds performance goals because additional research is necessary to determine if those goals should also be considered productive.

Duda (1986) investigated both mastery and performance orientations in the athletic setting through studies utilizing interviews and sentence completion techniques. Findings indicate that the dimensions of motivation span across multiple settings. For example, a student with high competence will influence their performance goals and have a drive or need to participate in sports to the best of their abilities. Understanding the achievement goal theory is important because it provides insight into a student's beliefs and drives in an academic or sport setting. This allows us to examine motivation patterns, how a student approaches a task, and if a specific setting affects a student's motivation.

Self-Determination Theory

The self-determination theory is a theory of motivation that focuses on intrinsic and external sources of motivation. Throughout life, a person strives to achieve a balance

of novel and interesting ideas from self and others (Ntoumanis, 2001). Deci & Ryan (1991) call this the “organismic integration process.” Self-determination theory claims that there are three basic psychological needs: competence, relatedness, and autonomy. These needs, influence self-determined or autonomous motivation (Haivas, Hofman, & Pepermans, 2012). Competence is the need to control one’s environment. Relatedness is the desire to interact with people and have a sense of belonging. Autonomy, is taking responsibility for one’s actions and acting with feelings of free will.

Self-determination theory describes different types of motivation and how it relates to the overall well-being of a person in multiple settings (Deci & Ryan, 2008). The first type of motivation is autonomous, which comprises of intrinsic and extrinsic motivation. In intrinsic motivation, a person is doing a task because it is interesting and intrinsically satisfying to him or her. Extrinsic motivation relates to a task as having a value or importance to a person (Deci & Ryan, 2008). Two subtypes of extrinsic motivation are demonstrated in controlled motivation, with controlled motivation as referring performance of a task with a sense of external pressure or guilt. First type is called, external motivation, which is shown by doing a task receive a reward or avoid punishment (Deci & Ryan, 2008). Second type is called introjected motivation, which is demonstrated by completing a task because of the feeling of guilt of not doing the task (Spray, Wang, Biddle, & Chatzisarantis, 2006).

Self-determination theory has been used to assess motivation in students in a sport environment. Goudas, Biddle, & Fox (1994) stated that autonomous motivation is more predictive of intrinsic interest of physical activity. This theory proposes that students who perceive themselves as highly competent in a sport or physical activity and autonomous,

are more likely to, feel more intrinsically motivated (Ntoumanis, 2001). Self-determination theory helps us gain an understanding as to why students participate in sports and can be used as an important predictor of their academic and overall well-being.

Social Identity Theory

As cite by Hogg and Abrams (1988), Henri Tajfel proposed a theory that emphasized the importance of one's social identity. Individuals form their identities based on the social groups or categories to which they belong. Society is made up of many different social groups, such as ethnicities, family, sports team, and social class (Halldorson, 2009).

Social identity theorizes group belonging can shape a person's sense of self (Rees, Haslam, Coffee & Lavallee, 2015). A person develops their sense of self by their behavior, personality, and group membership. Individuals join a group because they believe it is in their personal interest, the group will meet emotional needs, group members are similar to them, and there are benefits to group memberships (Rees, 2015).

Barber, Eccles, and Stone (2016) examined 900 tenth grade students and their high school activities and group behaviors. Participation in sports predicted lower levels of social isolation and confident educational and career outcomes. The "jocks" showed positive adjustment as a group Students who participated in the performing arts were predicted to have more years of education, but higher rates of suicidal attempts and more psychological visits (Barber, Eccles, & Stone, 2016). This study shows that certain behaviors can be predicted by social identity and group membership.

Sports Participation

Sports offer a way to participate in organized physical activity. Its popularity keeps growing across all age groups. There are currently over 460,000 student-athletes at the college level and it keeps rising every year (NCAA, 2016). Maniam (2014) states that individuals had five main reasons for participating in sports. The reasons are sports are enjoyable, for fitness and health, are a social activity, for personal development, and for competition and achievement (Maniam, 2014). For which ever reason an individual decides to participate in a sport, they are receiving many benefits. Lots of research has documented academic, health, psychological, and social benefits of sports participation.

Sports participation and academic achievement. Early research shows there are no significant associations between sports participation in high school and academic functioning. Lueptow and Kayser (1973) found that athletic involvement is not associated with increased grades in their study that utilized grade point averages across all four years of high school and the level of sport involvement of students from twenty public high schools in the Midwest. (Lueptow & Kayser, 1973). Results revealed there was no upward shift in grades over the high school years and during the junior to senior year period, student athletes had the lowest increased in grade point average (Lueptow & Kayser, 1973). A couple years later, Hauser and Lueptow (1978) conducted a replication study that involved collecting data from 852 senior males from five high schools located in a Midwestern city. They stated that athletes improved their GPA's over their high school career but the gain was not as much as the non-athletes.

Recent research has been finding consistent positive associations between sports involvement and academic achievement. Fox, Barr-Anderson, Neumark-Sztainer, & Wall (2010) collected data from 4746 middle and high school students from the Minneapolis and St. Paul area in Minnesota. Results indicate that high school boys and girls who participated in sports had a higher mean grade point average than their peers who did not play on team sports. Middle school boy athletes also showed high grade point averages than non-athletes. There was no significant difference between middle school female athletes and non-athletes. High school athletics may offer a sense of school identification, as opposed to middle school and this might account for the stronger association between sports participation and academic achievement in high school students (Fox, Barr-Anderson, Sztainer, & Wall, 2010).

Another study collected data from the Kansas State Department of Education in school year 2008-2009. Comparative analyses were made between student athletes and non-athletes for grade point averages. For students who reported their grade point averages, 80.1% of student athletes had a GPA of 3.0 or higher, while 70.5% of non-athletes had a GPA of 3.0 or higher (Lumpkin & Favor, 2012). Furthermore, 51.8% of student athletes had a GPA of 3.5 or higher, while only 39.8% of non-athletes had a GPA of 3.5 or higher (Lumpkin & Favor, 2012).

A recent doctoral dissertation concentrated on measuring grade point averages between athletes and non-athletes. Student sports involvement, gender, and grade point averages were collected from 300 participants across five different schools (Filsinger, 2012). Results showed that female athletes averaged a grade point average of 3.384 compared to a 3.156 of female non-athletes. Male athletes also had higher grade point

averages than male non-athletes; 2.970 and 2.830, respectively (Filsinger, 2012). While female athletes had the highest mean GPA out of all the groups, overall athletes outperformed their non-athlete peers.

Sports participation and academic motivation. Motivation is essentially a person's choice or reason in partaking in a certain task, as well as, the amount of effort they put towards the task (Gaston-Gayles, 2005). Understanding motivation through the achievement goal theory and self-determination theory, can help gain an insight as to why students apply different amounts of energy to athletics, academics, or both.

Early research studying the relationship between sports involvement and academic achievement found no positive association. While these findings contradict more recent research, early studies had many strengths. Data was collected from the target population of high school students. Just like this study, it is important to focus on high school students because it helps create a school identity and students are being challenged in the classroom as class material increases in difficulty. More current research has also measure academic functioning and sports participation among high school students. Many studies also use grade point averages as a form of measurement for academic functioning. Grade point averages can be a strong indicator of academic performance because it calculates all letter grades into comparable numbers. Another strength many of the early and current studies have is sample size. Larger samples are ideal because it gives a more accurate representation of the population. Unfortunately, the sample size of this study will be relatively small, compared to the other studies like Fox, Barr-Anderson, Neumark-Sztainer, & Wall (2010) 4746 participants.

While many studies measuring the relationship between school sports and academic achievement, there are also some weaknesses and limitations. Studies tended to concentrate on one type of aspect that is possibly related to academic competence, like grade point averages and standardized test scores. Others may focus on social/emotional aspects like self-esteem, confidence, and self-efficacy. Educational and psychological factors relating to sports participation and academic competence are both necessary to fully understand the possible beneficial relationship. This study will measure grade point averages, in addition to, self-efficacy and motivation in high school students. Other weaknesses of the previously mentioned studies and this one, are failure to look at other possible intervening variables such as, ethnicity, socioeconomic status, and involvement in other extracurricular activities. Certain factors may contribute to the relationship between school sports participation and academic functioning.

Sports participation and graduation rates. Graduating from high school gives a student a sense of accomplishment, a better chance of being admitted to a college or university, and more job opportunities, while graduating from college can provide more opportunities for earning a higher wage, be an investment for the future, and gain knowledge and skills for a career (Education Corner, n.d.). Warren (2010) examined factors that could help high school students of various ethnic groups graduate from high school. This dissertation gathered school data for twelfth grade students at Temecula Valley High School in California. A discriminant function analysis showed the student athletes were more likely to graduate high school than those who did not participate in sports (Warren, 2010).

While there is, evidence supporting the relationship between sports involvement and graduation rates on the high school level, recently colleges have been under scrutiny for their lower graduation rates. In recent news, academic infractions and low graduation rates have been uncovered in some NCAA division 1 athletic programs (Southall, 2012). In 2008, African American male student athletes only had a 48% graduation rate at Santa Monica Community College (Hackett & Sheridan, 2013). Due to this lack of graduation success, the National Collegiate Athletic Association is focusing on improving the educational standards by passing legislatures (Comeaux, 2015). The goal is to have high graduation rates among college student athletes, specifically Division 1 athletes (Comeaux, 2015).

Other Benefits and Sports Participation

Many studies have confirmed that engaging in physical activity can lead to having a healthy lifestyle. Sports participation is a form of physical activity has been associated with positive physical, social, and psychological outcomes (Shores, Becker, Moynahan, Williams, and Cooper, 2015).

Physical benefits. Consistent and regular physical activity, like participating in sports, has been widely associated with a reduced risk of various diseases, diabetes, obesity, and high blood pressure (Bailey, 2006). In addition, there is evidence demonstrating improved bone health and being more active later in life (Bailey, 2006). The U.S. Department of Health and Human Services has researched the potential benefits of physical activity to develop an informational resource about living an active lifestyle. Strong evidence has been found supporting that physical activity, like participating in

sports, improves cardiorespiratory fitness, bone health, satisfactory body composition, and muscular fitness in children and adolescents (US Department of Health and Human Services, 2008). Additional evidence has also illustrated the many benefits of physical activity in adulthood. It helps lower the risk for heart disease, various types of cancers, diabetes, weight gain, and high blood pressure (US Department of Health and Human Services, 2008). The US Department of Health and Human Services (2008) also state that physical activity decreases depressive symptoms, improves sleep, and can help prevent falls.

People who do not have an active lifestyle or partake in insufficient amounts of exercise tend to be at a higher risk for cardiovascular disease, premature death, and cancer. Participating in physical activity greatly decreases these risks. It is becoming very important to engage in an active lifestyle, beginning in childhood. Research has shown that people who are active at a young age, will continue that lifestyle as they age. Dohle and Wansink (2013) conducted a research study that administered a survey to 712 males living in the United States. In the 1940s, these men all passed an intense physical exam and fifty years later were asked to complete a survey. The survey is designed to gather data about the subjects' personality, smoking habits, marital status, health status, number of doctor visits, and more (Dohle & Wansink, 2013). Results showed playing a varsity sport in high school is the strongest predictor of being physically active later in life (Dohle & Wansink, 2013). This study concluded that participating in a high school sport contributes to an active lifestyle in old age, as well as, maintaining good health.

Psychological benefits. Physical benefits have been a main focus of the outcome of exercise. Recently, research has discovered many mental health benefits have also

been associated with physical activity. It has shown it can reduce depression and anxiety symptoms in children and adolescents and reduce the risk for depression in adulthood (US Department of Health and Human Services, 2008). Furthermore, being physically active has been shown to improve mood and lower the risk of developing dementia, cognitive impairment, and Alzheimer's disease (Opdenacker, Delecluse, & Boen, 2009).

Self-esteem is an important part of psychological well-being, which is described as an evaluation or confidence in one's own abilities and competence (Yiğiter, 2014). Li, Harmer, Chaumeton, Duncan, & Duncan (2002) investigated the relationship between Tai Chi, as a form of exercise, and the enhancement of self-esteem. It was hypothesized that the participants in a six-month Tai Chi intervention program would improve self-esteem. Results showed that the individuals in the Tai Chi intervention had higher levels of self-esteem compared to the control group (Li, Harmer, Chaumeton, Duncan, & Duncan, 2002). This supports that being involved in exercise or physical activity can improve overall psychological well-being.

Sabiston et al. (2016) examined number of years participating in individual and team sports during adolescence and depressive symptoms in early adulthood. Depression symptoms can affect overall well-being and quality of life, so this study wanted to find factors that reduced these symptoms during youth (Sabiston et al., 2016). Findings showed that adolescents, who participated in team sports during high school, showed lower depressive symptoms in early adulthood (Sabiston et al., 2016). On the other hand, participation in individual sports was not statistically significant in depressive symptoms.

Another study used data of 1293 adolescents, from the Nicotine Dependence Teen study, to assess the relation of moderate to vigorous physical activity and team sports involvement during high school with depressive symptoms in early adulthood (Brunet et al., 2013). Results showed involvement in team sports were associated with lower depressive symptoms. Brunet et al., (2013) proposes team sports can be a healthy distraction to stressful life circumstances, give a sense of accomplishment, and provide opportunities for social interaction.

Participation in team sports is also linked to decreasing anxiety symptoms. Anxiety is a common mental health problem across all ages, so it is important to discover preventative techniques and strategies to improve mental health (Ashdown-Franks, Sabiston, Solomon-Krakus, & O'Loughlin, 2017). A study administered self-report questionnaires to students in seventh through eleventh grade, throughout ten schools in Canada. Then questionnaires were mailed to eligible participants when they were about twenty years of age. The questionnaire asked questions about anxiety symptoms, using items from the Canadian Community Health Survey, and number of years playing a sport (Ashdown-Franks, 2017). Participating in team sports protected the individual against panic disorder and agoraphobia symptoms (Ashdown-Franks, 2017). Playing an individual sport protected participants against social phobia symptoms (Ashdown-Franks, 2017). Lastly, just playing a sport in high school protected student athletes against panic and agoraphobia symptoms in early adulthood (Ashdown-Franks, 2017).

Social benefits. Social development encompasses many components such as, relationships, leadership skills, and teamwork. Holt, Kingsley, Tink, & Scherer (2011) demonstrated the importance of participating in sports by conducting interviews with

parents and their children in low socio-economic households. Results showed that sports are positively associated with social development benefits (Holt et al., 2011). Wankel and Berger (1990) emphasize that sports provide opportunities for developing inter-group relationships and being involved more in the community. In another study, Côté (2002) recommended that sports foster social skills like cooperation, empathy, and responsibility. Additionally, it has been found that sports offer multiple chances to communicate with peers, learn social skills, practice teamwork, and try novel social roles (Svoboda, 1994). All of these studies found results that support the fact that sports have many social benefits.

One study used open-ended interviews to understand the outcomes of participating in adaptive sports among individuals with disabilities (Lundberg, Taniguchi, McCormick, & Tibbs, 2011). Results showed these participants received many social benefits. They had opportunities to build social networks and interact with others. Furthermore, the individuals were able to develop social support among their peers (Lundberg et al., 2011).

Self-Efficacy

Self-efficacy is defined as, “one’s perceptions of one’s own ability to succeed on valued tasks” (Frydenberg, 2013). This is important because it is one factor that contributes to a person’s academic achievement and enjoyment in learning activities (Fave, Steca & Bassi, 2011). Many studies have used self-efficacy measures to understand its influence on students’ academic and career choices. High school and college students have more freedom to select their academic courses and other

extracurricular activities. Their efficacy beliefs can affect those choices (Fave, Steca, & Bassi, 2011). For example, if a student has higher self-efficacy in history class, then they will have more interest in history and select more courses in that field. Students will participate in classes, in which they feel confident (Pajares & Schunk, 2001).

Studies have demonstrated that self-efficacy is positively correlated with and influences academic achievement (Pajares & Schunk, 2001). It was especially stronger among high school and college students than elementary students (Pajares & Schunk, 2001). Research has also shown self-efficacy is related to self-regulated learning. Self-regulated learning involves a student planning for a task or assignment, enacting that plan, and reflecting on the outcome or progress (Winnie, 2010). Caprara et al. (2008) conducted a study that examined the progression of perceived self-efficacy for self-regulated learning from junior high to high school, its influence on academic achievement, and the probability of staying in school. The sample was 412 Italian students, who's ages ranged from twelve to twenty-two. Results confirmed that higher perceived self-efficacy for self-regulated learning in junior high school led to higher grades. The same was for high school students and increased the likelihood of staying in school (Caprara et al., 2008). This study is evidence self-efficacy impacts academic achievement on multiple age groups.

Self-efficacy can also contribute to academic motivation. Higher self-efficacy determines the amount of effort, time, and perseverance on activities and challenging tasks (Gore, 2006). If a student, with high self-efficacy, is faced with a difficult task, they tend to have a mindset to master the challenge, instead of avoiding it (Fave, Steca & Bassi, 2011). Those students will also be more committed to finishing a task, have more

intrinsic motivation, set goals for themselves, and regain confidence quickly after a failure (Fave, Steca, & Bassi, 2011). Additionally, students with high self-efficacy use more metacognitive learning strategies and self-efficacy beliefs effect self-regulatory methods, like goal setting (Fave, Steca, & Bassi, 2011). On the other hand, students with low self-efficacy harbor negative emotions towards their capabilities and believe failure in a task is due to personal inability (Fave, Steca, & Bassi, 2011). Research has proven self-efficacy is essential for overall academic success (Huang, 2013).

Huang (2013) research gender differences in academic self-efficacy using a meta-analysis of 187 studies. Findings displayed results that showed the average academic self-efficacy for males is .08 standard deviations above the average academic self-efficacy for females (Huang, 2013). This study also uncovered the importance of culture, in regards to, academic self-efficacy. Different cultures and their socialization norms may have different gender patterns for academic self-efficacy (Huang, 2013). Individualistic cultures focus on independence, while collectivistic culture values the needs of the group. Because of this, self-efficacy can have different meanings in multiple cultures (Huang, 2013). Scholz, Doña, Sud and Schwarzer (2002) conducted a study to see if self-efficacy is universal. 19,120 participants from twenty-five countries completed The General Self-Efficacy scale (GSE) and cultural modifications were considered during this study (Scholz et al., 2002). Asian students, those from collectivist cultures, had lower GSE scores than non-Asian students, despite higher academic achievement (Scholz et al., 2002). Scholz et al. (2002) suggests this difference is due to collectivist cultures valuing effort over ability. This shows self-efficacy is universal, but varies based on culture.

Sports Participation and Self-Efficacy. Being involved in sports, provides opportunities to increase an individual's self-efficacy (Cole, 2014). Sports allow athletes to work towards goals. One way sports help develop self-efficacy is through mastery imagery, which is generally visualizing oneself mastering a situation or task. There are five types of image mastery; motivational-specific (MS), motivational-general mastery (MG-M), motivational-general arousal (MG-A), cognitive-specific (CS), and cognitive general (CG, Parkerson, 2015). Munroe-Chandler, Hall, and Fishburne (2008) researched self-efficacy, self-confidence, and imagery use in youth soccer players. The study consisted of 122 soccer players, who's ages ranged from 11 to 14 years old playing in either recreational or competitive soccer teams. A regression analysis showed that motivational-general mastery was a predictor of self-confidence and self-efficacy in the soccer players (Munroe-Chandler, Hall, & Fishburne, 2008). This suggests mastery imagery in sports can aid in the development of self-efficacy.

Self-efficacy can also be increased by the support of coaches and teammates (Cole, 2014). Heilman (2012) notes that children who perceive their sport environment as positive and caring, will have higher self-efficacy. The dissertation studied nine youth alpine skiing teams in the United States of America and discovered the young athletes had high general self-efficacy and skiing self-efficacy (Heilman, 2012). The athletes felt confident in skiing and in their capabilities in other aspects of life.

Lastly, engaging in physical activity can increase self-efficacy (Colt, 2014). Wickman, Nordlund, and Holm (2016) investigated if physical activities could improve self-efficacy in children with disabilities. Using the Children and Youth Physical Self-Perception Profile scale, results showed self-efficacy increased after eight months of

participated in thirteen different physical activities (Wickman, Nordlund, and Holm, 2016). These studies demonstrate that sports can be a source for self-efficacy and foster its development.

Synthesis

Achievement Goal Theory emphasizes that students are motivated by certain tasks or goals. Mastery goals focus on intrinsic values, like wanting to learn, while performance goals center around extrinsic factors. This theory is an important foundation for this study because it provides an insight as to what motivates college students to do well in their educational studies. Understanding academic motivation can be useful in the school setting and can be used to interest and motivate students to succeed in their coursework. A second theory that influenced this study was the self-determination theory. This is another motivation theory that proposes three basic needs influence motivation. Self-determination theory is helpful to explain a person's motivation in athletics. For example, if an individual feels more autonomous or competent, then he or she will feel more intrinsically motivated to participate in sport. This theory is helpful to understand why a student plays a certain sport, especially at the collegiate level. In this study, student athletes are defined as those who play NCAA sports and club sports at the university. Motivation is a key component of academic functioning. The framework of these theories play an important part in designing this study and learning more about motivation in students.

The social identity theory aims to explain the purpose of group membership and idea of one's self based on that group membership. In relation to sports involvement,

social identity theory is very important. Students may join a sports team for a variety of reasons, but gain social benefits from their membership. Social identity theory attempts to explain why group membership affects a person's behavior (Halldorson, 2009). Barber, Eccles, and Stone (2016) discovered that belonging to a sports team during high school led to positive behaviors like better occupational outcomes. This study will examine college students, instead of high school, and attempt to confirm sports involvement is linked to positive behaviors. The positive behaviors in this study will be academic achievement.

Current research supports sports involvement and higher academic achievement. Many studies have agreed that student athletes have higher grade point averages than their non-sport peers. This study aims to provide more evidence that sports are associated with academic competence. Most of the literature review contains studies using elementary or high school students, but this study will use college participants. More research needs to be conducted with college aged students. Research in this age range is important because college students generally have more independence and the freedom to make more choices regarding academics and leisure time. Results supporting the positive relationship between sports and high academic achievement will show sports are important in higher education and should be promoted as a valuable extracurricular activity.

Sports involvement has been linked to high graduation rates among high school students. However, current research and media publications state that college student athletes are not graduating in the allotted time frame (Southall, 2012). While, this study is not examining the graduation rates of student athletes and non-athletes at Rowan

University, graduating is a part of academic success. The media mostly focuses on Division I athletes and those student-athletes may feel more pressure and have more responsibilities. In contrast, Rowan University athletics are Division III and a smaller school population. This study's sample population will come from a small university. More research is needed on college student athlete graduation rates from all colleges and universities across the countries, and not just the ones discussed by the media.

Recent literature has illustrated positive benefits that are associated with sports participation. Actively participating in sports or other physical activities can help in physical, social, psychological, and academic areas of life. Physical benefits are improved bone health, decreases the risk for various illnesses, and can prevent diabetes. Dohle and Wansink (2013) found that participating in sports during high school predicts an active lifestyle later in life. This is important because as age increases, the important it is to stay healthy. A sedentary lifestyle is associated with harmful and damaging health outcomes (Tremblay, Healy, Owen, Colley, & Saunders, 2010). Being physically active lowers the risk for many diseases and obesity. Psychological benefits such as, reducing depression symptoms and improving mood, are also shown in research studies. Participating in team sports during adolescents has been found to decrease depressive symptoms during early adulthood (Brunet et al, 2013; Sabiston et al., 2016). Studies also show playing sports in high school can protect individuals against anxiety symptoms (Ashdown-Franks, 2017). Furthermore, sports have been shown to positively influence social skills. Sports can foster relationships and develop communication skills, among other social skills. They have also been proven to help develop a strong support system with their peers (Lundberg et al., 2011). This shows that sports can help students develop

in multiple areas of life and can improve overall-wellbeing. Many of these studies focus on the benefits of sports used longitudinal studies and younger participants. For this study, will use college students instead of high school. This study aims to add to the literature in supporting involvement in sports but will not focus on physical, psychological, or social benefits. It will concentrate on the relationship sports have with academic competence. This study will provide additional support of academic achievement, as shown by grade point averages, and other academic functions such as, motivation and self-efficacy.

Research supports self-efficacy has a positive influence on a student's academic achievement and other academic behaviors. By having confidence in a task or assignment, in an academic setting, students will be successful in the classroom and choose a career path that interests them. Levels of self-efficacy differ in gender and culture, but it is still a universal construct. This study will look at academic self-efficacy because of its influence on academic achievement. Unlike these self-efficacy studies, this one will involve a smaller sample size and age range. This study will measure college students' self-efficacy and add evidence that supports its importance in academic success.

Sports participation has an impact on an individual's self-efficacy. Research shows it can be a source or a way to develop self-efficacy. The studies examining the influence sports involvement has on self-efficacy mainly focused on younger athletes, around middle school and younger. This study will measure self-efficacy in college students. Very little research has studied the importance of self-efficacy among this age group. Research shows the positive effect self-efficacy can have on academic achievement and career selection, so it is necessary to understand how to develop self-

efficacy. Sports can provide opportunities to increase self-efficacy and it has been proven at younger ages. This study will offer support that sports and self-efficacy are still correlated at the college level.

Chapter 3

Method

Setting and Participants

The participants of this study were college students enrolled in a northeastern university. College students were the target population because sports have become more competitive and academic courses can be demanding. The data collected can help determine the significance of the relationship between sports and academics. Students completed the study by answering an online survey.

Demographics of the participating students are outlined in Table 1. Students are described by gender, age, ethnicity, race, college level, parents' education, and whether they participate in college sports. A total of 75 college students participated in this study. There were 34 males and 40 females in either their freshman, sophomore, junior, or senior year. Students were divided into two groups; athletes or non-athletes. The athletes were those who play a college sport or were a member of at least one of the school's club sports. The non-athletes were those not involved in any college athletic or club team. Out of the 34 males, 23 were athletes and 11 were non-athletes. For females, 21 were athletes and 19 were non-athletes. The average age of the participants was 20 years for athletes and 21 years for non-athletes. For both student athletes and non-athletes, majority of the students identified their race/ethnicity as White or Caucasian. In terms of socio-economic status, parents' education was considered an index. More student athletes had both parents who graduated from college. On the other hand, non-athletes had more parents who did not graduate from college.

Table 1

Demographic Profile of Participants

<i>Variable</i>	<i>Athletes</i>	<i>Non-athletes</i>
Gender		
Male	23 (51%)	11 (37%)
Female	21 (47%)	19 (63%)
Not Indicated	1 (2%)	-
Total	45 (100%)	30 (100%)
Race/Ethnicity		
Asian	1 (2%)	-
Black or African American	-	5 (17%)
White or Caucasian	36 (80%)	22 (76%)
Hispanic or Latino	1 (1%)	1 (2%)
Multiracial	6 (14%)	1 (3%)
Not Indicated	1 (1%)	1 (2%)
Total	45 (100%)	30 (100%)
College level		
Freshman	9 (20%)	1 (3%)
Sophomore	10 (22%)	14 (47%)
Junior	19 (42%)	9 (30%)
Senior	7 (16%)	6 (20%)
Total	45 (100%)	30 (100%)
Parents' education		
No	7 (16%)	14 (47%)
Yes, both parents	25 (57%)	6 (20%)
Yes, just the father	7 (16%)	4 (13%)
Yes, just the mother	5 (11%)	6 (20%)
Do not know	-	-
Total	44 (100%)	30 (100%)
Age		
<i>Mean</i>	20	21
<i>SD</i>	1.16	3.03

Measures

The College Self-Efficacy Inventory. The College Self-Efficacy Inventory (CSEI) was developed by Solberg, O'Brien, Villareal, Kennel, & Davis (1993) to measure self-efficacy for a wide-ranging of college experiences. All questions from the

CSEI were used in this study. The CSEI is not based on a theoretical model but developed by using self-help manuals to create items that reflect areas of college adjustment (Barry & Finney, 2009). Questions from the CSEI fall into two categories: academic focus and social focus (Barry & Finney, 2009). A principal components analysis was used to determine the construct validity of CSEI. In terms of reliability, Barry and Finney (2009) reported a Cronbach alpha coefficient of .88 for each of the three CSEI components: course efficacy, roommate efficacy, and social efficacy.

Student Athletes' Motivation Toward Sports and Academics Questionnaire (SAMSAQ). The SAMAQ was developed by Gatson-Gayles (2005) to measure both academic and sports motivation in college students. In this study, only items pertaining to academic motivation will be used. Gatson-Gayles (2005) reported an acceptable reliability for the academic motivation subscale to be .79 alpha coefficient.

Procedures

An electronic IRB application was reviewed and approved by the Rowan University Office of Research Compliance to ensure this study followed all ethical guidelines involving research on human subjects. Recruitment flyers and e-mails were distributed to psychology classes, athletic teams, and club sports teams. The survey was available online through Qualtrics survey system. Before students can answer the survey questions, a consent form must be electronically signed in order to participate. The consent form outlined the study's purpose and ensures the student knew that his/her participation was voluntary. The survey packet contained questions about demographic information, level of sports involvement, the College Self-Efficacy Inventory, and the SAMSAQ. All survey responses were anonymous.

Data Analysis

Data analysis was conducted through the Statistical Packages for Social Sciences (SPSS) program version 24. Descriptive statistics, such as mean, standard deviation, skewness, and kurtosis were computed to describe aggregate scores and assess normality assumptions for the variables of academic motivation, self-efficacy, and GPA. Frequency distribution was utilized to present demographic profile of students.

Independent samples *t*-tests were calculated to compare student athletes and non-athletes in grade point average, academic self-efficacy, and academic motivation. A significance level of .05 was used to decide on the null hypotheses. Effect size using Cohen's *d* (Cohen, 1988) was calculated for each study variable to determine the magnitude of difference between the groups. Effect size was interpreted as follows: 0.8 and above as large effect, .5-.79 as medium effect, and 0.2-.49 as small effect.

Chapter 4

Results

This study employed a quantitative research design to examine differences in academic achievement, self-efficacy, and academic motivation between student athletes and non-athletes. It was hypothesized that student athletes have higher grades, self-efficacy, and academic motivation than non-athletes.

Descriptive Statistics

A total of 75 college students from a northeastern university participated in this study. There were 45 athletes and 30 non-athletes Table 2 displays the means and standard deviations of the dependent variables: current GPA, expected GPA, academic self-efficacy, and academic motivation. Also, skewness and kurtosis were calculated to assess normality of each variable's score distribution. All the distributions met normality with skewness and kurtosis within the interval of -2 to +2 (Meyers, Gamst, and Guarino, 2017).

Table 2

Descriptive Statistics of GPA, Academic Self-Efficacy, and Academic Motivation

Variable	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Fall 2016 GPA	3.38	.39	-.43	.56
Expected Spring 2017 GPA	3.46	.34	-.44	.55
Academic Self-Efficacy	8.13	1.35	-.76	.55
Academic Motivation	4.07	.57	-.65	.56

Differences in GPA, Academic Self-efficacy, and Academic Motivation Between Student Athletes and Non-Athletes

Table 3 summarizes the results of the independent samples *t*-tests for each of the dependent variables in the study. Fall 2016 GPA of athletes ($M = 3.39$, $SD = .36$) and non-athletes ($M = 3.35$, $SD = .45$) were comparable, $t(73) = .50$, $p \geq .05$. Similarly, the expected Spring 2017 GPA of athletes ($M = 3.49$, $SD = .29$) and non-athletes ($M = 3.41$, $SD = .42$) were comparable, $t(73) = .98$, $p \geq .05$. Based on these statistical results, the hypothesis that athletes have higher GPA than non-athletes was not confirmed.

Academic self-efficacy of athletes ($M = 8.41$, $SD = 1.22$) and non-athletes ($M = 7.72$, $SD = 1.45$) were statistically different, $t(73) = 2.21$, $p \leq .05$. With a moderate effect size (Cohen's $d = .52$), the hypothesis that athletes have higher self-efficacy than non-athletes was confirmed.

Academic motivation of athletes ($M = 4.72$, $SD = .60$) and non-athletes ($M = 4.69$, $SD = .53$) were comparable, $t(73) = .21$, $p \geq .05$. Hence, the hypothesis that athletes have higher academic motivation than non-athletes was not confirmed.

Table 3

Differences between Athletes and Non-athletes in GPA, Academic Self-Efficacy, and Academic Motivation

Variable	Athlete		Non-athlete		<i>t</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Fall 2016 GPA	3.39	.36	3.35	.45	.50	.10
Expected Spring 2017 GPA	3.49	.29	3.41	.42	.98	.22
Academic Self-efficacy	8.41	1.22	7.72	1.45	2.21*	.52
Academic motivation	4.72	.60	4.69	.53	.21	.05

Note. * $p \leq .05$

Chapter 5

Discussion, Conclusion, and Recommendations

Discussion

The first hypothesis states that student athletes have higher grade point averages than non-student athletes. While grade point averages were higher in the student athletes, the hypothesis was not supported. Previous research has also reported that student athletes having higher grade point averages; however, other studies have determined non-significance of grade differences. Hauser and Lueptow (1978) found that the difference in grade point averages between student athletes and non-athletes was not large enough to be significant. There may be other factors like gender that moderate the differences in academic achievement of athletes and non-athletes. More example, in a recent study by Filsinger (2012), it was indicated that female athletes had significantly higher grades than female students who did not participate in sports. The current study did not investigate further the possible influence of gender on GPA of athletes and non-athletes. In addition, the sample sizes of the two groups were not large enough to conduct more complex statistical analysis such as factorial ANOVA or multiple regression to examine more demographic variables that may influence academic achievement of athletes and non-athletes.

The second hypothesis predicted that student athletes have higher academic self-efficacy than non-athletes. On average, student athletes scored 8.41 on the CSEI, which was significantly higher than non-athletes scored at 7.72. This difference in self-efficacy provided support to the hypothesis that athletes have higher self-efficacy than non-athletes. Similar findings have been found on the positive impact of sports involvement

on self-efficacy. Wickman, Hordlund, and Holm (2016) studied the possible effects physical activities can have on a person's self-efficacy. Although, the participants of that study were students with disabilities and not college students, the result was similar. Self-efficacy was higher in the students who engaged in physical activity.

The third hypothesis postulated that student athletes have higher academic motivation than non-athletes. Results of the independent samples *t*-test suggested that athletes and non-athletes have similar levels of academic motivation. Thus, the hypothesis was not supported in this study. Motivation towards education has been viewed as a component in having academic success. Many studies have measured motivation in terms of grade point averages. In this study, it was assessed through as self-report measure and independent of GPA. While the findings of the current study did not confirm the hypothesis, future investigations can explore on the link between sports involvement and academic motivation including, how academic motivation can be best assessed in college students.

Conclusion

This study was able to provide additional evidence that sports involvement can positively influence self-efficacy in college students. This finding is important because it provides further evidence of the benefits of sports involvement. Colleges and universities should promote sports and other physical activities because it is associated with high levels of self-efficacy. Self-efficacy is the belief that one is capable to complete a task or overcome a difficulty (Bandura, 1994). It is a tool that helps students achieve successful academic functioning. Programs that promote the benefits of participating in sports may

attract more students to get involved in any level of sports. This could be the college team, a club sports team, or intramural teams.

Findings drawn from this study can serve as basis for schools and colleges to support athletics and try to increase student participation in sports. Providing opportunities for students to engage in an organized sports setting can help increase positive academic behaviors. These behaviors can include being motivated to attain good grades or learn about their coursework, and develop of self-efficacy that allows them to feel confident when faced with a task or assignment. Sports is an extracurricular activity that can help foster academic development in students.

Recommendations

Results of this study promote sports participation in colleges and universities to increase higher academic functioning. The data have also led to recommendations and opportunities for future studies and research. Since this study was able to collect data from a small sample size of college students from a single university, future research can try to collect data from a larger sample size of students from other universities and colleges in different regions of the country. Additionally, researchers can gather data from a diverse sample of students to be able to investigate other demographic variables that can deepen the empirical explanation of the relationship between sports involvement and academic functioning. This study used students from a small northeastern university.

Another recommendation is to study student athletes based on the type of sports they play such as team or individual. A team sport may offer more socialization opportunities than individual sports, which may affect levels of self-efficacy. It may also

be beneficial to look at student athlete's grade point averages, self-efficacy, and motivation during their off-season compared to their in- season. Collecting data on the type of sport and analyzing variables from active and off-seasons can possibly broaden the understanding of the influence of motivation and self-efficacy in student athletes. During the players' season, they may be more driven due to attendance or eligibility requirements, instead of being motivated by academic reasons. These types of motivation can skew the study.

A final recommendation is to assess other extracurricular activities, in addition to sports involvement. Schools have many clubs and organizations that could also prove to be beneficial in a student's academic success. Results of studies exploring the most popular extracurricular activities, such as theatre and music, can provide a basis for schools and universities to offer these programs.

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