

**A Study of Differences in Sport Motivation in NCAA  
Division III Track and Field Athletes Examining Gender,  
Race, and Academic Classification**

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### **Abstract**

The purpose of this study was to investigate the differences in sport motivation in track and field athletes. Understanding what motivates athletes is important as it indicates why an athlete engages in a sport and what they are hoping to gain by competing. The motivation types analyzed were intrinsic motivation, extrinsic motivation, and amotivation.

This thesis used the Sport Motivation Scale (SMS) survey to find motivation scores of 53 track and field athletes who were enrolled at a Midwestern NCAA Division III college. Data that was gathered in this study was analyzed and evaluated using a two-sample t-test assuming equal variances. The athletes' gender, race, and academic classification were investigated to determine if there was a difference in sport motivation.

This study found a significant difference in the overall group of track and field athletes between intrinsic and extrinsic motivation. There were also significant differences in intrinsic and extrinsic motivation in female athletes; white athletes; and underclassmen athletes. It is important to understand what motivates athletes to be on sports teams so the athletes can stay engaged in sports longer and continue to develop relationships and learn valuable skills needed in the workforce and later in life.

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## **Chapter 1**

### **Introduction**

#### **Overview**

The purpose of this study was to investigate whether or not an athlete's motivational tendencies were affected by their gender, race, or academic classification. Motivation is a strong indicator of personal growth and continued involvement in sports (Vallerand, 2004). This motivation can be influenced in many ways; from personal achievements and performances, to how an athlete's mind functions, to the support group/system an athlete may have during their competition years. This study investigated some factors that could affect motivation and possibly help predict a certain outcome by athletes.

#### **Motivation**

Motivation is an essential aspect of sports that facilitates performance and helps create a positive experience. The motivation of sports participation is multidimensional and includes intrinsic motivation, extrinsic motivation, and amotivation (Vallerand, 2004; Deci et al., 1991; Pelletier et al., 1995; Pelletier et al., 2013). Individuals that participate for pleasure, fun, enjoyment, or for satisfaction gained directly from the activity itself are driven solely by intrinsic motivation. Someone with intrinsic motivation will participate in an activity voluntarily without any material rewards or external gains, whereas extrinsic motivation is associated with an external focus of influence. Extrinsic motivation refers to behavior prompted by external motivational sources, such as material

rewards (ex: money, gifts) or to avoid punishment or criticism by others.

Furthermore, amotivation is the lowest form of motivation. Amotivated athletes may no longer identify any good reasons to continue to train or play sports (Deci & Ryan, 1985).

### **Statement of Problem**

Motivation is a heavily studied topic in regards to sport and sport engagement. However, the research on sport participation and motivation is still a bit inconclusive when it comes to some aspects. Gender differences in sport motivation are often a topic of discussion. Race also comes into play when sports and athletic ability are involved. These physically visible traits are two of the most prominent things discussed when sports and athletic ability are brought up. For the purpose of this study the term Black will be used interchangeably with African American and White will be used interchangeable with Caucasian. News reporters and sports analysts are always commenting on the gender and ethnicity of athletes and making remarks about them. Another important factor in regards to sport motivation is an immaterial trait that can't be physically seen. Academic classification could have an influence on an athlete's motivational tendencies as it could indicate leadership and prolonged involvement in sport. Those who are classified as upperclassmen (junior and senior status) could be revered as leaders on their team and hence have more motivation to do well because of a sense of pride and ownership. Can these three traits help us predict the motivational style of athletes? These factors could have an influence on an individual's motivation to participate or not participate in sports as well as their overall success in them.

Sports have often been seen by many as a way to teach people valuable skills. It has been proven that athletes are better at multitasking and working on a team (Cooper, 2012 & Pivovar, 2014). Athletes have high levels of emotional and social intelligence, as well as higher levels of discipline and communication skills (Cooper, 2012). The findings from this study could help coaches and trainers better understand the decisions made by their athletes. By gaining as much insight as we can into the reasons why athletes engage in organized sports, we can learn how to continue their involvement and increase their chances of gaining valuable life skills and work skills sought after by many employers. While some athletes continue their career in sports on a professional level, many do not make it that far. However, the skills and lessons learned while participating in sports are what will help athletes continue their careers in the non-sport world after their athletic careers have ended.

Coaches are instrumental when it comes to impacting athletes' lives. They are responsible for developing the athletic abilities of the athletes. The psychological well-being of athletes is influenced tremendously by coaches as well. Athletes participate in sports because they enjoy them, they want to make someone else happy, or they want something else that they can get by participating. By looking into what the athlete hopes to gain from participating in their sport we can see what motivational influences they possess. For example, if an athlete enjoys their sport and likes the feeling of accomplishment they get from achieving their goals we would say they are motivated by intrinsic tendencies for their sport. Coaches can affect an athletes' enjoyment of their sport. They need

to understand how to coach each of their athletes in order to get the best performances, both physically and mentally, from them. More research is needed to understand if specific athletes have certain motivational tendencies so coaches and trainers can keep athletes engaged in sports to gain the valuable skills and lessons learned from sports engagement.

### **Purpose Statement**

The purpose of this study was to investigate differences in sport motivation in regards to gender, race, and academic classification. It is crucial to understand the motivation behind why people participate in sports because it can assist in determining continuing sport commitment. Sports are often seen as good indicators of commitment and hard work by future employers. Sports participation shows dedication and an ability to get along with and work with others to achieve common goals (Pivovar, 2014). The results of this study are intended to serve as a basis for further in-depth studies.

### **Guiding Questions**

The following research questions guided this study:

Is there a difference in sport motivation between genders?

Is there a difference in sport motivation among races?

Is there a difference in sport motivation among academic classification?

Do different genders, races, or academic classification of athletes tend to use different motivational strategies?

Can we predict which type of motivation a specific athlete will use based on their gender, race, or academic classification?

**Hypotheses**

Sixteen sets of hypotheses were studied in this investigation:

*Null One:* There is no difference in sport motivation in the overall group of athletes.

*Research One:* There is a difference in sport motivation in the overall group of athletes.

*Null Two:* There is no difference between genders in regards to intrinsic motivation.

*Research Two:* There is a difference between genders in regards to intrinsic motivation.

*Null Three:* There is no difference between genders in regards to extrinsic motivation.

*Research Three:* There is a difference between genders in regards to extrinsic motivation.

*Null Four:* There is no difference between genders in regards to amotivation.

*Research Four:* There is a difference between genders in regards to amotivation.

*Null Five:* There is no difference among males in regards to sport motivation.

*Research Five:* There is a difference among males in regards to sport motivation.

*Null Six:* There is no difference among females in regards to sport motivation.

*Research Six:* There is a difference among females in regards to sport motivation.

*Null Seven:* There is no difference between races in regards to intrinsic motivation.

*Research Seven:* There is a difference between races in regards to intrinsic motivation.

DIFFERENCES IN SPORT MOTIVATION

*Null Eight:* There is no difference between races in regards to extrinsic motivation.

*Research Eight:* There is a difference between races in regards to extrinsic motivation.

*Null Nine:* There is no difference between races in regards to amotivation.

*Research Nine:* There is a difference between races in regards to amotivation.

*Null Ten:* There is no difference among Whites in regards to sport motivation.

*Research Ten:* There is a difference among Whites in regards to sport motivation.

*Null Eleven:* There is no difference among Blacks in regards to sport motivation.

*Research Eleven:* There is a difference among Blacks in regards to sport motivation.

*Null Twelve:* There is no difference between academic classifications in regards to intrinsic motivation.

*Research Twelve:* There is a difference between academic classifications in regards to intrinsic motivation.

*Null Thirteen:* There is no difference between academic classifications in regards to extrinsic motivation.

*Research Thirteen:* There is a difference between academic classifications in regards to extrinsic motivation.

*Null Fourteen:* There is no difference between academic classifications in regards to amotivation.

*Research Fourteen:* There is a difference between academic classifications in regards to amotivation.

*Null Fifteen:* There is no difference among underclassmen in regards to sport motivation.

*Research Fifteen:* There is a difference among underclassmen in regards to sport motivation.

*Null Sixteen:* There is no difference among upperclassmen in regards to sport motivation.

*Research Sixteen:* There is a difference among upperclassmen in regards to sport motivation.

### **Definitions**

- **Amotivation:** a state of lacking any motivation to engage in an activity.
- **Emotional Intelligence:** the capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically.
- **Extrinsic Motivation:** motivation that comes from external, or outside, factors such as rewards in the form of money, grades, or trophies.
- **Intrinsic Motivation:** motivation that comes from the pleasure one gets from the task itself or from the sense of satisfaction in completing or even working on a task.
- **Social Intelligence:** the capacity to effectively navigate and negotiate complex social relationships and environments.
- **Sport:** an activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment.

**Chapter One Summary**

It is essential to understand what motivates athletes to engage in sport and how to keep them engaged. Involvement in sports is a very favorable sign to future employers. The results of this study will help coaches and trainers understand what influences sport motivation and how to keep athletes engaged in sports longer. The null hypotheses investigated tested if there was no difference in sport motivation based on gender, race, and academic classification.

## **Chapter 2**

### **Review of Related Literature**

#### **Overview**

Athletic coaches are major influences in athletes' lives. Things that they say and do can affect the athletes for good or for bad. It is important for coaches to be aware of how they are affecting their athletes. The two can form a special bond that will have a profound impact on the athlete's sport career. In order to make a positive impact rather than a negative one, a coach should understand what an athlete is hoping to gain from participating in the sport. Many studies have been done looking at the motivation of athletes (Chantal et al., 1996; Kingston et al., 2006; Amorose & Horn, 2000; Chin et al., 2012; Teo et al., 2015; Viira & Raudsepp, 2000). The "gold standard" of measurement for motivation is the Sport Motivation Scale (SMS) developed by Pelletier et al (1995). This scale measures the level of intrinsic, extrinsic, and amotivation answers given to questions about an athlete's sport. It is still widely used today in motivation studies.

#### **Motivation**

Motivation is defined as: the reason(s) one has for acting or behaving in a particular way. It is the answer to the question of "why" we are engaging in that behavior (Deci & Ryan, 1985). The "why" theory (Deci & Ryan, 2000) argues that motivation is best understood in terms of goals that are associated with an activity or sport (Roberts, 2001). People form goals in association with activities,

and motivation can be described as a factor for the way they go about forming and reaching those goals (Roberts, 2001) and their reasons for engaging in the activity (Deci & Ryan, 1985). Vallerand & Losier (1999) states “the reasons for doing an activity are generally perceived as indicative of the person’s motivation toward a given activity”. An example of this would be athletes being asked, “Why do you participate in your sport?” and the possible answers they gave to “why” reflect the different types of motivation (Pelletier et al., 1995).

There are three main types of motivation that numerous studies focus on: intrinsic, extrinsic, and amotivation (Vallerand, 2004; Deci et al., 1991; Pelletier et al., 1995; Pelletier et al., 2013). As previously discussed, intrinsic motivation refers to engaging in an activity purely for the pleasure and satisfaction gained from doing the activity. Extrinsic motivation refers to engaging in an activity for the external rewards involved, and amotivation refers to not being able to identify a reason for engaging in an activity. These three types of motivation are the way that we answer the “why” question of sport. Each answer to the why question can be categorized into one of these three categories. It is important for coaches and those involved in sports to understand why their athletes are participating in the activity. The knowledge will allow them to help each athlete with their specific needs and hopefully keep them motivated and participating in the sport longer. Coaches are instrumental in helping retain athletes and decreasing the drop-out rates in sport. This is why it is important for them to understand and recognize each athlete’s motivation.

**Self-Determination Theory**

Self-determination theory (SDT) has been incorporated into many studies aiming to understand engagement in sports (Pelletier et al., 2013). SDT is concerned with the self-motivation, and the degree to which an athlete's behavior is self-determined, behind an individual's choices to satisfy their innate psychological needs (Deci & Ryan, 1985). In reference to sports engagement, SDT proposes individuals engage in activities in an attempt to master three basic psychological needs; competence, relatedness, and autonomy (Pelletier et al., 2013). Competence refers to an opportunity for one to express their competence or capability (Deci & Ryan, 1985). Relatedness is the sense of belonging to a certain group or community, and the concept of autonomy is the freedom to act or express oneself in ways that match one's own needs and value system (Deci & Ryan, 1985).

**Cognitive Evaluation Theory**

Cognitive evaluation theory (Deci & Ryan, 1985, 1991) states that a person's motivation varies in correspondence with changes in their perception of self-determination. Events and activities that lead to gains in components of self-determination (competence, relatedness, and/or autonomy) increase intrinsic motivation (Pelletier et al., 1995), and those that undermine a person's feelings of self-determination decrease intrinsic motivation.

In terms of sport, competition is a very important factor when it comes to intrinsic motivation. In line with Deci & Ryan's (1985, 1991) research with self-determination theory, "a sport context in which external elements to the activity

are emphasized (e.g. beating an opponent or winning a prize) will negatively affect the athlete's perceptions of autonomy...and subsequently undermine their intrinsic motivation toward the activity". Fortier et al. (1995) states "however, when the climate is mastery oriented (trying to do as best as one can), then intrinsic motivation is preserved and perhaps even enhanced".

Cognitive evaluation theory helps to explain why Self-determination theory can affect the motivation of athletes. It is important for athletes to get the proper mixture of competition, with goals of beating an opponent or performance time as well as mastering a certain skill or trick, for them to feel good about their athletic performances (Fortier et al., 1995). Coaches can help to steer them in the right direction when setting goals and find the right tone balance for their season to make sure the athlete does not get discouraged or feel like a failure for not achieving their goals. It is important for coaches to understand each athlete as a separate individual that has different needs and make sure those needs are being met (Pelletier et al., 2013). Otherwise the athletes will drop out of the sport if their needs are not being met and they are not gaining anything from participating.

### **Impact of Gender**

While many studies have been done involving sports motivation based on gender differences, the literature is conflicting. Numerous early studies found that females demonstrate greater interest in the characteristics of intrinsic motivation, such as fun, satisfaction, and pleasure (Chantal et al., 1996; Fortier et al., 1995). Male athletes showed higher extrinsic motivation characterized by their focus on competition, winning, rewards, and recognition (Chantal et al.,

1996; Fortier et al., 1995). Male scholarship athletes were found to demonstrate notably higher levels of extrinsic motivation in comparison to female athletes (Kingston et al., 2006). Other studies found contradicting results. Amorose & Horn (2000) found that scholarship athletes, regardless of gender, reported higher levels of intrinsic motivation than did non-scholarship athletes, and they also found that male athletes reported higher intrinsic motivation than female athletes, regardless of scholarship. Intrinsic motivation was more prominent among male Korean athletes (Kim et al., 2003). Malaysian male athletes also were found to be more intrinsically motivated compared to females for track and field athletes (Chin et al., 2012) and for ten-pin bowlers (Teo et al., 2015).

Other researchers found differences when investigating external and internal sport motivation with adolescents. Males were more likely to participate in a sport as a means to test their abilities. They were influenced by the competition, victory, and chance to display strength and achieve success (Viira & Raudsepp, 2000). Intrinsic motivation factors such as having fun, enjoyment of the sport, and social-get together were more prevalent for females (Viira & Raudsepp, 2000). While Bollok et al. (2011) found similar results to those mentioned previously, some external accommodation motivation factors (such as acceptance and other's opinions) played a major role in their study with young female adults. Bollok et al. (2011) and Kondric et al. (2013) found that approval of their peers and increasing their popularity (extrinsic motivation) were important motivational factors for teenagers of both genders.

**Race and Athletes**

Some researchers would argue that race plays an important role in athletic success in sport (Metheny, 1939; Sailes, 1991; Sailes, 1993; Entine, 2000, 2000). There are several reasons researched and discussed that seem to be most prominent in this area of study. First, it was assumed that Black athletes were given an advantage in sports due to their superior body build (Sailes, 1991; Entine, 2000). The body build of the Black athlete was believed to have come about from “The Survival of the Fittest theory” (Sailes, 1993). Sailes says that only the fittest and healthiest of Black slaves survived the journey across the Atlantic Ocean on the slave ships. And only the very fittest and strongest of the slaves survived to reproduce on the slave plantations in America. This allowed their superior genes to be passed on to their descendants, who include today’s Black athletes. Second, it was believed that Black athletes dominate in speed, jumping, and sprinting sports because they have more fast-twitch muscle fibers (Entine, 2000). Jon Entine’s book *Taboo: Why Black Athletes Dominate Sports and Why We’re Afraid to Talk About It* discusses how sickle cell disease has helped Black athletes (through genetic natural selection) develop into the top world-class athletes in speed and jumping events. The evolution of higher percentages of fast-twitch muscles in Blacks is thought to be contributed to the sickle cell gene (Entine, 2000, 2000, 2000). Furthermore, the anatomical differences of Black athletes in relation to their White counterparts give them a certain advantage in some sports over others (Sailes, 1991, 1993; Entine, 2000, 2000, 2000). Some of these advantages include: greater body density, less

subcutaneous fat on arms and legs, distal elongation of segments on arms and legs, and higher center of gravity.

The evolution and progression of Black athletes into the best sprinters and jumpers in the world is undeniably based on genetics. But while genes play an important role in athletics, an athlete's success cannot be attributed to genes alone. Anatomical advantages did little to help the athlete if they were lacking in social and psychological variables that are crucial to their athletic development (Methany 1939; Sailes, 1991, 1993). The physical advantages of Black athletes "are insignificant unless they are fully developed through vigorous training and by participating in a nurturing and competitive environment that creates an opportunity for athletic success" (Sailes, 1991, p. 485). Social and psychological domains, which are in the same domain as self-determination theory, are very important for the success of the top Black athletes (Metheny, 1939; Sailes, 1991, 1993). Therefore we could assume that the best Black athletes also have high levels of autonomy and intrinsic motivation.

### **Athlete Performance**

Athlete performance could be influenced by race, gender, or other characteristics. Research suggests that autonomy and goal setting (cognitive variables) can influence athletic performance as well (Pelletier et al., 1995, 2013; Deci & Ryan, 1991; Fortier et al, 1995). People are more fully involved in what they are doing when they are intrinsically motivated and self-determined, which in turn leads to better performances in that activity (Pelletier et al., 1995). Better performances in turn leads to higher levels of autonomy and increases the feeling

of competence an athlete gets from doing an activity well. This then leads to more motivation (intrinsic) to keep practicing and doing the activity. Self-determination leads to optimal performances (Fortier et al., 1995; Deci & Ryan, 1985, 1991; Pelletier et al., 1995). Research reveals that when people are extrinsically motivated they tend to do the minimum amount of work that will allow them to receive the reward or defeat the opponent (Pelletier et al., 1995). This means that the extra effort it would take to achieve an optimal performance for that person would not happen, and they may never achieve their full and true potential. Yet there is little evidence that directly links only intrinsic motivation and self-determination to athletic performance. Athletes' motivation can be enhanced or undermined by factors in the home and sport environments (Pelletier et al., 1995; Deci & Ryan, 1985, 1991; Fortier et al., 1995).

### **Academics and Athletics**

Athletic performance and motivation has been found to influence academic performance and motivation (Gaston-Gayles, 2004; Kim et al., 2003). Simons et al (1999) reported that commitment to athletics was negatively correlated with college grade point average. Certain student athletes who were classified as *failure acceptors* (i.e., not motivated to approach success or avoid failure) were less committed to succeeding in the classroom and more committed to playing their sport. Simons et al (1999) suggested that failure acceptors' main reason for attending college was to play sports. Some student athletes have high dreams for themselves and aspire to play sports at the professional level. Research suggested that these athletes also have high aspirations to earn a college

degree (Simons et al., 1999). However, their commitment to academics is low, as they spend more time focused on athletics and trying to make it professionally (Simons et al., 1999; Center for the Study of Athletics, 1988). Gaston-Gayles (2004) found opposite results in her research. Her findings were that career athletic motivation and student athlete motivation were nonsignificant in determining academic success. This more recent research suggests the desire to pursue a professional athletic career does not take away from academic success as Simons et al (1999) found.

Academic performance can be predicted using other factors than athletic motivation and performance. The relationship between noncognitive variables and academic performance was studied by Tracey and Sedlacek (1985). They used the Non-Cognitive Questionnaire (NCQ) and reported seven variables to be related to academic success. These noncognitive factors are: (a) positive self-concept, (b) realistic self-appraisal, (c) understanding and dealing with racism, (d) setting long-term goals, (e) strong support system, (f) leadership experiences, and (g) community service experience. The variables Tracey and Sedlacek (1985) found to be associated with academic success also are relative to factors of intrinsic motivation, such as positive self-concept and realistic self-appraisal. This could potentially mean that athletes who show higher levels of intrinsic motivation in sport will also show higher levels of academic success. While there is evidence that athletic motivation can impact academic motivation, is there evidence that the opposite is true? Can academic motivation and performance impact athletic motivation and performance?

**Chapter Two Summary**

The literature on sport motivation shows many different results and theories. Some theories reviewed in this chapter include the Why theory, Self-determination theory, and Cognitive Evaluation theory. There can be many different factors involved which can affect an athlete's motivation in sports. This chapter reviewed articles which studied gender, race, academics, and athletic performance as items that could affect sport performance and motivation. There are multiple other factors that could affect sport motivation that could serve as the basis for future studies.

### **Chapter 3**

#### **Methodology**

##### **Participants**

The varsity head track and field coaches at a small Division III college in the Midwest were approached in person to obtain permission to use their teams in this study. These teams were approached because their athletes fit the criteria of the study. Participants were asked to complete and return a survey about sport motivation (Appendix A) as well as a demographic questionnaire (Appendix B). A group of 53 (20 male, 33 female) athletes volunteered to participate.

Individuals were all a part of the varsity track and field team at the college for at least one season. Freshman ( $n=13$ ) and sophomores ( $n=18$ ) made up 58.49% of the participants, while Juniors ( $n=9$ ) and Seniors ( $n=13$ ) made up the remaining 41.51%. Three different ethnicities were represented in the study with 77.36% being Caucasian ( $n=41$ ), followed by 18.87% being African American ( $n=10$ ), and the last 3.77% being non-specified ( $n=2$ ). This study was approved by the college IRB Institutional Review Board committee of the institution where this research was performed.

##### **Instruments**

The Sport Motivation Scale (SMS) (Appendix A) developed by Pelletier et al. (1995) was the tool administered to measure motivation. This instrument is considered the “gold standard” for studying motivation. The 28 item SMS consists of seven factor subscales, with each of the 28 items rated on a 7-point

Likert-type scale ranging from 1 (does not correspond at all) to 7 (corresponds exactly). Higher scores indicate a higher level of motivation with a total score of 28 points being the maximum for each of the seven subscales. A separate four item demographic questionnaire was included to obtain information about the participants' gender, race, sport, and academic year in school.

### **Procedures for Data Collection**

Participants were recruited through the head coaches of the varsity track and field teams at a small Division III college in the Midwest. Participation for the athletes was voluntary and consent was implied by filling out the survey. Participants were informed about the objective of the investigation and were informed that they were not obliged to respond to any questions if they were not comfortable doing so. They were also informed that they were free to withdraw at any time without penalty. The questionnaires and surveys were distributed to the participants by the coaches and were collected by the coaches as well. The researcher did not have any contact with the participants and codes were used to classify and categorize all the data collected to ensure confidentiality.

### **Data Analysis**

Microsoft Excel 2013 was used for the data analysis. Gender (male vs. female), Race (Black vs. White), and academic classification (freshmen and sophomores vs. juniors and seniors) differences were compared separately using independent t-tests for intrinsic and extrinsic motivation. Differences were also investigated amongst the genders, races, and academic years. The level of significance used was set at  $p < 0.05$ .

**Chapter Three Summary**

Participants for this investigation were track and field athletes recruited by their head coach at a small Division III college in the Midwest. Inclusion in the study was voluntary and responses to a survey were completely confidential. The SMS and a demographic questionnaire were completed by each participant. The data was analyzed with Microsoft Excel 2013 using t-tests. Differences in extrinsic and intrinsic motivation based on gender, race, and academic classification were investigated.

## Chapter 4

### Results

#### Overview

The researcher analyzed the data collected by using the average of the scores the participants recorded on the Sport Motivation Scale. The researcher took the subtotal of each of the subscales and found the average score recorded for each subscale. The researcher then used the average scores in the final tests and results. A  $p$  value of 0.05 significance was used when analyzing each hypothesis tested.

#### Hypothesis One

The data analysis revealed that track and field athletes were more motivated by intrinsic motivation (IM) ( $X=5.38 \pm 1.15$ ) than by extrinsic motivation (EM) ( $X=4.60 \pm 1.22$ ). Table 1 below provides the data analysis results for hypothesis one. The  $p$  value was  $9.48 \times 10^{-4}$ . The researcher found a  $t$  value of 3.40 when a  $t$  critical value of 1.98 was needed. Thus, the researcher rejected null hypothesis one and accepted research hypothesis one meaning that there was a difference between IM and EM in track and field athletes.

*Table 1 Analysis of track and field athletes*

Hypothesis	t Value	Critical Value	p Value	Decision
$N_{01}: X_{IM} = X_{EM}$ $R_{01}: X_{IM} \neq X_{EM}$	3.40	-1.98 or 1.98	$9.48 \times 10^{-4}$	Reject $N_{01}$ and Accept $R_{01}$

**Legend for Table 1**

$X_{IM}$  = Total sample average for intrinsic motivation

$X_{EM}$  = Total sample average for extrinsic motivation

**Hypothesis Two**

The data analysis showed there was not a significant gender difference in the IM dimension, however female track and field athletes ( $X=5.52 \pm 0.83$ ) showed higher IM scores compared with male track and field athletes ( $X=5.15 \pm 1.53$ ). Table 2 below provides the data analysis results for hypothesis two. The  $p$  value was 0.26. The researcher found a  $t$  value of -1.12 when a  $t$  critical value of -2.00 was needed. When analyzing the results for hypothesis two, the researcher found that null hypothesis two should be accepted since there was no difference between genders in IM in track and field athletes.

**Table 2 Analysis of IM between genders**

Hypothesis	t Value	Critical Value	p Value	Decision
$N_{02}: X_{MIM} = X_{FIM}$ $R_{02}: X_{MIM} \neq X_{FIM}$	-1.12	-2.00 or 2.00	0.26	Accept $N_{02}$

**Legend for Table 2**

$X_{MIM}$  = Male average for intrinsic motivation

$X_{FIM}$  = Female average for intrinsic motivation

**Hypothesis Three**

Analysis of the EM dimension revealed there was not a significant gender difference, however females ( $X=4.64 \pm 1.09$ ) showed higher EM scores compared with males ( $X=4.53 \pm 1.44$ ). Table 3 below provides the data analysis results for hypothesis three. The  $p$  value found was 0.74. The researcher found a  $t$  value of -

0.33 when a t critical value of -2.00 was needed. Thus, the researcher accepted null hypothesis three meaning that there was no difference between genders in EM in track and field athletes.

**Table 3 Analysis of EM between genders**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>03</sub> : $X_{MEM} = X_{FEM}$ R <sub>03</sub> : $X_{MEM} \neq X_{FEM}$	-0.33	-2.00 or 2.00	0.74	Accept N <sub>03</sub>

**Legend for Table 3**

$X_{MEM}$  = Male average for extrinsic motivation

$X_{FEM}$  = Female average for extrinsic motivation

#### Hypothesis Four

The data analysis showed no significant gender difference while analyzing the amotivation (AM) dimension. Female track and field athletes ( $X=2.27 \pm 1.41$ ) showed higher scores for AM than their male counterparts ( $X=2.18 \pm 1.44$ ).

Table 4 below provides the data analysis results for hypothesis four. The p value found was 0.82. The researcher found a t value of -0.22 when a t critical value of -2.00 was needed. The researcher accepted null hypothesis four meaning that there was no difference between genders in amotivation in track and field athletes.

**Table 4 Analysis of AM between genders**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>04</sub> : $X_{MAM} = X_{FAM}$ R <sub>04</sub> : $X_{MAM} \neq X_{FAM}$	-0.22	-2.00 or 2.00	0.82	Accept N <sub>04</sub>

**Legend for Table 4**

$X_{MAM}$  = Male average for amotivation

$X_{FAM}$  = Female average for amotivation

**Hypothesis Five**

Males were not found to show a significant difference between IM and EM. They did show higher scores for IM ( $X=5.15 \pm 1.53$ ) compared to EM ( $X=4.53 \pm 1.44$ ). Table 5 below provides the data analysis results for hypothesis five. The  $p$  value found was 0.18. The researcher found a  $t$  value of 1.33 when a  $t$  critical value of 2.02 was needed. The researcher accepted null hypothesis five meaning that there was no difference between IM and EM in male track and field athletes.

**Table 5 Analysis of male athletes**

Hypothesis	t Value	Critical Value	p Value	Decision
$N_{05}: X_{MIM} = X_{MEM}$ $R_{05}: X_{MIM} \neq X_{MEM}$	1.33	-2.02 or 2.02	0.18	Accept $N_{05}$

**Hypothesis Six**

Females were found to show a significant difference between IM ( $X=5.52 \pm 0.83$ ) and EM ( $X=4.64 \pm 1.09$ ). Table 6 below provides the data analysis results for hypothesis six. The  $p$  value found was  $4.91 \times 10^{-4}$ . The researcher found a  $t$  value of 3.67 when a  $t$  critical value of 1.99 was needed. Thus, the researcher rejected null hypothesis six and accepted research hypothesis six meaning that there was a difference between IM and EM in female track and field athletes.

**Table 6 Analysis of female athletes**

Hypothesis	t Value	Critical Value	p Value	Decision
$N_{06}: X_{FIM} = X_{FEM}$ $R_{06}: X_{FIM} \neq X_{FEM}$	3.67	-1.99 or 1.99	$4.91 \times 10^{-4}$	Reject $N_{06}$ and Accept $R_{06}$

**Hypothesis Seven**

The data analysis results showed there was not a significant difference between races in the IM dimension, however White track and field athletes ( $X=5.27 \pm 1.18$ ) showed lower IM scores than Black track and field athletes ( $X=5.71 \pm 1.03$ ). Table 7 below provides the data analysis results for hypothesis seven. The  $p$  value found was 0.28. The researcher found a  $t$  value of -1.08 when a  $t$  critical value of -2.00 was needed. The researcher accepted null hypothesis seven meaning that there was no difference in IM based on race.

**Table 7 Analysis of IM between races**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>07</sub> : $X_{WIM} = X_{BIM}$ R <sub>07</sub> : $X_{WIM} \neq X_{BIM}$	-1.08	-2.00 or 2.00	0.28	Accept N <sub>07</sub>

**Legend for Table 7**

$X_{WIM}$  = White average for intrinsic motivation

$X_{BIM}$  = Black average for intrinsic motivation

**Hypothesis Eight**

The analysis of the EM dimension revealed there was not a significant race difference, however Blacks ( $X=4.98 \pm 1.24$ ) showed higher EM scores compared with Whites ( $X=4.48 \pm 1.21$ ). Table 8 below provides the data analysis results for hypothesis eight. The  $p$  value found was 0.24. The researcher found a  $t$  value of -1.16 when a  $t$  critical value of -2.00 was needed. Thus, the researcher accepted null hypothesis eight meaning that there was no difference in EM based on race for track and field athletes.

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>08</sub> : $X_{WEM} = X_{BEM}$ R <sub>08</sub> : $X_{WEM} \neq X_{BEM}$	-1.16	-2.00 or 2.00	0.24	Accept N <sub>08</sub>

**Legend for Table 8**

$X_{WEM}$  = White average for extrinsic motivation

$X_{BEM}$  = Black average for extrinsic motivation

**Hypothesis Nine**

The data analysis results showed no significant race difference while analyzing the AM dimension. Black track and field athletes ( $X=2.37 \pm 1.33$ ) showed higher scores for AM than their White counterparts ( $X=2.14 \pm 1.44$ ). Table 9 below provides the data analysis results for hypothesis nine. The *p* value found was 0.74. The researcher found a *t* value of -0.32 when a *t* critical value of -2.00 was needed. The researcher accepted null hypothesis nine meaning that there was no difference between races in amotivation in track and field athletes.

**Table 9 Analysis of AM between races**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>09</sub> : $X_{WAM} = X_{BAM}$ R <sub>09</sub> : $X_{WAM} \neq X_{BAM}$	-0.32	-2.00 or 2.00	0.74	Accept N <sub>09</sub>

**Legend for Table 9**

$X_{WAM}$  = White average for amotivation

$X_{BAM}$  = Black average for amotivation

**Hypothesis Ten**

White track and field athletes were found to show a significant difference between IM ( $X=5.27 \pm 1.18$ ) and EM ( $X=4.48 \pm 1.21$ ). Table 10 below provides

the data analysis results for hypothesis ten. The  $p$  value found was  $3.96 \times 10^{-3}$ .

The researcher found a  $t$  value of 2.96 when a  $t$  critical value of 1.99 was needed.

Thus, the researcher rejected null hypothesis ten and accepted research hypothesis ten meaning that there was a difference between IM and EM in White track and field athletes.

**Table 10 Analysis of White athletes**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>10</sub> : $X_{WIM} = X_{WEM}$ R <sub>10</sub> : $X_{WIM} \neq X_{WEM}$	2.96	-1.99 or 1.99	$3.96 \times 10^{-3}$	Reject N <sub>10</sub> and Accept R <sub>10</sub>

### Hypothesis Eleven

Black track and field athletes were not found to show a significant difference between IM and EM. They did show higher scores for IM ( $X=5.71 \pm 1.03$ ) compared to EM ( $X=4.98 \pm 1.24$ ). Table 11 below provides the data analysis results for hypothesis eleven. The  $p$  value found was 0.17. The researcher found a  $t$  value of 1.41 when a  $t$  critical value of 2.10 was needed. The researcher accepted null hypothesis eleven meaning that there was no difference between IM and EM in Black track and field athletes.

**Table 11 Analysis of Black athletes**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>11</sub> : $X_{BIM} = X_{BEM}$ R <sub>11</sub> : $X_{BIM} \neq X_{BEM}$	1.41	-2.10 or 2.10	0.17	Accept N <sub>11</sub>

**Hypothesis Twelve**

The data analysis showed there was not a significant difference in the IM dimension in academic classification, however underclassmen track and field athletes ( $X=5.50 \pm 0.86$ ) showed higher IM scores compared with upperclassmen track and field athletes ( $X=5.19 \pm 1.45$ ). Table 12 below provides the data analysis results for hypothesis twelve. The  $p$  value found was 0.34. The researcher found a  $t$  value of 0.96 when a  $t$  critical value of 2.00 was needed. When analyzing the results for hypothesis twelve, the researcher found that null hypothesis twelve should be accepted since there was no difference between academic classifications in IM for track and field athletes.

**Table 12 Analysis of IM between academic classes**

<b>Hypothesis</b>	<b>t Value</b>	<b>Critical Value</b>	<b>p Value</b>	<b>Decision</b>
$N_{12}: X_{LIM} = X_{HIM}$ $R_{12}: X_{LIM} \neq X_{HIM}$	0.96	-2.00 or 2.00	0.34	Accept $N_{12}$

**Legend for Table 12**

$X_{LIM}$  = Underclassmen average for intrinsic motivation

$X_{HIM}$  = Upperclassmen average for intrinsic motivation

**Hypothesis Thirteen**

The analysis of the EM dimension revealed there was not a significant academic classification difference, however underclassmen ( $X=4.67 \pm 1.04$ ) showed higher EM scores compared with upperclassmen ( $X=4.47 \pm 1.45$ ). Table 13 below provides the data analysis results for hypothesis thirteen. The  $p$  value found was 0.55. The researcher found a  $t$  value of 0.59 when a  $t$  critical value of 2.00 was needed. Thus, the researcher accepted null hypothesis thirteen meaning

that there was no difference between academic classes in EM in track and field athletes.

**Table 13 Analysis of EM between academic classes**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>13</sub> : $X_{LEM} = X_{HEM}$ R <sub>13</sub> : $X_{LEM} \neq X_{HEM}$	0.59	-2.00 or 2.00	0.55	Accept N <sub>13</sub>

**Legend for Table 13**

$X_{LEM}$  = Underclassmen average for extrinsic motivation

$X_{HEM}$  = Upperclassmen average for extrinsic motivation

#### **Hypothesis Fourteen**

The data analysis results showed no significant difference between academic classifications while analyzing the AM dimension. Underclassmen track and field athletes ( $X=2.37 \pm 1.48$ ) showed higher scores for AM than their upperclassmen counterparts ( $X=1.91 \pm 1.23$ ). Table 14 below provides the data analysis results for hypothesis fourteen. The  $p$  value found was 0.39. The researcher found a  $t$  value of 0.85 when a  $t$  critical value of 2.00 was needed. The researcher accepted null hypothesis fourteen meaning that there was no difference in amotivation between academic classifications in track and field athletes.

**Table 14 Analysis of AM between academic classes**

Hypothesis	t Value	Critical Value	p Value	Decision
N <sub>14</sub> : $X_{LAM} = X_{HAM}$ R <sub>14</sub> : $X_{LAM} \neq X_{HAM}$	0.85	-2.00 or 2.00	0.39	Accept N <sub>14</sub>

**Legend for Table 14**

$X_{LAM}$  = Underclassmen average for amotivation

$X_{HAM}$  = Upperclassmen average for amotivation

**Hypothesis Fifteen**

Underclassmen were found to show a significant difference between IM ( $X=5.50 \pm 0.86$ ) and EM ( $X=4.67 \pm 1.04$ ). Table 15 below provides the data analysis results for hypothesis fifteen. The  $p$  value found was  $1.26 \times 10^{-3}$ . The researcher found a  $t$  value of 3.38 when a  $t$  critical value of 2.00 was needed. Thus, the researcher rejected null hypothesis fifteen and accepted research hypothesis fifteen meaning that there was a difference between IM and EM in underclassmen track and field athletes.

*Table 15 Analysis of underclassmen athletes*

Hypothesis	t Value	Critical Value	p Value	Decision
$N_{15}: X_{LIM} = X_{LEM}$ $R_{15}: X_{LIM} \neq X_{LEM}$	3.38	-2.00 or 2.00	$1.26 \times 10^{-3}$	Reject $N_{15}$ and Accept $R_{15}$

**Hypothesis Sixteen**

Upperclassmen were not found to show a significant difference between IM and EM. They did show higher scores for IM ( $X=5.19 \pm 1.45$ ) compared to EM ( $X=4.47 \pm 1.45$ ). Table 16 below provides the data analysis results for hypothesis sixteen. The  $p$  value found was 0.10. The researcher found a  $t$  value of 1.64 when a  $t$  critical value of 2.01 was needed. The researcher accepted null hypothesis sixteen meaning that there was no difference between IM and EM in upperclassmen track and field athletes.

**Table 16 Analysis of upperclassmen athletes**

<b>Hypothesis</b>	<b>t Value</b>	<b>Critical Value</b>	<b>p Value</b>	<b>Decision</b>
$N_{16}: X_{HIM} = X_{HEM}$ $R_{16}: X_{HIM} \neq X_{HEM}$	1.64	-2.01 or 2.01	0.10	Accept $N_{16}$

### **Chapter Four Summary**

After analyzing the data, the researcher found that the null hypotheses for one, six, ten, and fifteen should be rejected and the corresponding research hypotheses for one, six, ten, and fifteen should be accepted. The researcher found that the null hypotheses for two, three, four, five, seven, eight, nine, eleven, twelve, thirteen, fourteen, and sixteen should be accepted since there was not enough evidence to reject them.

## **Chapter 5**

### **Discussion, Recommendations, Conclusion**

#### **Purpose of Study**

The purpose of this study was to investigate different types of motivation among track and field athletes at a NCAA Division III Midwestern college based on gender, race, and academic classification. The categories that were used to compare sport motivation differences in this study were male, female, Black, White, underclassmen, and upperclassmen.

#### **Discussion**

The data analysis for null hypothesis one found a significant difference in intrinsic motivation in track and field athletes and extrinsic motivation in track and field athletes, regardless of any category. Athletes had an average IM score of 5.38 compared to an EM score of 4.60. This led to null hypothesis one being rejected and research hypothesis one being accepted. This means that track and field athletes in this study are more motivated by intrinsic factors than extrinsic factors. Higher IM scores are a positive sign, because this reflects engagement motives associated with fun and self-improvement. Vallerand (2004) hypothesized that high IM is a strong indicator of prolonged engagement in sports, which supports this finding.

The data analysis for null hypothesis two did not find a significant difference in intrinsic motivation in males and intrinsic motivation in females. Female athletes had higher IM scores than males (5.52 vs 5.15). These results are

in-line with previous studies by Chantal et al., 1996 and Viira & Raudsepp, 2000

in which female athletes showed higher IM scores than male athletes. This suggests that females are more motivated by intrinsic factors in sports than males, however, there was not enough evidence to reject null hypothesis two. This led to null hypothesis two being accepted.

The data analysis for null hypothesis three did not find a significant difference in extrinsic motivation in males and extrinsic motivation in females. The results did show female athletes had higher EM scores than males (4.64 vs 4.53), but only by a score of 0.11. This led to null hypothesis three being accepted. The results could be reflective of the data collection setting. Track and field athletes were recruited from a competitive college program. Winning is an important part of the track and field program at the college. Females are trained to be competitive in order to excel and succeed, especially in a sport and program that also has males training and competing alongside them.

The data analysis for null hypothesis four did not find a significant difference in amotivation in males and amotivation in females. Female athletes did show higher AM scores than male athletes (2.27 vs 2.18), but only by a score of 0.09. This led to null hypothesis four being accepted. This means that one gender is not more amotivated than the other when it comes to the sport of track and field.

The data analysis for null hypothesis five did not find a significant difference in intrinsic motivation in male athletes and extrinsic motivation in male athletes. This led to null hypothesis five being accepted. However, the results did

show males had higher scores for IM (5.15) compared to EM (4.53) with an average difference in score of 0.62. The data analysis showed a  $p$  value of 0.18, which meant the data was trending towards significance. This means that males showed a close to significant difference in IM vs EM, but there was not enough data to evidence to reject null hypothesis five.

The data analysis for null hypothesis six found a significant difference in intrinsic motivation in female athletes and extrinsic motivation in female athletes. This led to null hypothesis six being rejected and research hypothesis six being accepted. Female athletes showed an average score of 0.88 higher for IM when compared to EM. This means that females display more intrinsic motivation when it came to the sport of track and field. Bollok et al. (2011) and Kondric et al. (2013) found similar results which suggest that in today's society it is becoming more acceptable for females to pursue their dreams of knowledge and self-discovery. Sport has become a channel for females to rise up to the level of their male counterparts and feel a sense of accomplishment in regards to their self-esteem.

The data analysis for null hypothesis seven did not find a significant difference in Black intrinsic motivation and White intrinsic motivation. This led to null hypothesis seven being accepted. Black track and field athletes had higher IM scores than White track and field athletes (5.71 vs 5.27) with an average score difference of 0.44. This means that one race is not significantly more motivated by intrinsic factors than the other.

The data analysis for null hypothesis eight did not find a significant difference in Black extrinsic motivation and White extrinsic motivation. This led to null hypothesis eight being accepted. When comparing the average scores for Black track and field athletes and White track and field athletes, Black athletes had an average EM score 0.50 higher than White athletes. This means that one race is not significantly more motivated by extrinsic factors than the other.

The data analysis for null hypothesis nine did not find a significant difference in Black amotivation and White amotivation. This led to null hypothesis nine being accepted. The average difference for AM scores when comparing Black and White track and field athletes was 0.23, with Black athletes showing the higher score (2.37 vs 2.14). This means that one race is not significantly more amotivated than the other.

The data analysis for null hypothesis ten found a significant difference in intrinsic motivation in White athletes and extrinsic motivation in White athletes. This led to null hypothesis ten being rejected and research hypothesis ten being accepted. White track and field athletes showed an average score of 0.79 higher for IM when compared to EM. It is a significant difference in scores which suggests that White athletes display more extrinsic motivation than intrinsic motivation when it comes to the sport of track and field. The data analysis found a  $p$  value of  $3.96 \times 10^{-3}$ . This significant difference in motivation could be influenced by the data collection setting. Track and field athletes were recruited from a competitive college program where winning was heavily taken into account.

The data analysis for null hypothesis eleven did not find a significant difference in intrinsic motivation in Black athletes and extrinsic motivation in Black athletes. When comparing the average scores for IM and EM in Black track and field athletes, the average IM score was 0.73 higher than the average EM score. This difference in scores could possibly be the result of having better Black competitors participate in the study. Previous research (Metheny, 1939; Sailes, 1991, 1993) suggests that the best Black athletes show higher levels of autonomy and display more intrinsic motivation. The results of the data analysis showed a  $p$  value of 0.17, which means the data was trending towards significance. However, not enough evidence was found to reject null hypothesis eleven and accept research hypothesis eleven. This means that there is no difference in intrinsic and extrinsic motivation in Black track and field athletes.

The data analysis for null hypothesis twelve did not find a significant difference in intrinsic motivation in underclassmen (freshman and sophomore status athletes) and intrinsic motivation in upperclassmen (junior and senior status athletes). When comparing the IM scores of underclassmen athletes and upperclassmen athletes, there was an average score difference of 0.31, with underclassmen having the higher average IM score. This led to null hypothesis twelve being accepted. There is no difference in intrinsic motivation between underclassmen and upperclassmen track and field athletes.

The data analysis for null hypothesis thirteen did not find a significant difference in extrinsic motivation in underclassmen and extrinsic motivation in upperclassmen. Underclassmen athletes had a higher average EM score than

upperclassmen (4.67 vs 4.47). This led to null hypothesis thirteen being accepted.

There is no difference in extrinsic motivation between underclassmen and upperclassmen track and field athletes.

The data analysis for null hypothesis fourteen did not find a significant difference in amotivation in underclassmen and amotivation in upperclassmen. There was an average AM score difference of 0.46 between the under and upper classmen, with underclassmen showing higher average AM scores (2.37 vs 1.91). This led to null hypothesis fourteen being accepted. There is no difference in amotivation between underclassmen and upperclassmen track and field athletes.

The data analysis for null hypothesis fifteen found a significant difference in intrinsic motivation in underclassmen and extrinsic motivation in underclassmen. When comparing average IM scores and EM scores in underclassmen athletes there was a score difference of 0.83, with underclassmen showing higher scores for IM than for EM (5.50 vs 4.67). This led to null hypothesis fifteen being rejected and research hypothesis fifteen being accepted. Underclassmen athletes display more intrinsic motivation than extrinsic motivation in the sport of track and field. A possible reason for this could be that early in a collegiate athlete's career the main goal is to improve their performances from their high school performances. Many athletes make goals to better their times or distances, and the mastery of those goals, with the proper training and commitment that collegiate athletics requires, leads to increased autonomy and self-confidence. Autonomy and self-confidence are important

components of intrinsic motivation and increasing those components can lead to increasing an athlete's intrinsic motivation.

The data analysis for null hypothesis sixteen did not find a significant difference in intrinsic motivation in upperclassmen and extrinsic motivation in upperclassmen athletes. Upperclassmen athletes had a higher average IM score than EM score (5.19 vs 4.47). The results of the data analysis showed a  $p$  value of 0.10, which means the data was strongly trending towards significance. However, not enough evidence was found to reject null hypothesis sixteen and accept research hypothesis sixteen. This means that there is no difference in intrinsic motivation and extrinsic motivation in upperclassmen track and field athletes.

### **Conclusions**

As shown by the data analysis results, gender, race, and academic classification all play a role in sport motivation to some extent. Track and field athletes showed significant differences in intrinsic and extrinsic motivation, and significant differences were also found when broken down into the following three groups: female, white, and underclassmen athletes. There were not significant statistical differences found between intrinsic and extrinsic motivation in the categories of male, black, and upperclassmen athletes

### **Implications**

The main purpose of this study was to show that athletes competing in the same sport have different motivational needs. Coaches can use this study to understand that every athlete is different and the way they are coaching could be good for some athletes while it can be bad for others. Each athlete needs to be

approached differently from a coaching standpoint. Understanding motivation is essential to improving performance and preventing sports disengagement.

Benefits of sports participation transcend beyond just the playing field. Lessons learned from participating in sports can also play a role in the workplace, as well as in personal relationships.

This study also shows the need for further research to be done with athletes on sport motivation. More in-depth research on the categories of gender, race, and academic classification and how it affects motivation in athletes can help coaches better understand how to keep athletes engaged in sport longer. This study provides initial research in the area of sport motivation.

### **Suggestions for Future Research**

Future investigators could do this research study again, but collect data in the preseason and postseason and compare if the motivational tendencies changed over the course of the sport season. Future research could also examine athletes' motivation at the beginning of their careers and again at the end to see if their motivational tendencies change over the course of their collegiate athletic careers. Future research could also be conducted using more participants, looking to see if the same results would occur with a larger sample size. Future research could also be conducted using different sports to determine if there is a difference between gender, race, and academic classification in these sports.

Future research could also be done comparing motivation differences of athletes who compete in just one event in track and field to those who compete in multiple events. The practice schedules and coaches' interactions between these

#### DIFFERENCES IN SPORT MOTIVATION

two groups of athletes can be drastically different, so it would be interesting to see if there would be a relationship between sport motivation and an athlete's number of events. Future research could be done examining the interaction of personal (e.g. personality, interests, and needs) and situational (e.g. team win-loss record, facilities attractiveness and coaching style) factors on sport motivation. There are many outside influences that could affect athlete motivation including how the athletes feel about themselves as well as their attitudes towards the program or institution. Future research could also be conducted in NCAA Division I and II programs and comparing the data between divisions, such as comparing a Division I program with a Division II program. NCAA Division I and II athletes are allowed to receive athletic scholarships, so it would be interesting to examine the data comparing these divisions' sport programs to Division III sport programs. The level of competitiveness is also different at the different divisions and also within each program. Future research could be done comparing competitiveness or athletic success and sport motivation.

#### **Strengths and Limitations of the study**

The strengths of this study is its ability to provide other Division III coaches and institutions a cost free source of research on this topic, and provide coaches information for a better understanding of what keeps athletes engaged in sports. Coaches need to be able to keep athletes motivated and engaged throughout the season, and this study provides some insight as to what type of motivation a coach should potentially try to provide, based on the athlete.

Study limitations can be traced back to the lack of generalizability because data collection was carried out only with track and field athletes. Expansion to surveying more sports and different levels of competitiveness may yield different results. Another limitation to the study could include the data collection site, a small Division III college in the Midwest; future studies could be carried out at multiple locations that include different divisions, as well as in different states. Additionally, this study did not provide any insight as to the reasons for some of the significant differences found; only that there were differences discovered. Future studies examining the interaction of personal and situational factors could be invaluable for understanding motivation among track and field athletes.

### **Chapter Five Summary**

The results of this study found significant differences in sport motivation in the categories of gender, race, and academic classification of track and field athletes. Significant differences in intrinsic and extrinsic motivation were found in female athletes, White athletes, and underclassmen athletes. The researcher found that there is a need for future studies to be conducted with other sports teams and across more NCAA divisions to determine if the results found at one Midwestern NCAA Division III college remain consistent at other divisions. Future studies should also evaluate the influence of personal and situational factors on sport motivation to try and understand reasons for the motivational tendencies of athletes.

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**THE SPORT MOTIVATION SCALE (SMS-28)**

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**WHY DO YOU PRACTICE YOUR SPORT ?**

Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing your sport.

Does not correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly		
1	2	3	4	5	6	7

**WHY DO YOU PRACTICE YOUR SPORT ?**

1. For the pleasure I feel in living exciting experiences.	1	2	3	4	5	6	7
2. For the pleasure it gives me to know more about the sport that I practice.	1	2	3	4	5	6	7
3. I used to have good reasons for doing sport, but now I am asking myself if I should continue doing it.	1	2	3	4	5	6	7
4. For the pleasure of discovering new training techniques.	1	2	3	4	5	6	7
5. I don't know anymore; I have the impression of being incapable of succeeding in this sport.	1	2	3	4	5	6	7
6. Because it allows me to be well regarded by people that I know.	1	2	3	4	5	6	7
7. Because, in my opinion, it is one of the best ways to meet people.	1	2	3	4	5	6	7
8. Because I feel a lot of personal satisfaction while mastering certain difficult training techniques.	1	2	3	4	5	6	7
9. Because it is absolutely necessary to do sports if one wants to be in shape.	1	2	3	4	5	6	7
10. For the prestige of being an athlete.	1	2	3	4	5	6	7
11. Because it is one of the best ways I have chosen to develop other aspects of myself.	1	2	3	4	5	6	7
12. For the pleasure I feel while improving some of my weak points.	1	2	3	4	5	6	7
13. For the excitement I feel when I am really involved in the activity.	1	2	3	4	5	6	7
14. Because I must do sports to feel good myself.	1	2	3	4	5	6	7

15. For the satisfaction I experience while I am perfecting my abilities.	1	2	3	4	5	6	7
16. Because people around me think it is important to be in shape.	1	2	3	4	5	6	7
17. Because it is a good way to learn lots of things which could be useful to me in other areas of my life.	1	2	3	4	5	6	7
18. For the intense emotions I feel doing a sport that I like.	1	2	3	4	5	6	7
19. It is not clear to me anymore; I don't really think my place is in sport.	1	2	3	4	5	6	7
20. For the pleasure that I feel while executing certain difficult movements.	1	2	3	4	5	6	7
21. Because I would feel bad if I was not taking time to do it.	1	2	3	4	5	6	7
22. To show others how good I am good at my sport.	1	2	3	4	5	6	7
23. For the pleasure that I feel while learning training techniques that I have never tried before.	1	2	3	4	5	6	7
24. Because it is one of the best ways to maintain good relationships with my friends.	1	2	3	4	5	6	7
25. Because I like the feeling of being totally immersed in the activity.	1	2	3	4	5	6	7
26. Because I must do sports regularly.	1	2	3	4	5	6	7
27. For the pleasure of discovering new performance strategies.	1	2	3	4	5	6	7
28. I often ask myself; I can't seem to achieve the goals that I set for myself.	1	2	3	4	5	6	7

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#### KEY FOR SMS-28

- # 2, 4, 23, 27 Intrinsic motivation - to know
  - # 8, 12, 15, 20 Intrinsic motivation - to accomplish
  - # 1, 13, 18, 25 Intrinsic motivation - to experience stimulation
  - # 7, 11, 17, 24 Extrinsic motivation - identified
  - # 9, 14, 21, 26 Extrinsic motivation - introjected
  - # 6, 10, 16, 22 Extrinsic motivation - external regulation
  - # 3, 5, 19, 28 Amotivation
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