

MOTIVATION, ACHIEVEMENT ORIENTATION, AND COMPETITION IN COLLEGIATE TRACK AND FIELD ATHLETES

by

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June, 2014

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Competition and motivation are important components of sports. Based on Self-Determination Theory and Cognitive Evaluation Theory (Deci & Ryan, 1985), this study had four purposes. The purposes of the current study were to: a) evaluating gender differences in preferences toward internal or external competition b) examining the relationship of competition preferences and sport achievement orientations with motivation type c) investigating the motivational profiles of athletes based on their competition preference towards internal and external competition and d) exploring gender differences in motivation and sport achievement orientations. Participants (N=142) were NCAA Division-I collegiate track and field athletes from various universities throughout the United States. The participants completed a measures assessing a demographic, a motivation type (Behavioral Regulation in Sport Questionnaire; BRSQ), sport achievement orientation (Sport Orientation Questionnaire; SOQ) and competition preference (Internal and External Competition Questionnaire; IECQ). Paired- samples *t*-tests, Pearson correlation and various ANOVAs were conducted to analyze the data. Results of the study indicated that a) both male and female track and field athletes have a higher preference for external competition than internal competition b) internal and external competition preference and sport achievement orientation variables were

positively related to one or more self-determined motivational variables (intrinsic, integrated or identified motivation), c) three distinct competition preference groups were identified and there are motivational differences between the groups d) women had higher levels of self-determined forms of motivation than males, but no significant differences were found in sport achievement orientation. The results are discussed in relative to the Self-Determination Theory and Cognitive Evaluation Theory (Deci & Ryan, 1985).

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TRACK AND FIELD ATHLETES

A Thesis
Presented To the Faculty of the Department of Kinesiology

East Carolina University

In Partial Fulfillment of the Requirements for
The Masters of Science in Exercise and Sport Psychology

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June, 2014

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ACKNOWLEDGEMENTS

First and foremost I would like to give thanks to God for giving me the strength and perseverance to accomplish my thesis. I can do all things through Christ who strengthens me. I would like to thank my mentors Dr. Nicolas Murray and Dr. Stacy Warner for their patience and guidance. I would also like to thank my committee members Dr. Tom Raedeke and Dr. Deirdre Dlugonski for their insight and direction. I offer my sincerest appreciation to them for the learning opportunity and assistance during my thesis. Finally, I want to thank my boyfriend (James), my parents (Mark and Debbie), my family and friends for their continued support and encouragement throughout my study. I couldn't have done it without them.

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Chapter I: INTRODUCTION

Competition is a powerful force that can be seen in all aspects of life (biology, ecology, sociology). Competitive environments have been researched in academic (Butler & Kedar, 1990; Sutton & Keogh, 2000), politics (Basinger & Hallerger, 2004; Grossman & Helpman, 1996), work (Ghemawat, 2002; Van Witteloostuijn, 1993) and sports (McGarry, Anderson, Wallace, Hughes & Franks, 2002; Prapavessis, Grove & Eklund, 2002). Competition has been examined as having both positive and negative effects. The effects of competition on an individual has often been a topic of discussion and controversy. Within sports, competition has been associated with character development including leadership (Charbonneau, Barling & Kelloway, 2006; Chelladurai & Carron, 1983), sportsmanship (Ryska, 2003) and social skills (Scalan & Lewthwaite, 1986). Others debate that competitive situations can lead to anxiety (Bray, Martin & Widmeyer, 2000; Butt, Weinberg & Horn, 2003), stress (Mellalieu, Neil, Hanton & Fletcher, 2009), aggressive behavior (Franken & Brown, 1995; Widmeyer & McGuire, 1997) and drug use (Farleigh, 1984; Lippi, Franchini & Guidi, 2008). Furthermore, competition is an essential factor in sports.

The definition of competition can often be broad and diverse. Morton Deutsch (1949) was one of the first to research and define competition. He contended that competition involves a disagreement in the goals of opposing parties. As the probability of reaching a goal increases for one and the probability must decrease for another (Deutsch). Though Deutsch was a pioneer in competition research, Rainer Martens created a specific model that laid the foundation on studies of competition within exercise and sport contexts. Martens' (1975) indicated that competition is not constituted by a single event or stage, but rather multiple events or stages. He identified that the process of competition encompasses four stages: the objective competitive

situation, the subjective competition, the response, and the consequences of the response. The first stage, objective competitive situation, refers to the point when an individual becomes confronted with a competitive situation (Martens, 1975). Competitive situations include comparing a athletes or teams with other individuals performance, a past performance or a specific performance level. A distinguishing factor of a competitive situation is when at least one person knows that performances are being evaluated (Weisberg & Gould, 2007).

Stage two of the competitive process model is the subjective competition stage. This stage entails that a person perceives, assesses and evaluates the competitive situation, regardless if the situation was direct or circumstantial (Martens, 1975). During this stage individual characteristics and attributes, for instance perceived ability, motivation type and the current opponent, contribute to the evaluation of the competitive setting (Weisberg & Gould, 2007). Next, the individual may decide to either accept or decline the objective competitive situation. If the competition is accepted then the third stage of Marten's competitive process model is in effect, the response stage. In the response stage, the individual's response to the situation materializes on three different levels: behavioral, physiological, and psychological (Martens, 1975).

Behavioral responses may include the competitive level or wanting to enter into a competitive situation. This response could be based on the individual's need for success (weaker opponent) or desires to become better (challenging opponent). Physiological factors refer to the body's response to the event, such as an increased heart rate, dilation of the pupils or clammy hands. Psychological aspects are factors that influence the views, characteristics, and functions of the human mind. These factors can be both internal and external; external factors can include an individual's response to the weather, facility or the opponent's skills/abilities. Internal factors

involve the individual's personal skill/ability level, confidence and motivation (Martens, 1975; Weisberg & Gould, 2007). The fourth stage is the consequences stage. In this final stage the consequences are either positive with success or negative with failure. How the individual perceives the consequence may be more important than the outcome itself. For instance, a sprinter may lose a race but be satisfied with the time he/she ran. As a result the sprinter may seek another competitive situation. When positive feedback is received from a competitive situation an individual will be more likely to enter back through the competition process.

Competition can be categorized as internal and external; internal competition represents competition within a team or the same group. A football player may compete against their team members for a starting position or playing time. External competition takes form when an individual competes against a competitor or competitors from another team or multiple teams. Some people can experience both internal and external competition at the same time. A cross country athlete, must beat other competitors from their own team and other teams to win first place. Therefore, s/he is exposed to both internal (competition against teammates) and external (competing against other teams) competition. Competition can be a major motive to participate in sports.

Like competition, motivation is an essential feature in sports. Motivation can be defined as the reason(s) someone engages or acts in a particular behavior or action. Motivation can be categorized as being intrinsic or extrinsic in nature. Deci and Ryan (1985) proposed the Self-Determination Theory (SDT); which is an extensive model designed to describe and identify various forms of motivation. Intrinsic motivation is present when the engagement of an activity is done for the pleasure and satisfaction derived from the activity itself.

Vallerand and Losier (1999) suggest that intrinsic motivation exists in three forms: intrinsic motivation towards knowledge, to accomplish and to experience stimulation. Intrinsic motivation towards knowledge involves engaging in a sport or activity for the pleasure of learning something new or wanting to know more about the activity. Intrinsic motivation to accomplishment results from practicing a sport for the pleasure of out-doing oneself or others and trying to reach new personal goals. Finally, intrinsic motivation to experience stimulation denotes participating in an activity due to the pleasure sensations from the activity (Vallerand & Fortier, 1998; Vallerand & Losier, 1999). Being intrinsically motivated is one element that can keep an athlete genuinely interested, engaged and involved in their sport. There are forms of extrinsic motivation that encompasses some of the three basic needs and some forms of extrinsic motivation that doesn't exhibit any of the basic needs.

Like intrinsic motivation, extrinsic motivation is multidimensional but lies on a continuum ranging from the most self-determined form of to the least self-determined form of extrinsic motivation (Deci and Ryan, 1985). Based on this continuum there are four types of extrinsic motivation: integrated regulation, identified regulation, introjected regulation, and external regulation. Each level of extrinsic motivation will be explained further. Integrated regulation is the most self-determined form of extrinsic motivation.

Integrated regulation is the most self-determined form of extrinsic motivation. When a person performs certain behaviors, choices or actions, they are believed to have integrated motivation. Someone who refuses to drink alcohol or smoke, because they think it will hinder their athletic performance would fit into this regulation. Identified regulation is displayed when the behavior is deemed valuable and done by choice. This describes the athlete that engages in a strenuous workout because it will allow them to excel in their sport. Identified regulation is also

a considered self-determined form of extrinsic motivation; where introjected and external regulations are categorized as non-self-determined forms of extrinsic motivation (Deci & Ryan, 1985).

An individual who internalize reasons for their actions which causes self-inflicted pressures are experiencing introjected regulation type of motivation. An athlete who goes to an early morning workout because he/she would feel guilty if they missed it, is an example of introjected motivation. External regulation represents the least self-determined form of extrinsic motivation. Finally, behaviors that are controlled by external factors such as rewards, consequences, or other individuals are external reasons to be motivated. For example a tennis player would continue to play tennis, even though she disliked it because her parents are forcing her to play (Deci & Ryan, 1985).

The final form of motivation is amotivation; which can be categorized as the most negative form of motivation because a person exhibits no sense of purpose, no expectations and a lack any desire to participant in an activity (Deci & Ryan, 1985, Vallerand & Losier, 1999). An amotivated person may look at their lack of skills and abilities, or the inability to control situations or events, which ultimately leads to quitting the activity (Deci & Ryan, 1985). In a sports setting, motivation is an essential factor in determining how an athlete may feel, think and even perform during competition. SDT is essential in the context of sports because self-determined forms of motivation are associated with persistence, performance and the ability to cope with stress during competition (Mallett, 2005). Motivation is an essential factor in sports.

Motivation can also be influenced by an individual's motives to achieve in a particular activity. Gill and Deeter (1988) stated that "some individuals eagerly approach competitive challenges, others strive for non-competitive personal goals and other shy away from all types of

sport achievement” (p. 139). Achievement orientation in sports has been described as three separate but related constructs, which are: competitiveness, desire to win and desire to reach personal goals (Gill & Deeter, 1988). Gill and Deeter (1988) define competitiveness as “a desire to enter and strive for success in a sport achievement situation” (p. 195). A highly competitive athlete may seek out more competitive situation because they enjoy it. Win orientation refers to the tendency to strive for comparative goals such as beating an opponent. This would be the athlete who goes into a competition with the objective of beating their opponents. Goal orientation is when the focus of performance goals are self-referenced (Martin, Adams-Mushett & Smith, 1995). This is the runner who wants to beat a personal best performance.

Sport orientation and motivation type may be associated with participation in collegiate sports. Individual differences in sport orientations are present and significant because each athlete is different. Understanding how individuals vary in sport orientation can be essential to coaches, athletes and sport psychologists to maximize the performance and enjoyment in sport. By catering to individual difference sport personnel and participants determine what variables will maximize and maintain motivation and participation in sports. Determining which sport orientation variable contribute the most positive influence on motivation in sport requires further investigation. Sport orientation variables can help determine athletes’ motives in sports. Competition is also an important factor in sports and has shown to have an influence on motivation (Conti, Collins & Picariello, 2001; Franken & Brown, 1995; Malhorta, 2010; Reeve & Deci, 1996; Tauer & Harackiewicz, 2004; Vallerand, Gauvin & Halliwell, 2010; Weinberg & Jackson, 1979; Weinberg & Ragan, 1979). Yet minimal research has been conducted to examine the effects of internal and external competition in a sports context.

In conclusion, athletes participate in sports for various reasons, whether for pure enjoyment, to reach new personal goals or just to win. This research hopes to provide insight on how competition and sport achievement orientations can affect motivation in athletes. Better awareness on this topic would allow coaches to adapt or alter their coaching styles and team environments in a way that supports enhance sport motivation. Coaches and sport psychologist will be able to individualize plans and strategies that support the athlete's individual differences. Athletes can also develop strategies and techniques that cater to their particular skills and abilities.

Purposes and Hypotheses

There were four purposes for this study. The first purpose of this study was to determine if gender differences exist in competition preference (internal or external) in Division-I track and field collegiate athletes. It was hypothesized that female athletes would demonstrate a preference towards external competition when compare to internal competition. Males would not demonstrate equal preferences towards internal and external competition. Division-I track and field athletes are the ideal population. Athletes are exposed to both internal and external competition when competing at track meets. Finally, the gender (male to female) ratio is quite similar on track and field teams.

The second purpose of this study was to explore the relationship between competition preferences, and sport achievement orientations (competitiveness, win-oriented, and goal-oriented) with types of motivation (intrinsic motivation, extrinsic motivation and motivation). It was hypothesized that there would positive significant relationships between internal competition and non-self-determined forms of motivation (introjected and external regulation) due to athletes having a preference towards external competition. Positive significant relationships would be

shown between external competition preference with intrinsic motivation, and self-determined forms of motivation (integrated and identified regulation) in track and field athletes. In relation to motivation and sport achievement orientations, it was predicted that there would be significant relationships between competitiveness and intrinsic motivation and self-determined (integrated and identified regulation) motivation. Win-orientation would demonstrate significant relationships with intrinsic, and non-self-determined (introjected and external regulation) motivation. Finally, athletes would exhibit significant relationships with goal orientation levels and intrinsic motivation and self-determined (integrated and introjected regulation) motivation.

The third purpose was to study the motivational profiles of athletes with various levels of internal and external competition preferences. It was hypothesized that preferences towards internal and external competition would produce four distinctive groups (high internal-high external; high internal-low external; high internal-low external; low internal-low external) and significant differences would be found in the motivational profiles of the four groups.

The final purpose of this research was to examine gender differences in motivation and sport achievement orientations in track and field athletes. The final hypothesis was that female athletes would show significantly higher levels of intrinsic motivation and self-determined forms of motivation in comparison to male athletes. Males would show significantly higher levels of external regulation and amotivation when compared to female athletes. Males would also have significantly higher levels of competitiveness and win-orientation than female athlete. Whereas, females would have significantly higher level of goal-orientation than male athletes.

Chapter II: Review of Literature

The literature review will be presented in multiple parts. First, the Cognitive Evaluation Theory (CET) in relationship with competition will be explained. Research on motivation to participate in sports will be discussed. The review will then delve into sport achievement orientations and their impact on athletes. External and internal competition will be investigated, independently. Finally, gender differences in competition and in motivation will be discussed. This review of literature aims to provide sufficient evidence to support the purposes and hypotheses of the current research.

Cognitive Evaluation Theory

Self-Determination Theory has been applied to a sports setting through the Cognitive Evaluation Theory (CET; Deci & Ryan, 1985). Cognitive Evaluation Theory (Deci & Ryan, 1985) explores how external factors (e.g. competition, deadlines, coaches, and the environment) and contingent rewards (e.g. trophies, money and scholarships) can impact a person's motivation. The premise of CET is based on deCharms and Muir's (1968) internal and external "locus of causality." Locus of causality relates to an individual's sovereign perception of the cause for success or failure. An internal locus of causality is present when an individual feels that their behavior is done freely, with the absence of any control or coercion. When an individual feels that their behavior is being controlled either by self-imposed pressures or from pressures by others, they are characterized as having an external locus of causality (Deci & Ryan, 1985; Ryan & Connell, 1989).

Internal locus of causality can be constructed based on an individual's own characteristics, personality, skills or abilities. External locus of causality are factors outside the

control of an individual like injuries, weather or other competitors. This concept proposes that the presence of a significant external control or reward can prompt change in the perceived locus of causality from internal to external. If the external factor was viewed as a negative influence the result by a decrease in intrinsic motivation. However a positive perception of an outcome would induce the locus of causality from being external to internal, resulting in increased intrinsic motivation (Deci & Ryan, 1980; Ryan, 1982).

Through Cognitive Evaluation Theory all external events can be viewed in two ways, controlling or informational. A controlling perception of an event pressures an individual to obtain a particular behavioral outcome. The individual may feel as though they are being forced or coerced to act in a specific manner (Deci & Ryan, 1980; Deci & Ryan, 1985; Ryan, 1982). Controlling events/situations tend to undermine intrinsic motivation because the behavior or actions of the individual is externally focused (Ryan, 1982; Ryan, Mims & Koestner, 1984). An informational event provides important feedback to the individual without any pressure to achieve a particular outcome (Ryan, 1982). When participants view themselves as being competent, a positive informational event has occurred which increases intrinsic motivation. On the contrary, when an individual views themselves as being incompetent intrinsic motivation decreases (Ryan, Mims & Koestner, 1984).

Competition is an external factor that can bring an exciting but challenging element to everyday life. Though competing against others can add stimulating and motivating factors to an event or task, it can also be detrimental and discourage an individual. Autonomy and competence are two concepts within SDT that if altered, can change the perception of an activity from being controlling or non-controlling. The CET illustrates how competition and various elements can effect a person's motivation, both positively and negatively.

Motivation to Participate in Sport

Motivation can be deemed the origin for athletic effort and participation. It is important to understand that an athlete participates in a sport or activity for various reasons. Motives to participate in sport incorporate enjoyment (Frederick & Ryan, 1993; Kilpatrick, Hervert & Bartholomew, 2005), challenges within the sport (Kilpatrick et al., 2005), competition (White, Duda & Sullivan, 1991) and improving skills or abilities in the sport (Frederick & Ryan, 1993). In young male wrestlers', enjoyment in their sport involved satisfaction in their performance from parents and coaches, minimal pressure and negative interactions from adults and positive sport involvements (Scalan & Lewthwaithe, 1986). American college athletes and Austrian students agreed that competition, fitness benefits and social factors were motivators to participate in sports (Curry & Weiss, 1989).

Some gender differences for involvement in sport have been evident in research. Motivational factors associated with over sixteen hundred middle school students were studied by Sirad, Pfeiffer, and Pate (2006). The highest motive amongst all the children was enjoyment. When compared across genders, boys emphasized competition, social benefit and fitness as the main motives to participate in sports. While girls named social benefits, fitness, enjoyment and competition as major benefits to sport participation. The outcomes of the study demonstrated that though boys and girls have similar motives to participate in sports, boys are more attracted to the competitive aspects of sports; where girls are more incline to participate in sport for social opportunities (Sirad et al., 2006). Consistencies within the research have exhibited that males are more incline to participate in sports for competitive features while females are more intrigued in sports for the social aspects (Flood & Hellstedt, 1991).

The “melting pot” concept of cultures in our society is only one feature that makes our country a fascinating place. Cultural differences can have an impact on motivation to participate in sports. American, Chinese and Chinese American children all differ in their motives to participate in sports and physical activity (Yan & McCullagh, 2004). American children participated in sports for a motivation to compete and wanting to improve their skills. Chinese children were motivated by social aspects associated with sports and wellness. Chinese American children youth were motivated to participate in sports because of enjoyment, the travelling aspect, and equipment provided. Children with an American cultural background prefer competitive setting and physical development aspects of sports. Results from this study could implies that the American cultural emphasizes competitive situations and skill development in sport settings. Research in this area is limited, but future studies should investigate how cultural differences may be influential in determining an athlete’s motives to participate in sport (Yan & McCullagh, 2004).

It has been shown that there are a number of factors that can influence an athlete’s reasons for participating sport. These reasons can be contributing factors on an athlete’s intrinsic motivation for participating in sports. But, how external elements impact an athlete’s participation in sport has yet to be investigated. Competition can be one of the external social factors that can impact motivation, positively or negatively.

Sport Achievement Orientation

When one thinks about sports, terms like winning, goals and competition quickly come to mind. It can seem as though the purpose of participating in a sport is to achieve an objective. Achievement has been assumed to be one of the primarily elements of motivation (Maehr & Zushu, 2009). Achievement orientation to a task include beliefs related to the tasks such as

purposes, success, ability, effort, errors and standards (Pintrich, 2000). Sport orientation refers to the temperament to perform certain behaviors (Skordillis et al., 2001). An athlete's idea of achievement in sport can be determined by individual differences and standards. This has been categorized as sport achievement orientation (SAO). Individual differences in level of competitiveness, having a win-oriented mindset and a goal oriented mindset during competition are considered sport achievement orientations. Competitiveness applies a strong influence on the choice to enter into competitive situations, while win and goal orientation seem to have less of an influence to enter sport competitions (Gill & Deeter, 1988). Moode and Finkenberg (1999) found that athletes have significantly higher levels of SAO than non-athletes which supports that idea that the SAO variables are sport specific.

Competitiveness is a personality characteristic and can be used to evaluate people in competitive situations. High level of sports competitiveness were found to create higher levels of intrinsic motives in individuals (Frederick- Recascino and Schuster-Smith, 2003). Frederick-Recascino and Schuster-Smith (2003) tested the relationship between competitive attitudes, intrinsic/extrinsic participation motives and adherence levels amongst competitive cyclists and non-competitive fitness exercisers. Within the two groups (competitive and non- competitive) the subjects were divided into either a sports-based competition or a general competition setting. Researchers found that sport competitiveness and intrinsic motivation were positively correlated with motivation to participate and the number of day a week the participants engaged in the activity. The researchers the competitive cyclists had higher intrinsic-oriented motives and lower extrinsic motives than the non-competitive exercisers. It is suggested that the competitive cyclists viewed the competition outcomes as being informational, which would maintain or enrich their intrinsic motivation. Both the competitive and non-competitive cyclist groups

demonstrated a positive relationship between sport-based competitiveness and intrinsic motivation.

But the general competitive cyclist group exhibited lower levels of intrinsic motivation than the sport-based (organized competitions) competitiveness group. Further studies within this area of research should assess how and in what circumstances competitiveness undermines intrinsic motivation in a sport or exercise setting. Perceived competence could be a contributor to a positive relationship between being highly competitive and intrinsic motivation. People who are highly competitive can view competitive situations as a positive informational event, which would enhance their skills and abilities. As a result of a positive perceptions of the event, a highly competitive person's intrinsic motivation will be improved. Athletes are highly competitive and tend to seek out competitive situations (Moode & Fikenberg, 1999; Gill & Deeter, 1988).

But other variables like wanting to win and setting goals are involved in an athlete wanting to engage in competitive situations (Ilyasi et al., 2011). Weiss and Chaumeton (1992) suggest that being win-oriented puts an emphasis on extrinsic rewards, which can be a motivator to participate in an activity. Research in this area is conflicting and needs more exploration. Outcomes have concluded that winning during competition can negatively affect intrinsic motivation within an individual, if the environment had direct competition (Deci et al., 1981), was view as controlling (Tripathi, 1992; Vallerand et al., 1986), and if beating the opponent was the key focus (Deci, Betley, Kahle, Abrams & Porac, 1981; Vallerand & Losier, 1999). Intrinsic motivation can be enhanced due to success or winning in a competition (Reeve & Deci, 1996; Reeve, Olson & Cole, 1985; Weinberg & Ragan, 1979). Competition provides an informational aspect of the reward, which ultimately affects intrinsic motivation; it is not the reward itself.

Winners are more willing to seek out competition (Weinberg & Ragan, 1979). A positive informational event like winning, can improve intrinsic motivation because competence is reinforced and loser are perceived as less competent if the outcome is perceived negative (Reeve & Deci, 1996; Reeve et al., 1985).

Reeve and Deci (1996) examined that elements of a competitive situation on motivation. Participants solved various puzzles with a same sex competitors under experimental stimulations based on competition, winning and pressure to win situation. Researchers found that competition that had a positive informational element facilitated intrinsic motivation; where a controlling element in competition undermines intrinsic motivation. Winning in relation to losing in competitive situations increased intrinsic motivation because the participants' perceived competence was enhance. Pressured situations in comparison to non-pressured situation within competition decreased intrinsic motivation because autonomy was diminished. Reeve and Deci's (1996) findings are in line with CET suggesting that positive cognitive evaluations and social contexts can positively influence the perceptions of autonomy and competence. Tauer and Harackiewicz (1999), provide a satisfying summary of winning in competition. The effects of competition on intrinsic motivation is not based on winning or losing, but is qualified by achievement orientation. Winning or wanting to win isn't necessarily the detrimental variable, but how the outcome is perceived by the individual. The positive or negative feedback of the task has an impact on the level of competence and enjoyment. But the question remains if there are similar inconsistencies seen within a sport context or is there more stability within the results.

Setting goals is significant and essential because it gives an activity purpose and meaning (Kaplan & Maehr, 2007). Goals can be general or specific; general goals typically apply to all aspects of life and capture what an individual is trying to accomplish and why they are trying to

accomplish it. Specified goals reflect an individuals' goal to reach a particular task or outcome (Pintrich, 2000). Particularly within in sports, athletes may set certain goals around specific sport orientations such as winning a competition, meeting personal goals or beating a competitor. Individuals can be placed into two goal oriented groups; those who want to learn and understand the task being performed (task) and those with a goal to demonstrate their ability compared to others (ego) (Elliot & Dwerk, 2005).

Goal orientation and participation motives in physical education and sport were studied in school age children (Zahariadis & Biddle, 2000). Children who exhibited more task oriented goals had more intrinsic motives to participate in physical education and sports. Their motives were skill development, team atmosphere and competition. Ego-oriented participants had more extrinsic motives to participate, particularly for status or recognition and incentives. Certain goals can influence whether an individual has intrinsic or extrinsic motivates to participate in an activity. Goals focused around skill development and building team relationship are self-determined goals and can enhance motivation in a sport. Setting goals that are more with focused on recognition and receiving rewards hinder an individual from receiving self-determined forms of motivation (Zahariadis & Biddle, 2000). Goals are important in sports because they give the opportunity to improve skills or modify trainings, which can increase intrinsic motivation through progression, autonomy and competence (Ilaysi et al., 2011).

Sport Achievement Orientations have been measured with anxiety (Jamshidi et al, 2011), doping behaviors (Manouchehri & Tojari, 2013), emotional intelligence (Ilyasi et al., 2011) and motivation (Beaudoin, 2006; Gill et al., 1996). Male athletes reported higher levels of competitiveness and win orientation, where females had higher levels of goal orientation (Gill, 1993; Jamshidi et al., 2011). Gill (1993) suggests that male are more competitive because they

typically have more competitive experiences. Some studies have found that gender difference in SAO do not exist (Martin, Adams-Mushett & Smith, 1995). More investigation is needed to examine not only motivational influences of SAO but also gender differences in SAO.

External Competition

Within psychology, many researchers have been interested in the impact of competition in relation to intrinsic motivation and other variables. Previous research examined how competition can influence attribution (Weinberg & Jackson, 1979), creativity (Conti, Collins & Picaiello, 2001), success/failure (Deci & Olson, 1989; Reeve, Olson & Cole, 1985) and physical activity (Frederick-Recascino & Schuster-Smith, 2003). Though various areas have been studied in association with competition, findings on competitive situations in relation to intrinsic motivation have not been consistent. External competition is pertinent in the context of sports because it allows athletes to measure their skills and abilities against other opponents in particular activities or events. In sports, external competition can be either interactive (where there is a defense and an offense) or non-interactive (where there is only an offense) (Deci & Olson, 1989). But, many sporting events take on a “zero-sum” type of external competition, which can be viewed as a first hand measure of a person’s skill level. Zero-sum competition describes a situation where if one competitor wins, another competitor must lose. In zero-sum competitions, various rewards (e.g. money or points) are distributed unequally amongst the participants based on their performance. In the current study, participants in the sport of track and field were the main focus. Competitors in this sport are allotted a certain amount of points depending on a final placement. First place receives the most points, then the point amounts decline as the participants’ placement declines.

Zero-sum competition was a research interest for Vallerand and colleagues in 2001. Twenty-six children were required to maintain stability as long as possible on a rotating platform. Those who performed better than their competitors received a “Best Performance Award”. To emphasize zero-sum competition, other competitors had to lose in order for the winner to receive the reward. Participants who lost in zero-sum competition exhibited lower levels of perceived competence and intrinsic motivation when compared to those who won. The participants that won were more likely to engage in the activity again, due to successful outcome. These findings coincide with CET, by showing that competitive situations have the abilities to negatively affect intrinsic motivation. Vallerand et al. (2001), stated that the major determinant to intrinsic motivation was having the participants focus on their competition in order to receive a reward. The zero-sum competition experiment produced a negative outcome on intrinsic motivation because the losing individuals viewed themselves as less competent, based on their inability to receive a performance-based award. In one study, basketball players were participants in a one-on-one jump shooting competition. Players that perceived themselves as performing well in competition, showed evidence of higher levels of intrinsic motivation than who perceived their outcome as a failure (McAuley & Tammen, 1989). These results parallel CET, indicating that negative feedback (losing or failure) in an event will decrease intrinsic motivation because incompetence is perceived by the athlete. However, perceptions of success (winning, skill improvements) in an event will promote competence.

Even when recreational and sport settings are compared, influences on motivation based on competition lacks consistency. Fortier, Vallerand, Briere and Provencher (1995) launched one of the first studies that compared motivational levels of individuals in competitive and recreational sport settings. Three hundred and ninety- nine competitive intercollegiate athletes

and recreational intramural athletes from four different sports (soccer basketball, volleyball and badminton) were administered a motivational questionnaire (SMS), which measure both intrinsic and extrinsic motivation. The results between the two groups revealed that competitive athletes demonstrated less intrinsic motivation than recreational athletes. Competitive athletes also displayed significantly higher levels of identified regulation and amotivation when compared to recreational athletes.

In a group of tennis players, the environment is essential in influencing intrinsic motivation (Kavussanu & Roberts, 1996). When the environment was more mastery-oriented (an environment that promotes autonomy and competence), intrinsic motivation was maintained. Mastery-oriented environments were associated with increased enjoyment, effort and perceived competence in the activity. The environment that was highly competitive (beating other opponents), intrinsic motivation decreased (Kavussanu & Roberts, 1996). Individuals competing in less competitive situations (intramural) sports did not report that intrinsic motivation lessened when compared to intercollegiate sports, which is a competitive structure (Fortier et al., 1995). These studies suggest that the motivational environment and pressures of the environment can have an impact on how competition is perceived within a sports environment.

Based on this research it appears that external sports competitive settings can be an enhancer or hinder participation in sport depending on various variables within the environment. In conclusion, research has shown that competition it's self is not a detrimental factor but how the competitive situation itself viewed by the participant. More competitive athletes (those in organized sports) may focus more on winning or an external aspect; whereas, recreational athletes may focus more on the enjoyment of the game rather the outcome results but minimal research supports this notion. The competitive situation nurtures intrinsic motivation when a

performer receives positive information about their performance. Whereas negative information regarding competition, typically hinders or diminishes intrinsic motivation. Though this may be true, research has produced more evidence that external competition can have a negative impact on people. Environmental conditions, opponent's skill level, level of engagement and performance can all be contributing influences on motivation within a sports context.

Internal Competition

Many have viewed competition as a one dimensional concept but research has shown that competition is actually multi-dimensional. It can be broken down into internal and external forms of competition. Internal and external competition can encompass both negative and positive consequences. The consequences of external competition were discussed previously. Internal competition can be seen in various aspects of life; some advantages of internal competition in the workplace can include employees meeting goals and deadlines, increases in production, improved work quality, improved self-performing, more work-oriented staff and higher profit levels (Drago & Turnbull, 1991). Disadvantages can emerge for instance, increased stress or anxiety levels and internal excessive competition can lead to a deterioration in team cohesion (Drago & Turnbull, 1991).

Similar benefits and detriments can be seen in a sports setting. Team competition can cause an athlete to consistently improve their performance (Burton & Raedeke, 2008) and push teammates to develop their skills. If two athletes are competing for a starting position, each player would try to improve to the best of their ability in order to receive the starting spot. Internal competition on a sports team can encompass fun and excitement but it can also at a cost. Potential benefits of competition in sports can encompass increases in sport performance, reinforcing team skills or group independence and potential increases in level of fun or

excitement in the sport (Shindler, 2009). Negative consequences of competition consist of a “fear of failure” mentality, increased levels of anxiety or stress, pressuring an athlete to meet specific expectations and hindering intrinsic motivation (Shindler, 2009). Internal competition can also hinder an athlete from fully developing their abilities and performance (Burton & Raedeke, 2008). Consequences of team competition can include coaches and players emphasizing a hierarchy of ability levels and diminishing team spirit or a sense of belonging (relatedness) between teammates (Shindler, 2009).

Minimal research has examined the effects of internal and external competition on individuals. Warner and Dixon (2013) conducted a qualitative study that examined how male and female intercollegiate athletes respond to the multidimensional characteristics competition. Their data reported that men and women respond differently to competition. Women tend to dislike internal competition while men will usually embrace it. Men showed to be more receptive to both internal and external competition, because they viewed competition as having a positive impact on their sporting experiences. Inferences from this study indicate that internal competition has a tendency to damage social aspects of a sporting experience for women which can take away from the social benefits of sports. The researchers suggest that a competitive settings that focus more on the external competition aspect and internal cooperation are more likely to keep athletes involved, especially females. Further investigations are needed to investigate gender preferences in competition and the effects of internal and external competition on motivation in sports. Some researchers believe that gender differences exist in the level of competitiveness and the influences of competition (Dufwenberg, Gneezy & Rustichini, 2004; Joseph, 2008; Paserman, 2010; Nierderle & Vesterlund, 2011; Weinberg and Ragan 1979).

Competition and Gender

Gender in competition has often been a topic of discussion and debate. Gender differences in competitiveness have been examined in a number of fields such as education (Dufwenberg, Gneezy & Rustichini, 2004; Joseph, 2008), labor force (Niederle & Vesterlund, 2011) and sports (Paserman, 2010). Sutter and Rutzler (2010) found that gender differences in competition can emerge early in a child's life. The willingness to compete was observed amongst 1,035 children ranging from ages 3 to 18. Younger children were given a choice of whether to compete or not in running a 30 meter distance; older children were given the choice to complete a math task. The authors found that when given a choice, boys were more competitive than girls amongst all age groups. However, there were no gender differences when performance changes were compared. These outcomes suggest that gender differences in competition can emerge early in life, males prefer competitive situations over females. Sutter and Rutzler (2010) may be insinuating that gender differences in competition have been embedded into our chromosomes, as a species males are innate to be more competitive than females.

The male-warrior hypothesis has been used to explain why males typically prefer competition over females. This hypothesis proposes that males have evolved to be more violent in nature to acquire resources, territories and women. Women on the other hand have to exhibit more cooperative and nurturing skills in order to raise children and. It also states that males within a group will compete amongst themselves to establish a dominant male leader (McDonald, Navarrade, & Van Vugt, 2012; Van Vugt, De Crème & Janssen, 2007). Van Vugt, De Crème and Janssen (2007) used the male-warrior hypothesis as a basis of their study to examine gender differences in cooperation and competition. Based on the male-warrior hypothesis the researchers predicted that the males would be more likely than females to increase

their contributions towards the group when experienced with intergroup competition, due to an inherent nature to protect. Findings were the contrary, men were less likely to contribute to a group effort when intergroup competition was involved. But they contributed more to the intergroup when faced with competition with another group. The men were more likely to make donations to their university when competition amongst other universities were present. Women were unaffected by intergroup competition. Men respond more strongly to intergroup threats than women. Also, men's social behavior is more intergroup driven than women's (Van Vugt et al., 2007).

Similar findings between gender differences have been found amongst 100 college aged male and female students, who were separate into three types of competitive situations: face to face, standard of excellence and noncompetitive. The participants performed a task of maintaining on moving target for as long as possible. Males displayed significantly higher level of intrinsic motivation in competition than males who were not in competition. Females exhibited no difference when the competitive and noncompetitive situations were compared. These findings suggest that males are more positively influenced by competition than females (Weinberg & Ragan, 1979). Conti, Collins and Picaiello's (2001) work, examined whether children's artistic creativity and intrinsic motivation towards art was influenced by competition. The outcome of competitive situations on gender revealed that boys were more creative and exhibited higher levels of intrinsic motivation when competing against one another. Girls, however were less creative and their intrinsic motivation seemed unaffected in competitive situations. Although, the girls' intrinsic motivation was not hindered, males seemed to strive more from competitive situations.

Even in an economic setting it is implied that men and women differ in their attitudes toward competition. For example a male would be more willing to compete for a job promotion than a female. Women tend to shy away from competition whereas men are willing to compete. In a field that is male dominated, men tend to have more confidence in their abilities, while women choose not to test their abilities. As a result men tend to perform better than women in relation to competition because the competitive pressures can influence decisions made and the performance within the competition (Nierderle & Vesterlund, 2011). Research has consistently shown that males find more benefits when placed in competitive situations in comparison to females. Research will extend further to examine if the outcomes from the previous articles correlate with gender differences in competition in a sporting context.

Within a sports setting, Nierderle and Vesterlund (2011) state that large gender differences cannot be found in sports competitions for two reasons. One most sport competitions are within gender competition which lessens the perception of threats. Second, sports are precisely measured, so elite athletes have a good sense of their performance ranking compared to others. Contrary to the rationale Nierderle and Vesterlund (2011) have provided, studies have found that men are more likely to seek competitive sport situations than females (Gill, 1988). The researcher found that males scored higher on competitiveness and win orientation than females when gender difference in competitive achievement and sports participation were investigated. Similar to men, women showed high levels of competitive achievement but were less likely to seek competitive sport activities (Gill, 1988). Some athletes ran in a mile race. At the conclusion of the race, those who qualified above a certain qualifying standard in the race were encouraged to sign up for a more competitive race that offered a cash reward. The researchers found that women and older runners were less likely to sign up for the more

competitive races, though some of the fastest female runners were more willing to sign up (Garrett et al., 2011).

Majority of women do not prefer to compete in the more competitive situation but women who were confident in their skills or abilities were more willing to compete (Paserman, 2007). Paserman (2007) found a sample of tennis players that when high stakes are involved in a match or competition the lower quality of performance given by both male and female tennis players. More pressure was put on the athletes to perform and produce a positive outcome when the opposite occurred performance was hindered. Women showed a greater decrease in performance levels when compared to men though the findings were not significant. When comparing gender difference among recreational to competitive athletes, female athletes among the recreational group showed significantly higher levels of intrinsic motivation to accomplish things and identified regulation than male athletes in the same group. The recreational male athletes displayed significantly higher levels of external regulation and amotivation than the female group (Fortier et al., 1995). Based on the statistics female athletes prefer a more recreational sport settings than men, due to the high levels of extrinsic motivation exhibited by the recreational men group in comparison to the female group. Females may favor the less controlling and pressured environment (Fortier et al., 1995).

Motivation and Gender

Gender differences in motivation have produced contradictory results. Cremades et al. (2012) tested one hundred and sixty-two athletes from various division one schools around the United States to assess their motivation in regards to their scholarship status and their gender. Pertinent results found that female athletes exhibited greater levels of intrinsic motivation and lower levels of extrinsic motivation and amotivation than males. Fortier (1995) studied nearly

four hundred French- Canadian intercollegiate and recreational athletes to investigate to see which group had more intrinsic motivation. Within this study Fortier explained how including the element of winning in competition has been known to decrease one's motivation. Her hypotheses that suggested that the recreational athletes would exhibit more intrinsic motivation than the intercollegiate athletes. Fortier also wanted to explore the effects of gender and motivation on the various levels as well within this study. Results from this study showed significance in that the competitive athletes actually displayed lower levels of intrinsic motivation than the recreational athletes. The competitive athletes also showed higher levels of identified regulation and amotivation. His findings also revealed that female athletes exhibit more self-determined motivation than male athletes. This study supported the findings that female athletes have a more self- determined motivational outlook than the male athletes.

Comparable studies (Medic, 2007; Kingston, 2006; Pero, 2012; Vallerand et al., 1992) have found congruent results; females have higher levels of intrinsic and self-determined form motivation than males. But males exhibit more extrinsic non self-determining factors relative to motivation. On the contrary, Chin, Khoo and Low (2012) looked at self-determination in gender, age group and locality in the realm of track and field. Focusing specifically on the results on gender the researchers found that the male track and field athletes experienced higher levels of extrinsic motivation and amotivation, which is consistent with earlier studies. But male also showed higher levels of intrinsic motivation than female athletes. Results from this study conflicts with previous studies that emphasize that females are more intrinsically motivated to participate in sports. Motivation and gender have produced conflicting findings. More research is needed to find a definitive answer to the inquiry if gender differences exists in motivation towards sport.

In conclusion, people enter into competitive situations for various reasons. Level of competitiveness, wanting win and meeting specific goals are motives that relate specifically to athletes for seeking competitive situations. Competition, either internal or external can have both a positive and adverse effect on motivation. Situations and events that support autonomy and perceived competence have a tendency to nurture intrinsic motivation, while events and environments that are controlling in nature have a negative impact on intrinsic motivation. The critical factor in relation to competition and motivation is how the competitive outcome was received by the participant. Track and field athletes may exhibit certain competition preferences or motivational levels or sport achievement orientation levels but that has yet to be determined.

This review of literature has explored the motives to participate in sport, sport achievement orientation and internal and external competition in athletes. The literature also examined gender differences in competition and motivation within sport setting. Cognitive Evaluation Theory was used as a bases for the results found within this research. Past explorations in these areas allow for the expansion of research, which will be useful to future researchers.

Chapter III: METHODS

Participants

The sample ($N=142$) consisted of male ($n= 41$) and female ($n= 101$) track and field athletes from NCAA Division I colleges and universities throughout the United States. Participants were required to be at least 18 of age and have a competed in at least one full collegiate track and field season (indoor or outdoor). Individuals who chose not to give consent, were not Division I track and field athletes, redshirt freshmen, ineligible athletes and did not complete the survey were excluded from the sample ($n=39$). Participants were college aged and classified themselves as having a freshman ($n=55$), sophomore ($n=23$), junior ($n=30$), senior ($n=32$) or graduate ($n=2$) athletic status. Most of the athletes identified themselves as Caucasians ($n=99$), with the rest identifying themselves as African-American ($n=23$), multi-racial ($n=11$) Latino or Hispanic ($n=5$), other ($n=3$) and Asian or Pacific Islander ($n=1$). A total of 31 athletes reported receiving full athletic scholarships, 62 received partial scholarships and 40 reported that they received no athletic scholarship for their participation in track and field. Nine athletes preferred not to disclose any information about their current scholarship status. Sixty-four of the athletes had 8 or more years of experience in track and field, 51 of the participants indicated that they had 5 to 7 years of experience, 26 participants reported 2 to 4 years of experience and 1 participant indicated that he/she had minimal (≤ 1 year) of experience in track and field.

Measures

Demographic Information. Each participant was asked to complete a demographic questionnaire. Questions on the questionnaire assessed the athlete's gender, race or ethnicity, athletic class status, current scholarship status, years of experience in track and field and the events participated in track and field.

Behavioral Regulation in Sport Questionnaire (BRSQ; Lonsdale, Hodge, & Rose, 2008).

The BRSQ is a 24-item survey assessing types of motivation for participating in a particular sport. The BRSQ includes six 4-item subscales to measure intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation and amotivation. The participants were prompted with the stem “I participate in track and field...” Each item represents various reasons why the athlete may perform in his/her sport. Participants responded to each item using a 7- point likert scale (1= “strongly disagree”, 4= “neither agree nor disagree” 7= “strongly agree”). Previous research has established and supported reliability and validity (factorial and nomological) of the BRSQ survey (Lonsdale, Hodge, & Rose, 2008; see Lonsdale et al. 2008).

Sport Orientation Questionnaire (SOQ; Gill & Deeter, 1988). The SOQ is designed to quantify individual differences in sport achievement orientation. The SOQ consists of three 6-item subscales, 18 items in total, measuring competitiveness, win orientation and goal orientation. Each item began with the phrase “My thoughts on competition within track and field are...” Items were rated based on a 5-point likert scale (1= “strongly disagree,” to “5= “strongly agree”). Internal validity and reliability (.61 to .80; intra class= .94, test-retest= .89) of the SOQ have been demonstrated (Gill & Deeter, 1988; Wakayama, Wantanabe, & Inomata, 2002).

Internal and External Competition Questionnaire (IECQ). The IECQ includes a two 5-item subscales used to assess individual competitive preferences including internal (between teammates or within team) and external (athletes from other teams). The researcher created the internal and external competition subscale items by adapting questions from the SOQ questionnaire. Similar to the SOQ, participants’ responses were based on a 5- point likert scale (1= “strongly disagree,” to “5= “strongly agree”). Researchers with expertise were sought to

evaluate and modify of the internal and external competition subscale items and open ended questions.

Procedures

Emails with detailed information about the study along with the link to the survey were sent to roughly 65 NCAA Division I track and field head coaches from various conferences in the United States. The head coaches were asked to forward the email to their track and field athletes. In the forward email sent to the athletes, it was communicated to the participants that their participation was voluntary and that all their responses would be confidential. Prior to completing the survey participants were required to provide informed consent by acknowledging that he/she met the participant criteria set forth by the researcher. At the conclusion of the survey the participant was asked to forward the link to other Division I track and field athletes that may be interested in completing the survey. Reminder emails (with the link) were sent to the coach two weeks after the initial email, with identical information as the initial email. Track and field collegiate athletes from a local university were personally sent emails asking for their participation in the study. In the email, the athletes were told the purpose of the study, confidentiality within the study and provided with the link to questionnaire. No follow up emails were sent to the individual athletes. Institutional Review Board (IRB) approval was granted by the researcher's institution.

Data analysis

The online survey program (Qualtrics) was set to force completion, to alert the participants if any items were skipped. The data were coded, edited and analyzed using Statistical Package for Social Sciences (SPSS) software. Descriptive statistics were taken for the study variables and demographic variables of the participants. Independent t-tests were

conducted to determine gender differences in competition preferences. Pearson Correlation was used to assess the relationships between competition preferences, sport achievement orientations and motivation in the participants as a whole. A cluster analysis was implemented to establish group differences in SOQ and IECQ variables. Analysis of Variance (ANOVAs) were conducted to examine differences in motivation and sport achievement orientations based on gender. Post hoc tests were used to determine significance among the groups. An exploratory factor analysis was used to evaluate the competition preference questionnaire to examine the factor structure and interrelated measure of the external and internal competition subscale items.

Chapter IV: RESULTS

The sample consisted of 142 participants. Demographic data of the participants can be viewed in Table 1. Descriptive statistics were computed for internal and external competition preference, sport achievement orientation variables, and all regulations of motivation (Table 2). Competition preferences (internal and external competition) had a range from 5 to 25. Sport achievement orientation variables (competitiveness, win-orientation and goal-orientation) had a range of 6 to 30. Motivation variables of (intrinsic, integrated, identified, introjected, external, and amotivation) had a minimal and maximum range of 4 and 28, respectively.

Table 1.
Descriptive Statistics of the Demographics

| Variable | Sample Size | Percent |
|---------------------------|-------------|---------|
| <i>Gender</i> | | |
| Male | 41 | 28.9 |
| Female | 101 | 71.1 |
| <i>Ethnicity</i> | | |
| Asian or Pacific Islander | 1 | 0.7 |
| Black or African American | 23 | 16.2 |
| Hispanic or Latino | 5 | 3.5 |
| Multiracial | 11 | 7.7 |
| White or Caucasian | 99 | 69.7 |
| Other | 3 | 2.1 |
| <i>Class Status</i> | | |
| Freshman | 55 | 38.7 |
| Sophomore | 23 | 16.2 |
| Junior | 30 | 21.1 |
| Senior | 32 | 22.5 |
| Graduate | 2 | 1.4 |
| <i>Scholarship Status</i> | | |
| None | 40 | 28.2 |
| Partial | 62 | 43.7 |
| Full | 31 | 21.8 |
| Prefer not to answer | 9 | 6.3 |
| <i>Yrs. of Experience</i> | | |
| 0-1 year | 1 | 0.7 |
| 2-4 years | 26 | 18.3 |
| 5-7 years | 51 | 35.9 |
| 8+ years | 64 | 45.1 |

Note. Total sample population =142 participants.

Table 2
Descriptive Statistics of Competition Preferences, Sport Achievement Orientation and Motivation

| Variable | Mean | Std. Deviation | Minimum | Maximum |
|------------------------|-------|----------------|---------|---------|
| Internal Competition | 16.97 | 3.76 | 6 | 25 |
| External Competition | 21.09 | 3.06 | 12 | 25 |
| Competitiveness | 26.42 | 3.19 | 17 | 30 |
| Win-Oriented | 21.91 | 4.14 | 11 | 30 |
| Goal-Oriented | 27.02 | 2.70 | 16 | 30 |
| Intrinsic Motivation | 24.73 | 3.49 | 11 | 28 |
| Integrated Regulation | 23.94 | 3.45 | 12 | 28 |
| Identified Regulation | 23.99 | 3.52 | 11 | 28 |
| Introjected Regulation | 17.29 | 6.19 | 4 | 28 |
| External Regulation | 12.65 | 5.58 | 4 | 28 |
| Amotivation | 10.93 | 5.93 | 4 | 25 |

Note. Competition preferences range from 5 to 25. Sport orientation variables range of 5 to 30. Motivation variables range of 4 and 28.

H1. A paired samples t-test was conducted to compare competition preferences in male and female participants. There were significant differences in the scores for internal and external competition for both male $t(40) = -4.31, p < .001$ and female $t(100) = -9.75, p < .001$ athletes. Both male and female track and field athletes displayed a significant preference towards external competition.

Internal and External Competition Preference Means for Males and Females

| | Internal Competition | External Competition | Mean Difference (SD) | <i>t</i> | <i>df</i> | sig. |
|---------|-------------------------|-------------------------|-------------------------|----------|-----------|---------|
| | Mean (SD) | Mean (SD) | | | | |
| Males | 17.56 (3.81) | 21.05 (3.51) | -3.49 (5.18) | -4.31 | 40 | <.001** |
| Females | 16.73 (3.74) | 21.11 (2.88) | -4.38 (4.51) | -4.38 | 100 | <.001** |

Note: ** $p < 0.01$; Males (N= 41), Females (N=101); Scores ranged from 5 to 25; higher scores indicated greater preference towards competition type.

Factor Analysis

Due to the first use of the IECQ in research, an exploratory factor analysis was used to measure the structure consistency of the internal and external competition items. The Kaiser-Meyer-Olkin measure of sampling adequacy was .74 and Bartlett's test of sphericity was significant ($\chi^2(45) = 625.01, p < .01$). Correlations between the factors ranged from .85 to -.01. The communalities ranged from .17 to .77 (initial) and .29 to .86 (extraction). The mean for internal competition items ranged from 2.87 to 3.87 (SD= .99-1.11) and mean for external competition items ranged from 4.10 to 4.44 (SD=.58-.89) (Table 4). Varimax and Oblimin rotations were used to establish factors. The analysis generated two factors that explained a total of 56.87% of the variance for the entire set of variables. Factor 1 was labeled external competition due to the high relevancy to the external competition items. The first factor explained 32.19% of the variance. The second factor was labeled internal competition due to the high loadings in association with the internal competition preference items. This factor explained 24.68% of the variance (Table 5). Two clear patterns of responses among the participants have been established, one pattern for internal competition and one pattern for external competition). The two factors have shown to be independent of one another.

Table 4.
Descriptive of Internal and External Competition Questionnaire Items

| Subscale | Statement | Distinction | Mean | SD |
|----------------------|--|-------------|------|------|
| Internal Competition | I enjoy competing against my teammates. | INTERCOMP1 | 3.87 | .99 |
| | I get satisfaction from competing against my teammates. | INTERCOMP2 | 3.67 | 1.04 |
| | The best test of my ability is competing against my teammates. | INTERCOMP3 | 2.87 | 1.13 |

| | | | | |
|----------------------|---|------------|------|------|
| | It is important to me that I perform better than my teammates during competition. | INTERCOMP4 | 3.23 | 1.21 |
| | I try harder when I am in competition with my teammates. | INTERCOMP5 | 3.32 | 1.11 |
| External Competition | I enjoy competing against athletes from other teams. | EXTERCOMP1 | 4.44 | .58 |
| | I get satisfaction from competing against my teammates. | EXTERCOMP2 | 4.20 | .89 |
| | The best test of my ability is competing against athletes other teams. | EXTERCOMP3 | 4.20 | .76 |
| | I perform my best when I compete against athletes from other teams. | EXTERCOMP4 | 4.15 | .77 |
| | I try harder when I am in competition with athletes from other teams. | EXTERCOMP5 | 4.10 | .85 |

Table 5.
Factor Weights for IEQ Items from Varimax and Oblimin Rotations

| Item | Factor | | | |
|------------|--------|------|------|------|
| | 1 | | 2 | |
| | Var. | Obl. | Var. | Obl. |
| INTERCOMP1 | | | .82 | .82 |
| INTERCOMP2 | | | .86 | .86 |
| INTERCOMP3 | | | .75 | .75 |
| INTERCOMP4 | | | .39 | .39 |
| INTERCOMP5 | | | .57 | .57 |
| EXTERCOMP1 | .62 | .63 | | |
| EXTERCOMP2 | .80 | .81 | | |

| | | |
|------------------|---------------|---------------|
| EXTERCOMP3 | .90 | .90 |
| EXTERCOMP4 | .91 | .91 |
| EXTERCOMP5 | .71 | .72 |
| Percent Variance | 32.19% | 24.68% |

Note. Factor loadings < .2 are excluded

H2. Pearson correlations were used to examine group relationships among variables of interest. Internal competition had significant relationships with competitiveness, win-orientation, goal-orientation and integrated motivation; correlations ranged from $r=.17$ to $.53$. External competition displayed significant relationships with SOQ variables (.32 to .46), intrinsic and self-determined forms of motivation (.21 to .34). Significant relationships were found in intrinsic motivation, integrated motivation (.31; .51) and negative relationships were found in introjected motivation and amotivation (-.26; -.47) for the competitiveness variable. A significant negative relationship was found with amotivation (-.33). Win-orientation was positively and significantly related to integrated motivation (.25). Goal-orientation indicated that there was a positive relationship between intrinsic and self-determined forms of motivation (.22 to .44) and negatively related to amotivation (.31). These results did not explain the significant correlations between inter-instrument variables, like the correlation between competitiveness with win-orientation or goal orientation. See Table 6 for correlation coefficients and significant levels.

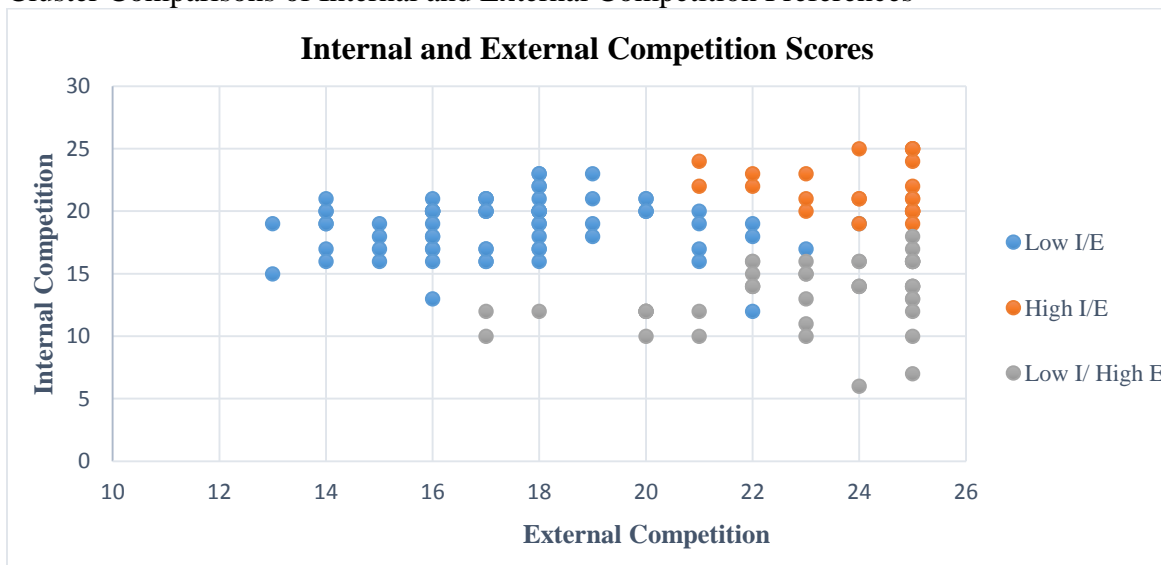
Table 6.
Correlations among IECQ, SOQ and BRSQ

| | Int. Comp | Ext. Comp | Comp | Win | Goal | Intri. | Integ. | Ident. | Introj. | Exter. | Amot. |
|-----------------|--------------|--------------|--------|-------|--------|--------|--------|--------|---------|--------|-------|
| Internal Comp | _____ | | | | | | | | | | |
| External Comp | .06 | _____ | | | | | | | | | |
| Competitiveness | .30** | .46** | _____ | | | | | | | | |
| Win | .53** | .32** | .57** | _____ | | | | | | | |
| Goal | .17* | .42** | .48** | .37** | _____ | | | | | | |
| Intrinsic | .12 | .21* | .31** | .08 | .22** | _____ | | | | | |
| Integrated | .19* | .34** | .51** | .25** | .44** | .56** | _____ | | | | |
| Identified | .12 | .29** | .13 | .09 | .29** | .33** | .54** | _____ | | | |
| Introjected | -.30* | -.03 | -.26** | -.11 | -.10 | -.35** | -.22** | -.01 | _____ | | |
| External | .11 | -.04 | -.15 | .05 | -.07 | -.26** | -.15 | .04 | .67** | _____ | |
| Amotivation | -.00 | -.33** | -.47** | -.12 | -.31** | -.64** | -.48** | -.25** | .55** | .43** | _____ |

Notes: * $p < 0.05$; ** $p < 0.01$.

H3. A hierarchical cluster technique was used to determine cluster solution within the internal competition and external competition preferences. The final cluster solution identified three distinctive groups (Figure 1). Cluster 1 ($n= 75$), labeled Low I/E displayed low levels on both internal and external competition preferences relative to the sample. They were labeled Low I/E because the participants in this group had low preferences for internal and external competition. Cluster 2 ($n= 25$), with the smallest number of participants scored relatively high on both internal and external competition. The second cluster was named High I/E, participants have a preferences for both internal and external competition. The third cluster group ($n= 45$) had low levels of internal competition relative to the sample and high levels of external competition. This cluster was labeled (Low I/High E), the participants in this group have a higher preference towards external competition and low preference for internal competition. The cluster group of high internal-low external was not identified in the clusters found. Z-scores of the cluster groups can be seen in Table 7 and Table 8.

Figure 1.
Cluster Comparisons of Internal and External Competition Preferences



Notes. Low I/E ($n= 75$); High I/E ($n= 25$); Low I/ High E ($n= 45$)

Table 7.
Z-scores of Competition Preference Cluster Groups

Notes. High I/E (n= 25); Low I/ High E (n= 45); Low I/E (n= 75)

| | Internal Competition | | | External Competition | | |
|---------------|----------------------|------|----------|----------------------|------|----------|
| | Min. | Max. | <i>M</i> | Min. | Max. | <i>M</i> |
| Low I/E | -1.06 | 1.87 | .13 | -2.97 | .62 | -.71 |
| High I/E | .54 | 2.13 | 1.31 | -.03 | 1.28 | .96 |
| Low I/ High E | -2.91 | .27 | -.94 | -1.34 | 1.28 | .61 |

Table 8.

Z Scores, Means and Standard Deviations for Each Internal and External Competition Cluster

| | High I/ High E (n= 25) | | | Low I/ High E (n= 45) | | | Low I/ Low E (n= 75) | | | Combined (Between Group) |
|-------------|---------------------------|----------|-----------|--------------------------|----------|-----------|-------------------------|----------|-----------|--------------------------------|
| | <i>z</i> | <i>M</i> | <i>SD</i> | <i>z</i> | <i>M</i> | <i>SD</i> | <i>z</i> | <i>M</i> | <i>SD</i> | <i>F</i> |
| Intrinsic | .45 | 26.3 | 3.9 | .12 | 25.2 | 2.9 | -.23 | 23.9 | 3.5 | 5.02* |
| Integrated | .93 | 27.2 | 1.9 | -.01 | 23.9 | 3.3 | -.32 | 22.9 | 3.3 | 17.92** |
| Identified | .60 | 26.1 | 2.7 | .04 | 24.1 | 3.4 | -.23 | 23.2 | 3.6 | 7.12** |
| Introjected | -.21 | 15.9 | 6.8 | .16 | 18.3 | 5.6 | -.03 | 17.1 | 6.3 | 1.91 |
| External | -.02 | 12.6 | 6.5 | -.02 | 12.5 | 5.7 | .02 | 12.8 | 5.2 | .03 |
| Amotivation | -.21 | 8.2 | 5.5 | -.21 | 9.7 | 4.7 | .29 | 12.7 | 6.3 | 7.41** |

To investigate motivational difference on the cluster groups, an analysis of variance (ANOVA) was performed with the cluster memberships as the independent variable and the motivational levels as the dependent variables (Table 8). Significant differences between groups were found on the motivational levels of intrinsic motivation, integrated, identified, and

amotivation. Tukey post hoc test ($p < .05$) were used to determine significant group differences on the dependent variables. Cluster 2 (High I/E) scored significantly higher than cluster 1 (Mod-Low I/E) on intrinsic motivation ($d = 2.36$; $p = .01$). Cluster 2 (High I/E) and cluster 3 (Mod-Low I/High E) scored significantly higher than cluster 1 (Mod-Low I/E) on integrated motivation ($d = 4.31$; $p < .001$), ($d = 3.27$; $p < .001$), respectively. Cluster 1 (High I/E) scored significantly higher than cluster 2 (Mod-Low I/E) on identified motivation ($d = 2.95$; $p = .001$). Cluster 1 (Mod-Low I/E) and scored significantly higher levels of amotivation than cluster 2 (High I/E) cluster 3 (Mod-Low I/High E) on ($d = 4.51$; $p = .002$) and ($d = 2.98$; $p < .02$), respectively.

Table 8.
Mean, Standard Deviations and F-values of Internal and External Competition Preferences

| Variables | (Mod-Low I/E) (n= 75) | | (Mod-High I/E) (n= 25) | | (Mod-Low I/ High E) (n= 45) | | Combined (Between Group) |
|-------------|--------------------------|-----------|---------------------------|-----------|--------------------------------|-----------|-----------------------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>F</i> |
| Intrinsic | 23.9 | 3.5 | 26.3 | 3.9 | 25.2 | 2.9 | 5.02* |
| Integrated | 22.9 | 3.3 | 27.2 | 1.9 | 23.9 | 3.3 | 17.92** |
| Identified | 23.2 | 3.6 | 26.1 | 2.7 | 24.1 | 3.4 | 7.12** |
| Intojected | 17.1 | 6.3 | 15.9 | 6.8 | 18.3 | 5.6 | 1.91 |
| External | 12.8 | 5.2 | 12.6 | 6.5 | 12.5 | 5.7 | .03 |
| Amotivation | 12.7 | 6.3 | 8.2 | 5.5 | 9.7 | 4.7 | 7.41** |

Note. * $p < .01$; ** $p \leq .001$; *M*= Mean, *SD*= Standard Deviation, *F*= F-distribution. The range for the motivation variables, min: 4 to max: 28.

H4. An analysis of variance (ANOVA) was conducted to compare motivation and sport achievement orientations in males and females (Table 9). There was a significant difference of motivation on male and female athletes at the integrated [$F(1,140) = 4.57, p = .03$] and identified [$F(1,140) = 8.70, p = .004$] levels of motivation. Other levels of motivation and variables of sport achievement orientations did not demonstrate a difference between male and females.

Table 9.

Gender Differences in Motivation and Sport Achievement Orientations

| | Males | | Females | |
|-------------------|----------|-----------|----------|-----------|
| | (N= 41) | | (N= 101) | |
| <i>Motivation</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Intrinsic | 24.73 | 3.53 | 24.72 | 3.50 |
| Integrated* | 22.98 | 3.92 | 24.33 | 3.19 |
| Identified** | 22.66 | 4.16 | 24.53 | 3.10 |
| Introjected | 17.20 | 6.18 | 17.33 | 6.23 |
| External | 12.00 | 5.19 | 12.91 | 5.74 |
| Amotivation | 10.44 | 6.35 | 11.13 | 5.78 |
| <i>SAO</i> | | | | |
| Competitiveness | 26.88 | 3.16 | 26.24 | 3.21 |
| Win | 22.68 | 3.99 | 21.59 | 4.19 |
| Goal | 26.71 | 2.74 | 27.15 | 2.70 |

Notes: * $p < 0.05$; ** $p < 0.01$. *M*= Mean, *SD*= Standard Deviation

Chapter V: DISCUSSION

This study was conducted to determine the relationship between competition preferences, motivation and sport achievement orientations in NCAA Division-I track and field athletes. First, male and female track and field athletes and their preference towards internal or external competition was explored. This first hypothesis was partially supported; evidence was found that both male and female athletes have a significant preference towards external competition when compared to internal competition. Results from this study, extend the work conducted by Warner and Dixon (2013). Warner and Dixon found that females prefer external competition which this research supports. They also found that males found both internal and external competition as a positive influence on their sporting experience. This research indicates that males prefer external competition over internal competition. The researchers also conducted a qualitative study to examine the competition preferences of the athletes. The current research examined competition preferences based on a qualitative measure. This work supports the notion that competition types, specifically internal competition can play a significant role in how competition is perceived in both internal and external competition settings (Warner & Dixon, 2013).

Internal competition was the less preferred for both men and women athletes. Internal competition can have a positive or adverse effect on athletes (Burton & Raedeke, 2008; Shindler, 2009). Internal competition can allow athletes to push their teammates and team to become better competitors (Jones, Potrac, Cushion & Ronglan, 2011). Athletes can view internal competition as a motivational factor to help improve one's skills and abilities. Or it can be seen detrimental to an athlete if internal competition is viewed as a means of comparison or an intimidation factor. It can also cause insecurities and social tension amongst team members

(Jones et al., 2011). External competition was a more preferred form of competition for both male and females. External competition can be an ultimate test of the athlete's ability, expose athletes to new competitors and promote team unity. Though external competition was preferred by male and female athletes, it can still have negative consequences. Athletes may focus on beating their competitors, wanting to win and feel pressured to perform to a certain standard. All which can hinder an athlete's performance.

Briefly, external competition was a favored form of motivation compared to internal competition for both male and female track and field athletes in this study. External competition can also encompass positive and negative responses in athletes. External competition can enhance team unity and performance. But it can also cause rivalries, anxiety, and pressure to perform. Track and field is considered a "team" sport with many "individual" events. Track and field athletes may view track meets as a true measure of their training, skills, and abilities, but more research is needed to investigate that notion. Warner and Dixon (2013) stated that competitive environments that focus more external competition and internal cooperation will maintain an athlete's participation. However, more research is needed to investigate the motives for an athlete's competition preference. Better insight on an athlete's motives can help identify the source of the preference to competition.

The second purpose of this study was to explore the relationship between competition preferences, and sport achievement orientations with motivation type. It was hypothesized that internal competition would be associated with non-self-determined forms of motivation. The first part of this hypothesis was not supported, internal competition preferences displayed a significant positive relationship with integrated motivation. To the track and field athletes in this study internal competition is valued to an athlete's self-identity. Particularly in collegiate sports,

competing against teammates can give athletes a sense of where they belong on the team and amongst their teammates, which would enhance their competence. External competition showed positive relationships with intrinsic motivation and self-determined forms of motivation, which supported the second hypothesis. External competition has shown to be a preferred preference of competition amongst this sample, when compared to internal competition. Based off these results athletes that prefer external competition may feel as though competing against other teams will help them reach their personal goals, likely increases their self-confidence, and because they genuinely love to compete.

In relationship to the sport achievement orientations and motivation type, the hypothesis was that competitiveness and goal orientation would be positively related to intrinsic and self-determined motivation while win-orientation would be positively related to intrinsic motivation and non-self-determined motivation. The competitiveness hypotheses were partially supported, win-orientation was not supported and the goal-oriented hypothesis was full supported. Higher levels of competitiveness were associated with higher levels of intrinsic motivation and integrated motivation. Athletes have higher levels of competitiveness than non-athletes (Beaudoin, 2006; Gill et al., 1988; Ilyasi et al., 2011), which suggest that athletes find enjoyment and excitement from competitive situation. High levels of competitiveness within this sample would suggest that Division-I track and field athletes, competitiveness is a trait that is integrated into who they are and is important to their being. Win-orientation was associated with an autonomous form of extrinsic motivation, integrated motivation. Winning or wanting to win can be a key factor in developing one's self-esteem due to enhancing competence in the event. When a track and field athlete competes in an event, they have complete control over their actions and their performance in the event. Winning an event gives the athlete a perception of

their own skills and abilities; both of which supports autonomy and competence within the event (Jowett & Lavallee, 2007), losing an event can hinder motivation. Though not as pertinent as the other two sport orientation variables, winning is important element in sports for athletes. Goal-orientation seemed to be one of the most important sport achievement variables for track and field athletes.

Goal-orientation was positively correlated with intrinsic, integrated and identified motivations. The third hypothesis was fully supported. Research has found that task-oriented goals have been linked to intrinsic motivation and performance (Cerasol & Ford, 2014). In an academic setting, students who possessed mastery goal orientations engaged in academic performance behaviors to attain competence in the area (Elliot & Harackiewicz, 1994). It is suggested the same can be seen in a sports setting (Gill & Deeter, 1988; Treasure & Roberts, 1995). Autonomous forms of extrinsic motivation can be associated with high levels of goal orientation because the athletes have control over the goals that they set for themselves. Personal goals set by athletes themselves allow athletes to enjoy the sport without external pressures to meet specific performances set by coaches or others. It also allows athletes to identify their own values, ethics, skills and abilities, then create goals around them. More research is needed to determine the significance of specific goal orientations in athletes. The Cognitive Evaluation Theory emphasizes that intrinsic motivation and self-determined motivation are key in determining if a behavior will be performed again. If an athlete feels interested or attracted to certain aspects of a sport then they will be more likely to seek out the opportunities to participant in the sport again (Dei & Ryan, 1985). Track and field athletes find some type of psychological need or enjoyment from competition, being competitive, wanting to win and setting goals. High goal orientations are positively related to intrinsic motivation and autonomous forms of

motivation. It can be concluded that each of these variables are valuable to an athlete and should be incorporated within a sporting environment.

The third purpose was to study the motivational profiles of athletes with internal and external competition preferences. It was postulated that distinct groups of competition preferences would emerge and there would be motivational differences between the groups; this hypothesis was supported. Three internal and external competition preference groups were identified. The groups consist of athletes with high levels in internal and external competition preferences (High I/E), low levels of internal and high level of external competition preferences (Mod-Low I/ High E) and athletes with low levels of internal and external competition preferences (Mod-Low I/E). This sample population did not reflect or identify athletes would have high levels of internal competition and low levels of external competition preferences. It is plausible that athletes with these specific competition preference may not be prominent, which could explain the absence of this group in this research. More research is needed on these competition preference profiles to determine that idea. The second portion of the hypothesis addressed the motivational profiles of the competition preference groups found.

There were significant differences in motivational profiles between the competition preference groups; this part of the hypothesis was supported. Athletes with high levels internal and external competition preferences exhibited the highest levels of intrinsic, integrated and identified types of motivation. This suggests that athletes with high levels of both internal and external competition displayed the highest levels of positive motivation. When these needs are met intrinsic and self-determined forms of motivation are exhibited. External competition has shown to be the preferred competition preference which could explain the intrinsic and self-determined motivation towards it. Internal competition can give athletes the “best of both

worlds” perspective. They experience the enjoyment and thrills of competition with people that they feel comfortable with but an interpersonal appeal is also present (Vallerand, 2007). By placing all the elements together an athlete’s psychological needs for motivation can be met and yield intrinsic motivation or self-determined forms of extrinsic motivation. Athletes with lower levels of internal and external competition displayed higher levels of amotivation. Athletes within this category may exhibit higher levels of amotivation because of hierarchical positions on a team. If an athlete feels as though they have a particular placement on the team and the placement is not at the top, the athlete would be more likely to experience amotivation towards the sport. Though, that idea may seem farfetched, it is possible that competition preferences can depict an athlete’s level of motivation in the sport.

These findings suggest that competition plays a key role in sports. In competitive sports the focus can often be on beating the opponent. Low levels of internal and external competition preferences could possibly lead to an increased chance that the athlete will quit the sport because of increased levels of amotivation in the sport. But a future longitudinal study to examine this groups of athletes would be needed. The athlete’s need to participate through the sport are not being met through competition. A question still remains if athletes who display high levels of internal competition and low levels of external competition preferences, exist in a sport context. More research is needed to investigate the motivational perspective of these different competition preferences in athletes. In addition, research should further examine the motivation of athletes based on their competition preference groups, which have been discovered in this research. It is also plausible to examine how fostering self-determined forms of motivation can have an impact on an athlete’s perception of competition. Additional insight on the topic could extend the knowledge of competition in sports.

The final purpose of this study was to examine gender differences in motivation and sport achievement orientations in track and field athletes. The hypothesis was partially supported; in relation to types of motivation. Results revealed that female athletes had significantly higher integrated and identified motivated than male track and field athletes. Results from this study are consistent with past research (Fortier et al., 1995; Vallerand et al., 1992) demonstrating that females have a more self-determined orientation to participate in track and field than males. In a Fortier et al., (1995) study, female athletes exhibited significantly higher levels of identified motivation than males. These findings provide additional support to the idea that female athletes significantly higher levels of self-determined motivation to participate in sports than males. Past studies have also used the Sport Motivational Scale (SMS) to examine motivation in sports. This scale omits the integrated form of motivation. This study shows that females have higher levels of integrated motivation, which has not been examined in past studies. Female athletes may focus more on the personal satisfactions within sports, while males may focus more on supplementary factors associated with sports such as winning and beating opponents.

Previous literature have found that males are more competitive and win-oriented than females (Gill et al., 1991; Gill et al., 1996; Gill & Dzewaltowski, 1988; Jamshidi et al., 2011; Wakayama et al., 2002) and females were more goal oriented than males (Gill et al., 1991; Jamshidi et al., 2011). But this study revealed that were no differences amongst the genders in association with competitiveness, win-orientation and goal-orientation. These findings are consistent with Gill's (1988) and Martin and colleagues' (1995) research that there are no gender differences in sport achievement orientations. Beaudoin's (2006) work on sport achievement orientation and motivation in female football players illustrated that females SOA scores were similar male intercollegiate athletes. The women were highly competitive and intrinsically

motivated. Competitiveness mean scores varied between studies so they were unable to be compared to the current study sample. Win orientation mean score for male and female athletes in this study were similar or higher than previous research (Beaudoin, 2006; Gill & Dziewaltowski, 1988; Gill et al., 1996; Wakayama et al., 2002). Goal mean scores for male and female track and field athletes in this research are comparable to past literature (Beaudoin, 2006; Gill & Dziewaltowski, 1988; Gill et al., 1996; Jamshidi, 2011). Win orientation and goal orientation mean scores are similar to studies conducted by Beaudoin (2006) and Gill & Dziewaltowski (1988). Male and female athletes in the present study produced similar scores in relation to sport achievement orientation which suggest that there are no gender differences in sport achievement orientation. Previous literature and the current study have shown that there are inconsistencies in whether gender differences in sport achievement orientations that should be further studied. Studies should be extended to male and female athletes from various college sports that encompass individual-oriented (e.g. swimming, tennis and wrestling) and team-oriented sports (e.g. football, basketball and volleyball).

Limitations

Though the results of this research has provided some fascinating information regarding competition, sport achievement orientations and motivation, limitations within the study should be identified. The sample of athletes within the study was moderate in sample size but a larger sample size could provide more powerful results. Participants were limited to Division I track and field athletes in the eastern and southern parts of the United States. Future studies should examine differences in various collegiate divisions (e.g. Division II or Division III). Majority of the participants were Caucasian females which is not a suitable representation of Division I track and field athletes in the U.S. In addition, the study was limited to one specific sport within

collegiate sports, track and field. Further research should be conducted with various sports, throughout the United States with a more diverse population. Also a congruent number of male and female participants could assist researchers in examining appropriate gender differences in athletes.

Other limitations in the study are in relation to the instrumentations used. The survey was anonymous, so there is no way in determining if the respondents were from the same teams or had an extraneous variable that could have an influence on the results. The BRSQ and SOQ were self-report surveys. Participants could have given biased or false responses to satisfy the studies purpose. Also, athletes who responded may not have represented the sport of track and field. The instruments used to measure athletes' preferences towards internal and external competition was an additional limitation because the items on the questionnaire were not yet considered valid and reliable. A Factor analysis of the IECQ items are deemed appropriate for competition, but linear questionnaire could be created to place internal and external competition on a continuum. However, the Internal and External Competition Questionnaire appears to be adequate in measuring internal and external competition variables. The IECQ should be validated in future studies in various settings. Despite the limitations within this investigation, the results have provided new and vital information that could benefit the sports community.

Practical Implications

Competition and motivation are important components in sports. The two concepts can cause positive experiences in the sport and promote performance. Coaches should be aware that internal competition can be used as a means to push athletes to better themselves, each other and ultimately the team but it can also cause turmoil and unhealthy rivalries amongst teammates. Internal competition can enhance relatedness, competence and autonomy amongst team

members, which based on SDT can develop intrinsic motivation. A coach's behavior can intentionally or accidentally create rivalries between athletes (Jones et al., 2011). It would be beneficial for coaches and sports personnel to monitor the effect of internal competition amongst their teams and athletes, to determine the most suitable approach. Competitiveness, win-orientation and goal-orientation are essential variables to an athlete. It may be beneficial for coaches or sport psychologist to determine an athlete's strengths and weaknesses and how competition may enhance or hinder an athlete's performance.

For coaches and sport personnel, creating a mastery-oriented environment is beneficial in enhancing or maintaining intrinsic motivation (Gillet et al., 2010; Hollembeak & Amorose, 2005; Vallerand, 2004). SDT emphasizes mastery-oriented environments which focus on incorporating skills and strategies that foster competence, autonomy and relatedness. Some suggestions for creating a mastery-oriented environment are: a) creating tasks or drills that are challenging but interesting and significant b) give athletes the ability to make decisions on the team c) group athletes together based on similar skills levels and d) give athletes the opportunity to learn new skills at a sufficient pace. Though results from this study do not indicate that a mastery environment caused intrinsic motivation, previous research supports this notion (Gillet et al., 2010; Hollembeak & Amorose, 2005; Vallerand, 2004). Athlete should identify their personal motives to participate in sport and seek those motives. Long term and short term goals can be essential in navigating athletes to intrinsic motivation. They should be specific, manageable and obtainable. Finding a strong support system on the team can be helpful in establishing motivation.

Conclusion

This research has investigated gender differences in internal and external competition preferences, assessed motivation in conjunction with competition preference and sport achievement orientations; finally, gender differences in motivation and sport achievement orientations. Both male and female athletes prefer external competition in relation to internal competition. External competition gives athletes an ultimate test of their skills and abilities compared to both their teammates and outside competitors, which can either enhance or hinder intrinsic motivation. Internal competition can be a complex factor to use within a team environment.

Sport competition, motivation and achievement orientation are complex and multidimensional concepts. The present study extended past research in a number of ways. First, the exploration of competition in the current study went beyond the typical one dimensional measurement to examine a more multidimensional aspect, internal and external competition. Internal and external competition were not only examined in a qualitative manner but motivational influences associated with competition preferences were also examined. This study extended research in the area, and has opened doors for future ideas in this area of research. Gender differences in motivation and sport achievement orientations have produced inconsistent findings. Finally, research on competition preferences, sport achievement orientation and motivation within a sports context is extremely beneficial to athletes, coaches and supportive staff. This study extended current literature in the world of sports, but particularly within the sport of track and field.

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APPENDIX A.
IRB Approval Letter

Notification of Exempt Certification

From: Social/Behavioral IRB
To: Kimberly Woodson
CC: Nicholas Murray
Stacy Warner
Date: 2/24/2014
UMCIRB 14-000014
Re: Motivation, Achievement Orientation, and Competition in Collegiate Track and Field Athletes

I am pleased to inform you that your research submission has been certified as exempt on 2/24/2014. This study is eligible for Exempt Certification under category #2.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification request at least 30 days before the end of the five year period.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX B.
Behavioral Regulation in Sport Questionnaire

The BRSQ is based on a 7-point likert scale. (1= Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4= Neutral, 5= Somewhat Agree, 6= Agree, 7= Strongly Agree)

Stem: I participate in track and field...

Intrinsic Motivation

1. Because I enjoy it.
2. Because I like it.
3. Because it's fun.
4. Because I find it pleasurable.

Integrated Regulation

5. Because it's part of who I am
6. Because it's an opportunity to just be who I am
7. Because what I do in track and field is an expression of who I am
8. Because it allows me to live in a way that is true to my values

Identified Regulation

9. Because the benefits of track and field are important to me
10. Because it teaches me self-discipline
11. Because I value the benefits of track and field
12. Because it is a good way to learn things which could be useful to me in my life

Introjected Regulation

13. Because I would feel ashamed if I quit
14. Because I would feel like a failure if I quit
15. Because I feel obligated to continue
16. Because I would feel guilty if I quit

External Regulation

17. Because if I don't other people will not be pleased with me
18. Because I feel pressure from other people to play
19. Because people push me to play
20. To satisfy people who want me to play

Amotivation

21. But I wonder what's the point
22. But I question why I continue
23. But the reasons why are not clear to me anymore
24. But I question why I am putting myself through this

APPENDIX C.
Sport Orientation Questionnaire

This questionnaire is based on a 5-point likert scale (1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4= Agree, 5= Strongly Agree)

Competitiveness

1. I thrive on competition
2. I am a competitive person
3. I work hard to be successful in sports
4. I try my hardest to win
5. I look forward to competing
6. I look forward to the opportunity to test my skills in competition

Win items

7. Losing upsets me
8. I have the most fun when I win
9. Winning is important
10. Scoring more points than my opponent is very important to me
11. I hate to lose
12. The only time I am satisfied is when I win

Goal items

13. Reaching personal performance goals is very important to me
14. The best way to determine my ability is to set a goal and try to reach it
15. I am most competitive when I try to achieve personal goals
16. I set goals for myself when I compete
17. Performing to the best of my ability is very important to me
18. I try hardest when I have a specific goal

APPENDIX D.
Internal and External Competition Questionnaire

This questionnaire is based on a 5-point likert scale (1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4= Agree, 5= Strongly Agree)

Internal- Refers to competition between your teammates or within your team.

1. I enjoy competing against my teammates
2. I get satisfaction from competing against my teammates
3. The best test of my ability is competing against my teammates
4. It is important to me that I perform better than my teammates during competition
5. I try harder when I am in competition with my teammates

External- Refers to competition in relation to athletes from other teams (not on the your team)

6. I enjoy competing against athletes from other teams
7. I get satisfaction from competing against my teammates
8. The best test of my ability is competing against athletes other teams
9. I perform my best when I compete against athletes from other team
10. I try harder when I am in competition with athletes from other teams

APPENDIX E.
Participation Email to Coaches

My name is Kimberly Woodson. I am currently working toward my Master's degree at East Carolina University in Sports and Exercise Psychology. I am hoping to recruit track and field athletes from your team to voluntarily take part in a brief questionnaire on competitiveness and motivation within track and field. This research is being done to expand our understanding of the effects of competition within a sports setting. This study is being conducted under the supervision of Dr. Nicholas Murray and Dr. Stacy Warner.

In this study your athletes will be asked questions about **their perspective on competition and motivation within track and field**. All their answers will be confidential and the survey will take roughly 10-15 minutes to complete. I would love if your athletes were able to take part in this study.

If you could please forward this email with the link:

to your athletes I would be greatly appreciative. Please feel free to contact me directly at woodsonk07@students.ecu.edu, if you have any questions.

Thank you,

APPENDIX F.
Participation Email to Student-Athletes

I am recruiting track and field Athletes for an important study on competitiveness and motivation within the sport of track and field. I need NCAA Division-I track and field athletes who are willing to take 10-15 minutes to take a brief survey to express their opinion about competitiveness and motivation in track and field. All your responses are confidential. Your opinion is very important and I would love to have your point of view.

If you are interested click the link below:

If you know of any other track and field athletes that may be interested please forward them the link. Email me at woodsonk07@students.ecu.edu, if you have any questions.

Thank you for your help,

APPENDIX G.
Participant Informed Consent Form (Qualtrics)

You are being invited to participate in a research study about motivation and competition within the sport of track and field. This study is being conducted in requirements of a graduate school thesis by Kimberly Woodson, Dr. Nicholas Murray and Dr. Stacy Warner, from the Kinesiology department at East Carolina University.

You were selected as a possible participant in this study because you have are an eligible track and field athlete at a Division 1 University and you have at least experience one full season (indoor/outdoor) experience at the collegiate level.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you provide will remain anonymous and will be used to examine competition and motivation within track and field athletes. The questionnaire will take about *10-15 mins* to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

This survey is anonymous. Do not write your name on the survey. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Individuals from the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed. Your participation in this study is voluntary. By clicking the next button, you are voluntarily agreeing to participate. If you have any questions about the study, please contact Kimberly Woodson (woodsonk07@student.ecu.edu).

East Carolina University Institutional Review Board has reviewed my request to conduct this project. If you have any concerns about your rights in this study, please contact East Carolina's Office of Research Integrity and Compliance at 252-744-2914 or umcirb@ecu.edu.

