January 2016

Relationships and Sports: Mechanisms in Relational Motivation and Its Impact on Athletic Performance

Alexandra Szarabajko
Eastern Kentucky University

Relationships and Sports:

Mechanisms in Relational Motivation and Its Impact on Athletic Performance

By

Alexandra Szarabajko

Thesis Approved:

Chair, Advisory Committee

Member, Advisory Committee

Member, Advisory Committee

Dean, Graduate School

In presenting this thesis in partial fulfillment of the requirements for a Masters of Science degree at Eastern Kentucky University, I agree that the Library shall make it available to borrowers under rules of the Library. Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of the source is made. Permission for extensive quotation from or reproduction of this thesis may be granted by my major professor, or in [his/her] absence, by the Head of Interlibrary Services when, in the opinion of either, the proposed use of the material is for scholarly purposes. Any copying or use of the material in this thesis for financial gain shall not be allowed without my written permission.

Signature A. Zarabajlo

Date 11-10-2016

Relationships and Sports:

Mechanisms in Relational Motivation and Its Impact on Athletic Performance

By

Alexandra Szarabajko

Bachelor of Science

Eastern Kentucky University

Richmond, Kentucky

2015

Submitted to the Faculty of the Graduate School of
Eastern Kentucky University
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
December, 2016

DEDICATION

This thesis is dedicated to my parents
Lech and Krystyna Szarabajko
for their loving support and unlimited trust
in letting me strive for my own success.

ACKNOWLEDGMENTS

My journey at Eastern Kentucky University has been one of the most memorable in my life and it would not have been possible with the help, guidance, and kindness of several people. First and foremost, I would like to thank my mentor, Dr. Jonathan S. Gore, who has seen my potential and opened doors for me to combine my interest with his research that turned into this thesis. His structured assistance and passion for student's success will serve as an example in my career. I would also like to thank the other committee members, Dr. Richard Osbaldiston and Dr. Jim Larkin, for their assistance, comments, and interest in this project. I would like to express my thanks to the faculty of the Department of Psychology who have inspired and influenced me throughout my journey. Lastly, I would like to thank people from back home (Germany). I am thanking Sebastian Kneifel for encouraging me and giving me the confidence to study in the U.S. Without his support, I would not have made the decision to go overseas. I would like to thank my parents, Lech and Krystyna Szarabajko, and my siblings, Sebastian and Barbara Szarabajko for their love, understanding, and patience in letting me pursuing my dreams in a different country. My sincere gratitude!

ABSTRACT

Relationally-Autonomous Reasons (RARs) for pursuing goals are motives that take one's own personal needs and the needs and desires of close others into account. These relational reasons motivate people in pursing health, school, or sports goals. The purpose of this study was to identify what mechanisms drive relational motivation that in turn affects athletic performance. Participants (*n* = 156) in this study were student-athletes from various sports, who completed a questionnaire. Athletic performance was obtained and standardized through each athlete's performance statistics within their sport. The results of the study revealed that closeness, support, accountability, and shared values predicted relational motivation in student-athletes, while coaching relationship and sport type did not predict RARs. In addition the findings showed effort is driven by RARs and coaching relationship but that effort did not predict athletic performance.

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Performance is a created construct by humans and used as an indicator for several factors, such as success, acknowledgment, intelligence, and wealth. Humans have measured their level of performance from the ancient to the modern world, and it has been applied to a variety of settings. In general, performance can be understood as achievement upon completion of a task and is used to compare one performance score to others. Performance scores are calculated to evaluate people's mental health, personality, behavior, or fitness, and are used to classify these people in their environment.

One of the environments where performance is used as a decision-making tool about employment, monetary gain, and acknowledgment is in sports. Athletic performance describes an athlete's physical ability and summarizes his or her achievement in the sport. Statistics on athletic performance are calculated over seasons, years, and decades and determine a player's ranking among the pool of players. Athletic teams at the professional and collegiate level use athletic performance scores for recruiting, decision making over playing time, or for salary decisions. Therefore, athletes try to maintain a high performance level because it impacts their personal success and that of related people. In order to become more successful than the opponent, sponsors, teams, coaches and athletes try to influence factors that can affect athletic performance positively. Not only is the market for sports enhancing products growing rapidly, but

psychological factors that can enhance athletic performance, such as motivation, have also received attention increasingly over time. The purpose of this study was to expand upon past research and identify factors that foster relational motivation and its impact on athletic performance.

CHAPTER II

LITERATURE REVIEW

Theories of Motivation

Motivation is the inner drive that determines a person's engagement of a behavior of accomplishing a task or pursuing a goal. In the past, a great number of studies have explained different concepts and theories of motivation and tried to understand motivation and its forces on human behavior. Different approaches on motivation will be discussed, using Self-Determination Theory as the framework, which will lead to the theory of Relational Motivation.

Self-Determination Theory

When discussing motivation in research, distinctions are made between intrinsic and extrinsic motivation. Individuals, who are intrinsically motivated, accomplish tasks or pursue goals due to an inner drive or personal interest in this task, whereas extrinsically motivated individuals complete an activity for an external reason, such as a reward (Berlyne, 1960; Hunt, 1965; White, 1959). For instance, runners who run five miles every day solely for enjoyment are intrinsically motivated; runners, whose primary reason for running is to belong to a team or receive acknowledgement, are extrinsically motivated. In general, when comparing these two motivation types, intrinsic motivation is viewed as the healthier motivation because people tend to maintain a behavior longer when intrinsically motivated. White (1959) reconsidered motivational theories and proposed that intrinsic motivation originates from two basic needs, which he termed effectance

and competence, and is distinct from biological driven motivation. Effectance motivation is explained as the human drive to explore and influence the environment whereas competence motivation is the level of interaction with the environment. White (1959) concluded that if a person completes a task successfully, he or she will experience an inner satisfaction and be positively encouraged to do a more challenging task due to the perception of increased competence. Thus, competence serves as an inner reward and is an essential need for intrinsic motivation.

Deci and Ryan (1985) expanded upon White's research with Self-Determination Theory (SDT). They argued that competence on its own does not describe intrinsic motivation fully, but rather the interaction between the need for competence and the need for self-determination (Deci & Ryan, 1985, Ryan & Deci, 2000). According to the researchers, a self-determined behavior is one of free choice. Even though not all people like to be in control over an outcome, they like to have the choice to possibly control the outcome, which describes the need for self-determination. While Deci and Ryan (1985) concluded that competence and self-determination are necessary to maintain intrinsic motivation, they also clarified that even extrinsically motivated behaviors can become self-determined and competence oriented. For instance, if a person selects a specific sport with no external pressure over another sport because he or she feels competent in it and it helps to earn more money, the person's motivation is self-determined and driven by competence (choosing the sport), but the choice becomes externally motivated (money as a reward). Thus, Deci and Ryan shifted the intrinsic versus extrinsic motivation

discussion, and focused on the importance of self-determined behavior by developing SDT.

Three psychological needs have been introduced in regard to motivation (Deci & Ryan, 2000). The researchers describe these needs as competence, autonomy, and relatedness. According to the SDT, human behavior that is self-determined only occurs when all three psychological needs are satisfied. The first psychological need, competence, has been introduced by White (1959), and is the degree to which a person feels able to accomplish a goal and is an important factor for intrinsic motivation. The second need, autonomy, is closely related to competence and is described as the personal motive or cause to accomplish a task. Past studies have examined factors that contributed to the need for competence and autonomy and enhance or decrease intrinsic motivation (Deci, 1971, 1972; Deci, Betley, Kahle, Abrams & Porac, 1981). Deci (1971) conducted two laboratory experiments to test the effect of external rewards on intrinsic motivation for performing a task. It was hypothesized that (1) the external reward, money, will decrease intrinsic motivation, whereas (2) verbal reinforcement as the external reward will increase intrinsic motivation. In the first experiment, participants were asked to participate in a three-session experiment over three days (one session per day). The participants were divided into an experimental and control group, where both groups were asked to solve a special puzzle, which could be done in a numerous of different arrangements. Each participant had to solve different puzzle arrangements within 13 minutes and the only difference between the groups was that in session two, the experimental group received one dollar as a reward for each accomplished arrangement.

At the end, participants filled out a scale that asked how interesting the task was. The results of this first experiment supported the first hypothesis that money decreased the intrinsic motivation of the experimental group compared to the control group.

The second experiment had the same set up as the first experiment, but students in the experimental group received verbal reinforcements in session two. The results supported the second hypothesis in that participant's intrinsic motivation increased when receiving positive verbal feedback compared to the control group. Hence, the experiment showed verbal or positive feedback as an external reward increased intrinsic motivation because it supported the participant's need for competence. Money, as the external reward, shifted the need for autonomy or the perceived cause for the activity, undermining intrinsic motivation and promoting external motivation. Other studies supported these findings and showed that other rewards, such as negative feedback (Vallerand & Reid, 1984), or external pressure, such as competition (Deci et al., 1981), hindered intrinsic motivation. According to SDT, competence is needed for any kind of motivation, while autonomy is necessary for a behavior to be intrinsically motivated and the interaction of both needs is the most powerful factor in defining whether a behavior is self-determined or controlled (Deci & Ryan, 2000).

Relatedness is the sense of feeling close to or connected to a significant other (Baumeister & Leary, 1995). In SDT, the incorporation of close relationships into one's behavior fosters intrinsic motivation (Deci & Ryan, 2000). In other words, people feel more motivated to maintain a behavior or complete a task when motivated by their significant others. A recent study by Sparks, Dimmock, Whipp, Lonsdale, and Jackson

(2015) focused on the relatedness perception of students in physical education (PE) classes. The purpose of their study was to investigate the association between teaching behaviors and student's perceived relatedness. A group of physical education (PE) students (*N* = 48) were interviewed by a lead author about their PE class and teachers. The seven open-ended questions were designed to obtain information about relatedness support. Results of this study revealed PE students indicated higher intrinsic motivation when the teacher showed relatedness-supportive behavior, such as interest in their activity or teacher attentiveness. These results support past research findings that suggested relationships play a more significant component in self-determined motivation. Cox and Williams (2008) conducted one of those studies and tested SDT in a physical education setting. The purpose was to examine the roles of competence, autonomy, and relatedness on perceived teacher support and motivational climate on motivation. In their study, fifth- and sixth-grade students (*N* = 518) completed a questionnaire on motivational climate, perceived relatedness, teacher support, perceived autonomy, perceived competence, and motivation. The findings showed competence was not the major indicator for motivation in physical education. Relatedness predicted self-determined motivation, meaning social or relational factors were more significant than the other needs. Based on the findings of the psychological needs of SDT, it is understood that intrinsic motivation contains a personal and a relational component that influences one's behavior. Other motivational researchers expanded upon the SDT and examined the relational aspect of motivation more closely.

Autonomous Regulation and Relational Motivation

The findings of SDT research illustrate that fulfilling the three psychological needs triggers intrinsic motivation, which then leads to self-determined behavior. There is another process that forms a basis for self-determined behavior together with intrinsic motivation. Internalization is the process of transforming and integrating external regulations into one's self or intrinsic motivation (Deci & Ryan, 2000). External regulations, such as close relationships, can enhance self-determination when the individual internalizes it successfully. Thus, the external reason becomes autonomous because it is integrated and expressed intrinsically. When internalization is unsuccessful, regulations remain external and may impede self-determined behavior. The reason for performing a behavior is then controlled, and perceived as pressured or regulated by others.

Sheldon and Elliott (1998) expanded upon SDT and differentiated further between two types of reasons (autonomous and controlled). According to the researchers, autonomous goals are more successfully accomplished and maintained than controlled goals. Two of their studies tested (1) how controlled and autonomous reasons are related to attainment, and (2) if autonomy predicts greater attainment. In the first study, participants (N = 128) were assessed in group sessions and asked to create a list of ten personal strivings and rate these strivings for one of four reasons, including (1) external, (2) introjected, (3) identified, and (4) intrinsic. The external and introjected reasons were controlled, whereas the identified and intrinsic reasons were autonomous. After determining their reasons, the participants were asked to rate how successful they were

in accomplishing this striving. The results of the first study supported the hypothesis, showing autonomy was positively correlated with attainment and controlledness was negatively correlated with attainment. The purpose of the second study was to determine if autonomy predicts greater attainment. A correlation between autonomy and mid-semester effort, and no correlation between controlledness and mid-semester effort was hypothesized. In this three-part study, participants (*N* = 141) were asked to select eight goals from a list of 51 achievement goals that would represent their goal strivings. They rated each goal according to the four reasons from study one, and how much effort they would put in attending this goal (time 1). After eight weeks, the participants attended the second part of the study (time 2) and were asked to rate their actual given effort in attaining the goal. After fifteen weeks, participants returned to a final session and indicated how successful they have been in achieving this goal. The results of the second study supported the hypothesis that goals, which are motivated by autonomously reason, show better achievement than goals motivated by controlled reasons. Thus, Sheldon and Elliot (1998) showed people work harder to achieve their goals when pursing them for autonomous reasons rather than for controlled reasons.

Researchers have asked further questions regarding motivational reasons in goal pursuit. Gore and Cross (2006) introduced additional categories of goal motivation that expanded upon the idea of relational motivation. They expanded upon past research (Sheldon & Elliott, 1998, 1999) and identified two subcategories derived from autonomous reasons, termed Personally Autonomous Reasons (PARs), and Relationally Autonomous Reasons (RARs). According to the researchers, PARs integrate the concepts

of self-determination (Deci & Ryan, 1985; 2000; Ryan & Deci 2000) and autonomous reasons (Sheldon & Elliott, 1998, 1999), and can be described as internally driven reasons to attain a goal. Attaining goals for PARs means to accomplish goals solely due to personal interest, perceived importance, and enjoyment. In contrast, RARs are motives in goal attainment that are based on needs and commitment through close relationships. In other words, people who act or behave according to RARs combine personal beliefs and the beliefs of close others in their goal pursuit. When close relationships put too much pressure on an individual and his goal pursuits, a negative effect can occur causing the individual to attain his or her goal, termed Controlled Reasons (CRs).

A two-part study was conducted to examine the influence of relational reasons in goal pursuit and selection (Gore & Cross, 2006). In the first study, it was hypothesized that goal effort and goal progress would predict potential future effort. This study was assessed in two sessions where at Time 1, students (N = 190) were asked to complete self-construal and purpose of life measures. In addition, the participants had to identify seven goals they were working on and indicate the effort and progress for each goal. Lastly, they rated the extent to which these goals were relationally or personally motivated. After four weeks, the participants were asked to return to the second session (Time 2) to complete the purpose of life scale, and indicate their effort and progress on the goals from Time 1. The results showed RARs and PARs predicted the amount of effort toward goal attainment, with PARs being strongly correlated to purpose. In addition, people who internalized their close relationships to their self were more likely to pursue their goals for RARs. The second study expanded upon the first study in that the time between the

first and second part had been doubled from four to eight weeks. Also, participants were asked to indicate four instead of seven goals. Supporting the results from study one, study two revealed that RARs significantly predicted the amount of effort toward a goal over time, whereas PARs predicted a sense of purpose. When controlling for PARs, RARs predicted long-term goal outcomes, proposing its unique importance in motivation.

Gore, Cross, and Kanagawa (2009) replicated the past findings and expanded upon it by examining the role of social support on goal outcomes. The purpose of their study was also to possibly establish RARs as an individual theory, if the construct would show similar findings in two different cultures. For this study, American (*N* = 191) and Japanese (*N* = 219) college students completed personality and well-being scales and were asked to list seven current goals and characterize them into the following categories: personal, school, work, relationships, leisure, health, or money. After categorizing the goal and determining how much time it would take to achieve it, they rated: (1) reasons, (2) the amount of effort, (3) progress, and (4) the perceived social support for attaining the goals. The findings supported previous outcomes in that RARs predicted goal effort and PARs purpose of life directly. Both cultures indicated greater engagement in pursuing goals for RARs, indicating RARs have a unique role in goal motivation.

Based on past findings concerning RARs and PARs, it can be concluded people who are embedded in a supportive social environment develop greater motivation for RARs and PARs to achieve a goal. Recent studies found highly relational and agreeable people tend to benefit the most when they pursue their goal for RARs (Gore, 2013), but only when in daily contact with close others (Gore, 2014). Other close relationships of highly

agreeable people, such as romantic partners, impeded goal motivation, suggesting that there are different factors in close relationships make a person pursue a goal for RARs.

Hester and Gore (2015) recently raised this question and investigated the influence of five relational motivational components (closeness, support, accountability, shared values, and direct/indirect involvement) on RARs. In their study, college student (*N* = 150) completed an online survey on these five components, as well as goal types, and relational reasons to pursuing the goal. The results revealed accountability, shared values, and direct involvement predicted goal pursuit for RARs, whereas closeness and support did not predict relational motivation. The results give an insight into what factors activate goal motivation for RARs and could explain why RARs seem to positively affect goal motivation when in daily contact with close others.

Motivation in Sports

The interest in motivation in the sport and exercise domain has grown rapidly in the last thirty years. The attributions and achievement motivation theories (Weiner, 1985) were one of the first early theories that have explained motivational phenomena in sports. Understanding the reasons why people exercise, find physical activities enjoyable, and are gravitated toward a physical activity, has been a major focus in sports motivation. Like other behaviors, physical activity can be either intrinsically motivated due to internal enjoyment, or extrinsically motivated through external rewards or pressure (Ryan, Williams, Patrick & Deci, 2009). Self-determination theory explains a wide range of social behaviors and has gained increased popularity in sports and exercise psychology. In particular, the SDT model has been used to explain which components in intrinsic motivation either trigger or hinder physical activity and examine the role relationships (e.g. to coaches or teammates) in exercise behavior (Ryan & Deci, 2007). A number of studies will be discussed to illustrate current findings of relational motivation in athletes, explaining how the psychological needs of the SDT and motivational reasons (autonomous vs. controlled) affect athletic performance.

Motivation and Exercise

To examine the relationship between the three psychological needs and exercise behavior, Edmunds, Ntoumanis and Duda (2006) conducted a study with participants (*N* = 369) from different settings (fitness, community and retail) who completed a multisection survey assessing psychological need satisfaction through exercise,

motivation, and exercise behavior. The findings revealed a positive correlation between psychological need satisfaction and exercise behavior. In particular, the perceived autonomy support of the exercise instructor was positively correlated with self-determined motivation, illustrating the importance of other people in feeling autonomous. An interesting finding in this study was that intrinsic motivation did not predict exercise behavior on its own, suggesting that other factors, such as relational reasons, might play a significant role in exercise behavior.

Standage, Duda, and Ntoumanis (2003) investigated the influence of motivation on exercise participation in PE students. For this study, children (*N* = 328) completed a multisection inventory that assessed the three psychological needs, motivation, perception of PE class, and leisure-time exercise intentions. The results of this study showed self-determined motivation toward PE predicted future intentions to exercise in leisure time. In addition, competence and relatedness revealed to predict greater self-determined motivation than autonomy. They also looked at the influence of the exercise climate and the findings showed an autonomy-supportive climate established by the teacher predicted greater feelings of autonomy, competence, and relatedness. Thus, the role of relationships and the perception of their support seemed to influence peoples' exercise behavior.

A recent study specifically focused on the influence of relational reasons on exercise behavior revealed people who exercise with a partner indicated greater levels of relational motivation and exercise behavior especially in women (Gore, Bowman, Grosse, & Justice, in press). This research consisted of four separate studies that looked at

relationally-autonomous reasons for health (RARHs) and its relationship with health outcomes, health status, and health behaviors.

Study 1 tested the reliability and factor structure of the Reasons for Health Scale. For this study, participants (*N* = 160) completed an online survey that assessed their health motivation. The findings indicated the scale's reliability and showed distinctions between the four motives for health: personally- and relationally-autonomous reasons for health (PARHs and RARHs) and personally- and relationally controlled reasons for health (PCRHs and RCRHs). Study 2 examined the relationship between RARHs and fitness and differences in gender. Participants consisted of college students (*N* = 302) who completed a fitness test, which assessed their body composition and fitness, and a survey measuring their RARHs. The results revealed that women benefitted more from RARHs in their health behavior, as they were more likely to integrate close others in their health goals than men. To expand upon this study, the researchers conducted Study 3 and tested the impact of RARHs on exercise and nutrition behaviors. They hypothesized that women would show stronger correlations between RARHs and their exercise and nutrition behaviors, even when controlling for relational self-construal. To test the hypothesis, participants (*N* = 577) completed an online survey that measured their health motivation and health behaviors. Results showed the same outcome as in Study 2, in that RARHs predicted health behaviors for women, and that woman who integrate RARHs in their health behavior, exercise more and eat healthier.

In the last study, Gore, Bowman, Grosse and Justice (in press) tested RARHs on health goals and examined factors that might trigger the use of RARHs. They predicted

that exercise partners would promote RARHs and related behaviors toward the goal. For this study, participants (*N* = 72) took part in three sessions, consisting of an online pretest, and information session for a health program, and a post-session. The results supported the findings from the previous studies in that people who exercised with a partner showed higher levels of RARHs. Also, women showed greater commitment to their health goals and were more successful when using RARHs compared to men. This extensive study illustrates the influence of close relationships on exercise and health behaviors and has demonstrated the different impact of RARHs on healthy outcomes between males and females. These findings give a great insight on how to promote a healthier lifestyle and exercise behavior within college students, especially female students. Research addressed questions asking how the resulting information could explain motivation in a different setting with a special population, such as athletes.

Relational Motivation in Athletes

Past research has addressed questions asking how the resulting information could explain motivation in a special population. Athletes face daily physical and mental challenges in their sport, are expected to show high performance in pressured situations, and need to cope with failure and success. Research was specifically interested in finding factors in athletes' motivation (Chantal, Guay, Dobreva-Matrinova, & Vallerand 1996; Vallerand & Losier, 1999; Mallett & Hanrahan, 2004; Hagger & Chatzisarantis, 2007) and what effect the social sports environment (e.g. teammates and coaches) had on athletic performance (Mageau & Vallerand, 2003; Gillet, Vallerand, Amoura and Baldes 2010).

Successful athletes are confronted with external rewards (e.g. acknowledgements, money, and medals), which play an important factor in their motivation.

Chantal and colleagues (1996) investigated motivation in elite athletes. The purpose of the study was to examine athletes' motivation in relation to their performance and differences in gender. Participants were Bulgarian elite athletes (*N* = 98), who completed the Sports Motivation Scale. Athletic performance was documented through individual records, such as national and international titles. Results show that compared to less successful athletes, successful athletes tended to display higher extrinsic motivation and reported external rewards as their primary motivation. However, females indicated greater levels of intrinsic motivation than male athletes, meaning they participated in sports primarily because of internal pleasure and enjoyment. Athletes seemed to internalize these external rewards successfully and transform them into their self-determined extrinsic motivation (Deci & Ryan, 2000). A possible reason for athletes to internalize high levels of extrinsic motivation is their social environment. Monetary gain and appraisal are typical factors that determine the motivational climate of athletes and lead them to integrated regulation. On the contrary, if an athlete fails to internalize external rewards successfully, sport drop out, decrease of psychological well-being (Gagné & Blanchard, 2007; Sarrazin, Boiché, & Pelletier, 2007), and burnout (Lonsdale, Hodge, & Rose, 2009) are resulting consequences.

The researchers Rees and Freeman (2007) investigated how support affects self-confidence in athletes. The purpose of their study was to examine possible effects of perceived and received support on self-confidence and stressor reduction. Participants

for this study were athletes (*N* = 222) who completed a perceived support scale two weeks before a major competition, and measures of stressors, stress, received support and self-confidence, a day before the competition. The results revealed social support had a significant impact on athletes' self-confidence and a decreasing effect of negative stressors on self-confidence. Showing support from significant others is thus not only seen as a kind gesture but has deeper meaning to the athlete. Enhancing athletes' confidence levels especially in pressured athletic situations can enhance an athlete's mindset and affect his or her self-perception and well-being.

Amrose (2003) looked at the importance of significant others' appraisal in college athletes and its effect on their self-perception and competence. The purpose of this study was to determine if there was a difference in the level of competence when receiving appraisal by either parents (father and mother) or by coaches and teammates. For this study, student athletes (*N* = 325) were asked to complete a paper-pencil questionnaire, assessing self-perceptions of competence, reflected appraisals of significant others, importance of significant others as sources of competence, and background information. The results revealed athletes did not differentiate between appraisal from mother, father, coach, or teammate. However, the level of self-perceived competence was significantly higher when appraised by coaches and teammates instead of parents. An explanation for this finding is that athletes perceive coaches and teammates as competent experts of their sport and receiving appraisal by them is more meaningful than receiving appraisal by their parents. Relationships within sports are therefore a significant tool in making athletes feel competent and related, and also enjoy their sport.

Importance of Relationships in Athletic Performance

Athletes spend a great amount of their time with their coaches and teammates. Thus, these relationships are relevant and have a crucial impact on athletes' motivation and performance. A study done by Gillet et al. (2010) tested the relationship between coaches' support on athletes' motivation. Participants were French judokas (*N* = 101) who were asked to complete a questionnaire measuring perceived autonomy support, contextual and situational motivation, and athletic performance, one to two hours before their competition. Results from the study revealed the higher the perceived autonomy support of a coach was, the higher the athletes' motivation and self-determination for practicing this sport were. By summarizing empirical studies, Megeau and Vallerand (2003) found that autonomy-supportive coaches, who provide opportunities of choice, display respect to athletes' feelings, give opportunities in decision making and positive feedback, and task explanations, enhance the satisfaction of their athletes' needs for autonomy, competence, and relatedness. The researchers also pointed out that the motivation of athletes decreased, when coaches practiced controlled motivational strategies and used punishments for motivation.

A different study examined coaching styles and their impact on athletic motivation (Hollembeack & Amrose, 2005). The purpose of the study was to determine what specific coaching behaviors predicted a positive or negative association with athletes' motivation. In this study, student athletes (*N* = 180) participated and were asked to complete a questionnaire that measured coaching behavior, intrinsic motivation, and the three psychological needs, autonomy, competence and relatedness. The results supported

other findings in that an autonomy-supportive coaching style positively impacted intrinsic motivation. Controlled behavior (termed autocratic behavior in this study) was negatively correlated with relatedness. Hence, coaches who created a controlled sports environment may have enforced athletes to feel less connected to them. Based on the evidence of the past research, relational reasons show a significant impact on athletes' motivation and it should be investigated more in depth.

Enhancing a coach-athlete relationship could not only be beneficial for motivational purposes but also affect athletic performance in return. The researchers Freeman, Rees and Hardy (2009) investigated the effects of a social support intervention on athletic performance. Three elite golfers participated in the study that consisted of two training sessions: one baseline and one intervention study. In the first session, the participants received an overview of social support and practiced to report measures of support (emotional, informational, esteem, tangible) by completing subscales reflecting theses support items. They practiced filling out those measures to be able to complete it during the baseline and intervention phases. The major difference in these phases were that during the intervention phase, participants did receive support by a professional (sports psychologist), while during the baseline phase, participants did not receive social support during their competition. Participants' athletic performance was assessed by observing the number of shots taken during a round and then comparing to the par of the course. Here, a lower score indicated better performance. The results of this study revealed interesting findings in that the participants' athletic performance increased in the intervention phase compared to the baseline phase. These findings expanded upon

past research, which showed a positive relationship between received social support and performance (Rees, Hardy & Freeman, 2007). This indicates that an effective social intervention and the resulting perceived social support enhances athletic performance and demonstrates the importance of supportive relationships.

A recent study investigated the influence of relational motivation on athletic performance and examined differences in individual versus team sports and gender (Szarabajko & Gore, 2015). It was hypothesized that relational motivation, RARs in particular, would predict higher athletic performance. The study asked student athletes (*N* = 116) from seven different sports to complete a questionnaire that measured their motivation in relation to PARs, RARs, and CRs. Athletic performance was obtained through the official season's statistics and standardized to be able to compare it between the different sports types. Even though the results did not reveal a significant correlation between relational motivation and athletic performance, other interesting findings were found in that female athletes showed a positive correlation in RARs and athletic performance. In contrast, male athletes who participated in their sport because of close relationships showed lower athletic performance. No other study has looked at the impact of relational motivation on athletic performance before.

Hypotheses

The present study will expand upon the past literature and on the results of the last study. Possible explanations for the difference of relational motivation in gender and sport type will be tested by examining which mechanisms (closeness, support,

accountability, shared effort and progress) trigger relational motivation in males versus females and how this in turn impacts athletic performance. In addition, the study will assess the perceived coach-athlete relationship to find answers as to why males tend to see close others as controlled reasons in their athletic performance. The present study aims to attain a greater understanding of relational motivation and its role in athletic performance. Significant findings could be a field of interest for coaches, sport psychologists, and sport organizations to help facilitate greater motivation and performance. It is hypothesized that: (1) the five mechanisms (closeness, support, accountability, shared values, and coaching relationship) and sports type predict unique variance for RARs and athletic performance, (2) there will be a positive relationship between relational motivation and athletic performance, progress, and effort, (3) the perceived level of closeness with teammates is positively correlated with RARs and predicts stronger athletic performances in student-athletes, (4) closeness, support, and coaching relationship will be a stronger predictor for relational motivation in females, whereas (5) shared values and accountability will be a stronger predictor for relational motivation in males (see Figure 1).

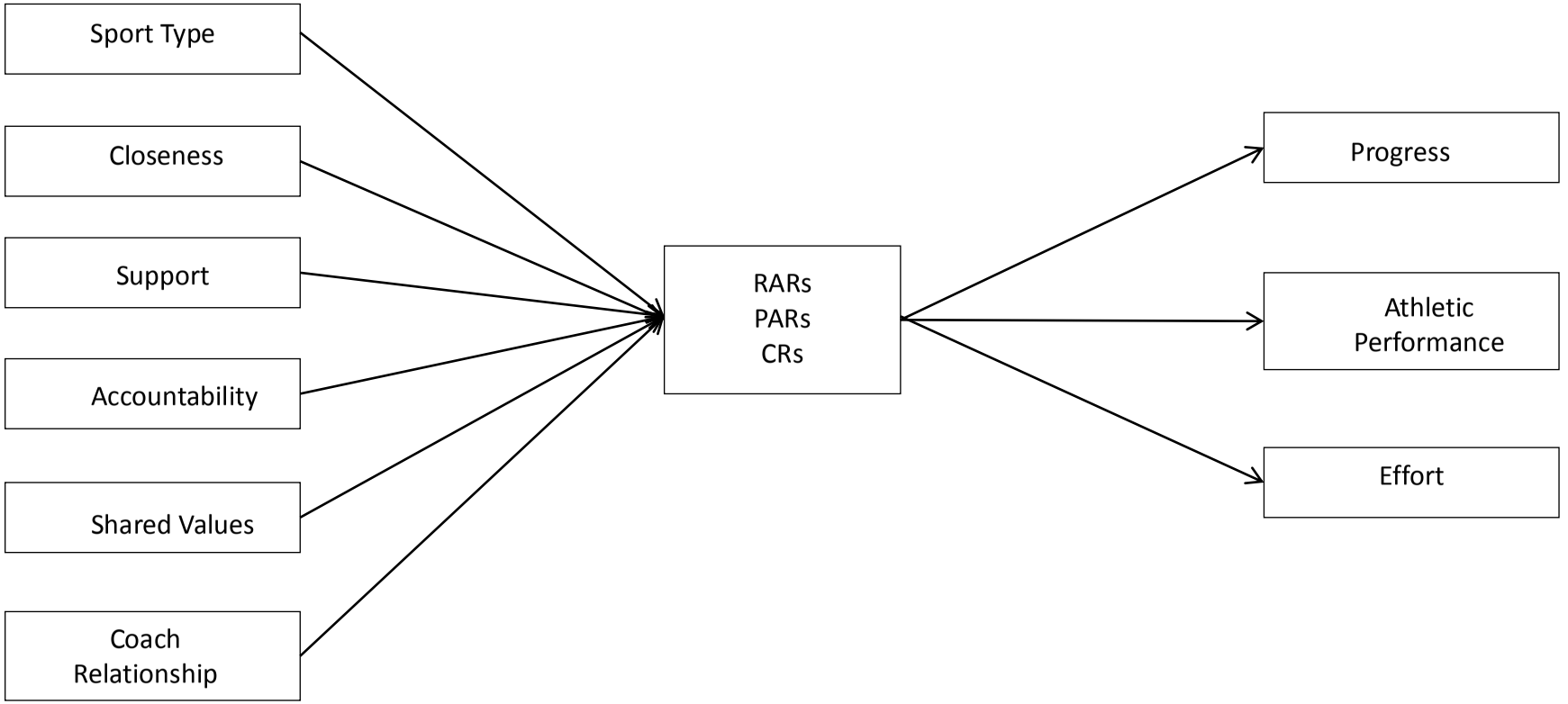

Figure 1. Proposed Thesis Model.

CHAPTER III

METHOD

Participants

A total sample (*N* = 156) of student-athletes (*n* = 78 male, *n* = 78 female) from Eastern Kentucky University was studied. All sports, including football (*n* = 14), basketball (*n* = 17), baseball (*n* = 34), softball (*n* = 14), soccer (*n* = 17), track and field (*n* = 25), cross-country (*n* = 8), golf (*n* = 6), volleyball (*n* = 8), and tennis (*n* = 15) were asked to participate. As an incentive for participating in this study, participants received one Colonel Challenge Point for an annual team challenge game of their athletic department, which is voluntary for each athlete. In this game, each team collects points when engaging in supportive and active campus or community services, such as attending and helping at varsity games, volunteering for community services, or winning the conference championship. At the end of the year, the top three teams, who collect the most Colonel Challenge Points and place first, will be awarded with $1000 to their team's budget. The second place is awarded with $550, and third place with $250. An informed consent form was given to all participants to sign.

Materials

The survey included materials that asked about three different constructs, including: (1) the motivational reasons of performing a sport, (2) mechanisms, and (3) questions about the perceived athlete-coach rapport. High scores on all items will reflect high levels of the construct. Athletic performance was obtained through current game

statistics of the conference website the university belongs to. Two different sport types were identified: Tennis, Golf, Track & Field, and Cross Country were categorized as individual sports. However Soccer, Softball, Baseball, Basketball, Football and Volleyball were categorized as team sports. According to this categorization, a minority of student-athletes (*N* = 54) in this study played in an individual sport and 102 in team sport.

Mechanisms. Participants rated items measuring closeness, support, accountability, shared values, effort, and progress on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). The statements have been modified to fit the participant's situation.

Closeness. Three items of the Berscheid, Snyder, and Omoto (1989) scale was used to assess the level of closeness. These items were: "Overall, I am satisfied with my relationship to my teammates," "I have a strong relationship with my teammates," and "I consider myself to have a successful relationship with my teammates" (*M* = 4.07*,* SD = .92*, α* = .93).

Support. A 3-item scale from Gore and Cross (2006) was used to measure the extent to which an athlete feels supported by others. These items were: "A lot of people support my participation in this sport," "Whenever I receive support from other people for being an athlete, I find it to be rewarding," and "I wish I were receiving more support from others for being an athlete" (*M* = 4.11*, SD* = .54*, α* = .24).

Accountability. To measure the degree to which an athlete feels accountable to others in athletic performance, a 4-item scale was used from Hester and Gore (2015).

These items were: “My success in my sport will affect my teammates opinion of me,” “I feel a sense of accountability toward my teammates,” “My teammates performance will be affected depending on my success in this sport,” and “My teammates will benefit from my success in this sport (*M* = 3.76*, SD* = .72*, α* = .59).

Shared Values. A 4-item scale (Hester & Gore, 2015) was used to measure the degree to which the teammates’ values match the athlete’s values. The items were: “My teammates’ values match my own regarding my athletic performance,” “My teammates and I have the same beliefs about the importance of my goal,” “My teammates and I have the same outlook as to how hard I should work to achieve my athletic performance,” and “My teammates and I have the same outlook as to how long it should take to achieve a high performance level” (*M* = 3.85*, SD* = .84*, α* = .85).

Motivation. A 15-item scale (Gore & Cross, 2006; Gore et al., 2009) was used to measure relational, personal, and controlled reasons for devoting time and energy to a collegiate sport. The participants rated statements on a 5-point scale (1 = *strongly disagree*, 5 = *strongly* agree). These statements have been slightly modified to make it more relevant to the participant’s situation by using the word “teammates” instead of “someone.” The first two questions asked for demographics, including gender and type of sport.

RARs. There were four items assessing relationally-autonomous reasons (RARs). The items were: “The time and energy I devote to my sport is because teammates involved make it enjoyable,” “The time and energy I devote to my sport is it strengthens

a relationship with someone on the team," "The time and energy I devote to my sport is because a teammate I am close to is pursuing the same, and we both enjoy it," "The time and energy I devote to my sport is because a teammate I am close to thinks it is enjoyable" (*M* = 3.85, *SD* = .92*, α* = .81).

PARs. Four items assessed personally-autonomous reasons (PARs) for devoting time and energy to a sport. The items were: "The time and energy I devote to my sport is because it provides me with fun and enjoyment," "The time and energy I devote to my sport is because I really believe it is an important thing to do," "The time and energy I devote to my sport is because it allows me to express my independence and individuality," "The time and energy I devote to my sport because it gives me a sense of control in my life" (*M* = 4.25*, SD* = .73*, α* = .78).

CRs. The survey also included five items assessing controlled reasons (CRs). These items were: "The time and energy I devote to my sport is because the situation demands it," "The time and energy I devote to my sport is because it is important to a teammate of mine," "The time and energy I devote to my sport is because it would let someone else down if I did not," "The time and energy I devote to my sport is because I would feel left out from the team if I did not," "The time and energy I devote to my sport is because I would feel guilty, ashamed, or anxious if I did not" (*M* = 3.70*, SD* = 4.21*, α* = .84).

Coach Relationship. Participants were asked to complete an 11-item scale of Coté, Yardley, Hay, Sedgwick, & Baker (1999) Coaching Behavior Scale for Sport (CBS-S) assessing an athlete's positive and negative rapport with the head coach. Examples of

positive rapport items were: “My head coach shows understanding for me as a person” and “My head coach is trustworthy with my personal problems” (*M* = 3.70*, SD* = 1.19*, α* = .93). Examples of negative rapport include “My head coach shows favoritism towards others,” and “My head coach disregards my opinion (*M* = 2.41, *SD* = 1.04, α = .88). The average score of the positive rapport has been subtracted with the average score of negative rapport, which gave an overall average coaching relationship score.

Effort. A 5-item scale (Gore et al., 2009) was used to measure the effort of an athlete toward his or her performance. These items were: “I am very committed to my sport,” “I put a lot of effort every week toward my sport,” “I often find myself thinking of my sport,” “The work I put into my sport is often effective,” “I find myself “slacking off” when I am training for my sport” (*M* = 4.49*, SD* = .51*, α* = .72).

Progress. Three items (Gore et al., 2009) were used to measure the athlete’s subjective progress toward his or her performance. These items were: “I am happy with the progress I’ve made in my sport,” “I often monitor how close I am to becoming a better athlete in my sport,” and “The progress I’ve made toward becoming a better athlete is close to where I think it should be” (*M* = 3.39*, SD* = .49*, α* = .65).

Athletic Performance. Athletic performance was evaluated for each team through previous season’s statistics from the university sports website. For each team, a performance score was provided on the website (referred to as the average score), which was standardized within each sport. For each individual, a z-score was then calculated and

compared to the other z-scores of the sport. This score was used to reflect the performance levels between all participants from highest to lowest.

Procedure

The coaches' permission (from all teams) was obtained to visit one of the teams' practices to conduct the study. Coaches were asked to leave the room before the beginning of the study to ensure that the presence of the coach did not influence the participants' responses or induce the participants to feel pressured to take part in the study. Then participants were asked to take part in a brief 15-minute study that was voluntary (see Appendix A). An informed consent form was given to the athletes (see Appendix B) prior to taking the questionnaire. Participants were asked to complete the questionnaire (see Appendix C) and provide their sport and name on a separate paper (see Appendix D) to allow the researcher to correctly assign the previous game statistics to the participant's questionnaire responses. Once the survey responses were paired with the game statistics, the sheet with the participants' names was shredded and the data on the computer deleted to ensure that participants remain anonymous. After completion of the survey, a debriefing form (see Appendix E) was provided with additional information on the study, and contact information for follow-up questions.

CHAPTER IV

RESULTS

The data set consisted of student- athletes (N = 156, n =78 females, 78 males) from a NCAA division I University. Two different general sport types were identified: (a) individual and (b) team sports. Tennis, Golf, Track & Field, and Cross Country have been categorized as individual sports, whereas Soccer, Softball, Baseball, Basketball, Football and Volleyball were categorized as team sports. According to this categorization, 54 student-athletes in this study played in an individual sport and 102 in a team sport. A descriptive analysis revealed that out of the 54 individual sports student-athletes, 22 perceived their sport more as a team sport than an individual sport.

Preliminary Analysis

A structural equation model analysis was used to test the fit of the proposed model using LISREL 8.72. Prior modification indices indicated the path between coaching rapport and effort should be added to the model. In addition, PARs, CRs and progress were removed from the model for simplification reasons due to the small samples when splitting the data according to gender. The modified model was used to look at the paths between the mechanisms and relational motivation and how it predicted effort and performance (see Figure 2).

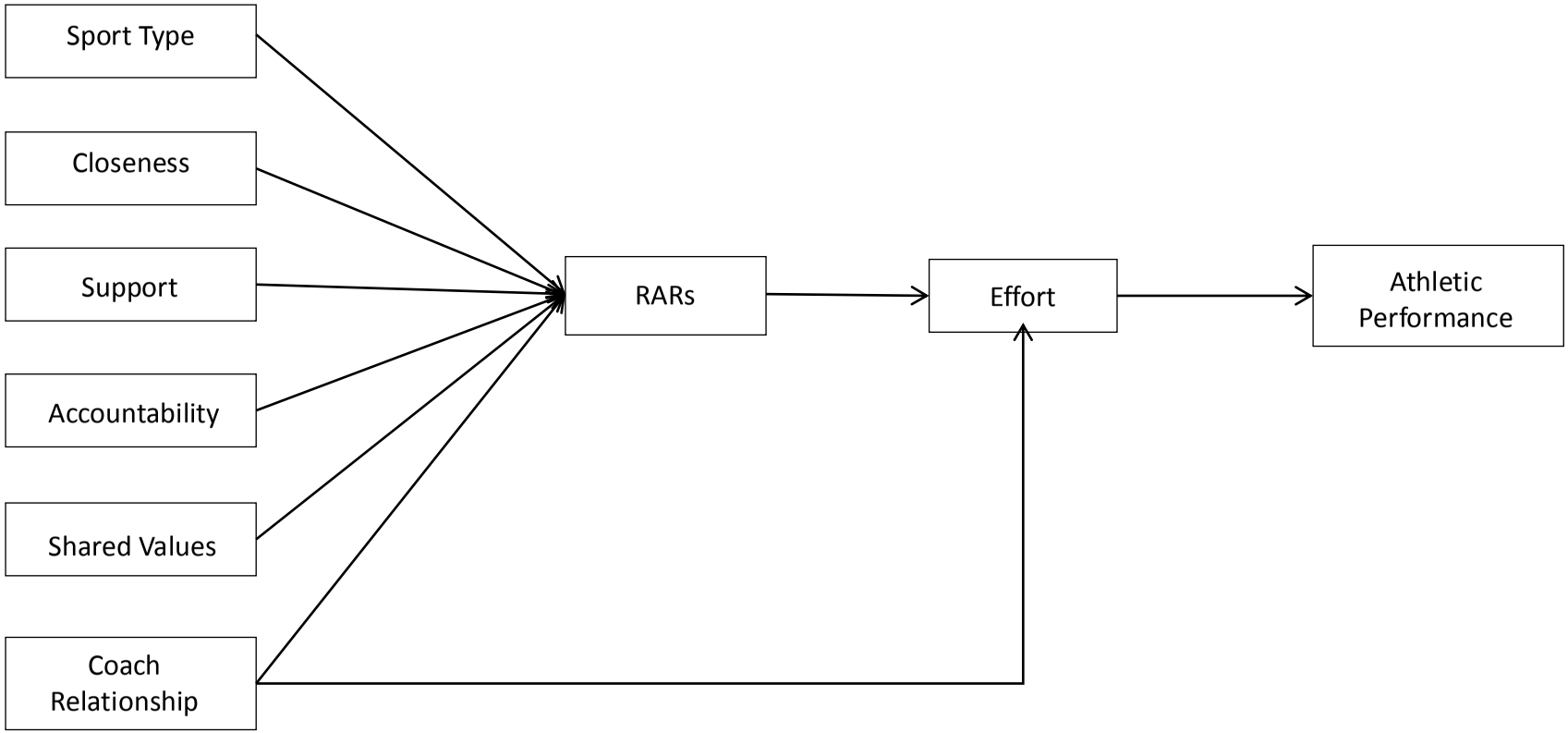

Figure 2. The modified model after modification indices.

Model Analysis

The fit of the model was measured using chi square statistics, the Goodness of Fit Index (*GFI*), and Standardized Root Mean Residual (*SRMR*). First, the effect of gender on the model was tested using a chi-square difference test to assess the difference between the fit of the male and female model. The first analysis estimated paths of the proposed model and allowed all path coefficients to vary between the male and female samples. The model fit the data well, χ^2 (24, N = 156) = 40.58, $p < .05$; *GFI* = .94, *SRMR* = .07 for males, *GFI* = .95, *SRMR* = .06 for females. In the second model, all paths were constrained to be equal and the data did not significantly differ from the first model, χ^2(33, N = 158) = 51.65, $p < .05$, $\Delta\chi^2$ (9, N = 156) = 11.07, ns, which indicated that there was no gender moderation effect. Hence, the hypotheses that closeness, support, and coaching relationship will be a stronger predictor for relational motivation in females, and that shared values and accountability will be a stronger predictor for relational motivation in males could not be supported because the models with and without equality constraints were both not significantly different.

The combined model, χ^2 (33, N = 156) = 51.65, p < .05, GFI = .94, SRMR = 0 .08, was used for the model analysis. The full model results are shown in Figure 3. Whereas sport type and coaching relationship did not show to be significantly related to RARs, closeness, support, accountability, and shared values were positively associated with RARs. Thus, the hypothesis that the five mechanisms (closeness, support, accountability, shared values, and coaching relationship) and sports type predict unique variance for RARs, and athletic performance was partially supported. In addition, RARs and coaching relationship

were positively associated with effort, but effort did not significantly predict athletic performance.

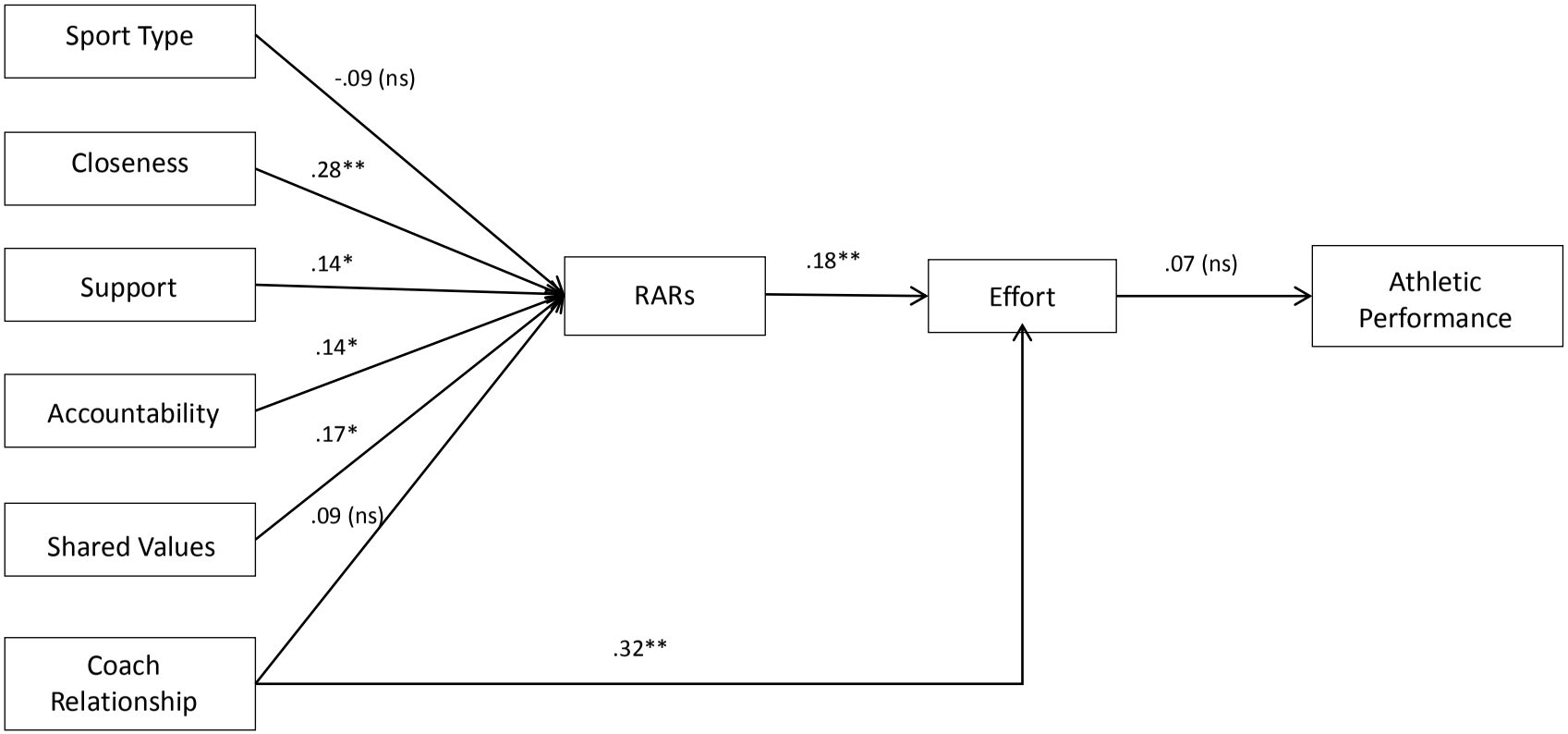

Figure 3. Modified model with coefficients. RARs = Relationally-autonomous reasons. * $p < .05$, ** $p < .01$.

A series of bivariate correlation analyses were computed for each sport to find possible correlations between RARs and performance. This step was done to find an explanation for the non-significant results of the path between effort and athletic performance. For this test, RARs and athletic performance were entered as the variables for each sport separately. The full results are shown in Table 1. An interesting finding was that in Tennis, RARs showed a strong positive correlation with performance compared to other sports. Other sports, such as Softball, Track & Field, and Football, showed negative but non-significant associations between RARs and performance. The reasons for this trend could because the latter sports tend to be larger in size compare to sports, such as Tennis or Cross Country. Based on the results, the hypothesis that there will be a positive relationship between relational motivation and athletic performance was therefore partially supported in specific sports.

Table 1. Correlations among RARs and athletic performance according to sport type

Note: * $p < .05$

	Tennis	XC	Volleyball	Basketball	Golf	Soccer	Baseball	Softball	Track	Football
r	.53*	.44	.38	.26	.23	.15	-.04	-.15	-.21	-.37

CHAPTER V

DISCUSSION

The current study assessed the importance of mechanisms in predicting relational motivation and its impact on effort and athletic performance. The results revealed closeness, support, accountability and shared values are significant predictors of RARs in student-athletes in their sport. This suggests student-athletes seem to be more motivated through the combination of their own autonomy and the connectedness with their teammates. The current study adds to Hester and Gore's (2015) findings that accountability, shared values, and direct involvement from others predicted relational motivation. This means that in college sports, the sense of feeling responsible to, close to, or supported by teammates can add to the motivation of an athlete in their sport. Having the same beliefs and shared values predicted relational motivation in sports as well, which adds to the findings of past research.

Sports type and coaching relationship on the other hand did not significantly predict RARs. It appears there is no clear separation between team and individual sports in college athletics, which could be an explanation why sport type did not predict RARs significantly. As mentioned before, 22 out of 54 student-athletes from individual sports perceived their sport as a team sport in college due to the combined point system, which is used in conference championships for team ranking. Hence sport type may not influence levels of RARs because of the overlapping categorization. Even though past research suggested high autonomy support of coaches influence athletes' motivation and

self-determination in practicing their sport (Gillet et al., 2010), the current study showed there was no significant association between coaching relationship and RARs. This suggests the coaching relationship in this study might not be as important as the relationship to their teammates. Hester and Gore (2015) found the quality of the interaction between people through direct involvement is important when it comes to RARs in attaining a goal. Thus, the athlete-coach relationship might display more indirect than direct involvement, which would influence the relationship with RARs. Nonetheless, coaching relationship predicted the amount of effort an athlete puts in his or her sport significantly. Contrary to teammates, coaches may affect all athlete's effort because past research by Megeau and Vallerand (2003) has shown that coaches who provide opportunities of choice and decision-making, and give positive feedback influence satisfaction levels of their athletes regarding their psychological needs (autonomy, competence, and relatedness). This could also increase an athlete's willingness to show more effort on the court or field.

In addition, relationally-autonomous reasons predicted effort significantly, which means athletes who are high in RARs tend to show more effort toward their sport. These findings expand upon previous research done by Gore, Bowman, Grosse, and Justice (in press) who found exercising with a partner predicted greater RARs for health goals. The current study adds to the past study by showing RARs predict effort significantly, which could explain why people who exercise with partners, (such as athletes) display better behaviors toward a sport-related goal. Athletes who are relationally motivated may work

harder toward their athletic goal because pursuing a goal together with the teammates may be more enjoyable than pursuing it alone, especially in college.

The current study was not able to reveal significant results between effort and athletic performance. Questions remain as to why this prediction could not be supported. Even though a recent study tested models that supported that effort was associated with progress in goal attainment (Gore, Hester, Spegal, Kavanaugh, & Nakai, 2016), this study could not expand upon this finding that effort predicts athletic performance. This might be due to the athletic performance scores and how they were standardized across the sports. However, additional bivariate correlational analyses showed a sport-by-sport trend, even though most correlations were not significant. Based on the correlations, appeared smaller college sport teams, (such as Tennis) benefit from RARs in their athletic performance, compared to larger college sport teams (such as Football). Relationships in smaller teams can develop on a more personal level theoretically because athletes can get to know each other better compared to bigger teams. The bond between the athletes in smaller teams might be stronger compared to the ones in bigger teams, which could explain this trend. Out of the six female players on the tennis team, four of them perceived their sport as a team sport, even though tennis is traditionally seen as an individual sport. This example supports pervious research done by Szarabajko and Gore (2016) that found women tend to benefit from RARs more than men in their athletic performance.

Limitations and Future Implications

There are some limitations in this study that have to be considered for future implications. First, the survey might need to be revised for certain constructs, such as support and accountability. Low alphas of a construct could be due to a ceiling affect and therefore the items would need to be revised and possibly rephrased. In order to test the fit of the model for both genders, the sample size for each gender should be increased to conduct a Structural Equation Modeling (SEM). There was no difference in gender found in the model and this might be due to the small sample size for each sex. To increase the sample size, teams from a second university could be included, which would also enhance generalizability. In addition, only a small number of football players (n = 14) was included in the study due to difficulties in recruiting them for the study during the season and missing statistics for certain positions (offensive lineman). Future research should focus on football players with statistics and increase the number in the study.

The categorization of individual versus team sports seems to overlap in college sports due to the team-like point system and ranking in conferences championships, even in individual sports. In addition, some team sports may be too complex to categorize each player together in one team. Football teams for instance, consist of sub-teams, such as offensive linemen, defensive linemen, wide receiver, etc. All these athletes play for one team but some athletes might never interact on the field and practice together due to their specific role and thus, some relationships might not be as important between the subgroups. The same tendency might apply to sports, such as baseball and softball. Hence, future research should consider separating and categorizing athletes not by sport

type (individual versus team), but rather by common task goal or mentality to target the connectedness of each subgroup within the sport.

Another limitation that should be addressed is the computation and comparability of athletic performance. Even though this study used an objective measure to compute standardized performance scores to compare the different scores across each sport, the real performance level could not be distinguished due to several reasons. First, it is uncertain if outperforming average volleyball performance scores have the same value as outperforming average performance scores in baseball or tennis. In addition, all athletes who took part in this study were assessed, but not all athletes have reliable performance data due occurring injuries in mid-season or because they are freshmen and did not get enough playing time yet. This means some players might show high team effort but does not get any playing time on the court, which would affect the outcome of this model. Thus, future research should attempt to possibly focus on one team over a longer period of time and consider including data from practice statistics versus game statistics. Applying this model within a sport over time and including practice statistics could lead to better standardization of the performance scores for comparison. Future studies could also apply this model to recreational or intramural sports where the difference between athletic performances among athletes (freshman versus senior or walk-on versus scholarship athlete) may not be as extreme. Talent should also be accounted for since it can influence one's performance level.

Conclusion

This study has shown that closeness, support, accountability, and shared values predicted relational motivation in student-athletes. While coaching relationship and sport type did not predict RARs, the results showed effort is driven by RARs and coaching relationship but effort did not predict athletic performance. The results of this study have expanded upon past research that it looked at the factors that trigger relational motivation. To date, no other study has been conducted using this model and applied into a sports setting. Questions still remain unanswered as to why certain paths (effort and athletic performance) did not seem to relate significantly. This needs to be investigated in future research. In conclusion, this study provided an insight into what mechanisms trigger RARs in student-athletes and that RARs and the quality of coaching relationship are predictors for the effort athletes put into their performance.

REFERENCES

Amrose, A. J. (2003). Reflected appraisals and perceived importance of significant others' appraisals as predictors of college athletes' self-perceptions of competence. *Research Quarterly for Exercise and Sport, 74*(1), 60-70.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3),497-529.

Berlyne, D. E. (1960). *Conflict, arousal, and curiosity*. New York, NY, US: McGraw-Hill Book Company.

Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The relationship closeness inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology, 57*, 792– 807.

Chantal, Y., Guay, F., Dobreva-Martinova, T., & Vallerand, R. J. (1996). Motivation and elite performance: An exploratory investigation with Bulgarian athletes. *International Journal of Sport Psychology*, *27*(2), 173-182

Cote, J., Yardley, J, Hay, J, Sedgwick, W., & Baker, J. (1999). *An exploratory examination of the coaching behaviour scale for sport*, AVANTE, 5 (3), 82-89.

Cox, A., & Williams, L. (2008). The roles of perceived teacher support, motivational climate, and psychological need satisfaction in students' physical education motivation. *Journal of Sport & Exercise Psychology*, *30*(2), 222-239.

Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, *18*(1), 105-115.

Deci, E. L. (1972). Intrinsic motivation, extrinsic reinforcement, and inequity. *Journal of Personality and Social Psychology*, *22*(1), 113-120.

Deci, E. L., Betley, G., Kahle, J., Abrams, L., & Porac, J. (1981). When trying to win: Competition and intrinsic motivation. *Personality and Social Psychology Bulletin*, *7*(1), 79-83.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*, 109-134.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and he self-determination of behaviors. *Psychological Inquiry, 11*, 227-268.

Edmunds, J., Ntoumanis, N., & Duda, J. L. (2006). A test of self-determination theory in the exercise domain. *Journal of Applied Social Psychology, 36,* 2240-2265.

Freeman, P., Rees, T., & Hardy, L. (2009). An intervention to increase social support and improve performance. *Journal of Applied Sport Psychology*, *21*(2), 186-200.

Gagne, M., & Blanchard, C. (2007). Self-determination theory and well-being in athletes. In M. S. Hagger & N. L. D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 243-254). Champaign, IL: Human Kinetics.

Gillet, N., Vallerand, R. J., Amoura, S., & Baldes, B. (2010). Influence of coaches' autonomy support on athletes' motivation and sport performance: A test of the hierarchical model of intrinsic and extrinsic motivation. *Psychology Of Sport And Exercise*, *11*(2), 155-161.

Gore, J. S. (2013). Individual differences that moderate the effectiveness of relational reasons for self-improvement. *Motivation And Emotion*, *37*(4), 639-652.

Gore, J. S. (2014). The influence of close others in daily goal pursuit. *Journal of Social and Personal Relationships, 31*(1), 71-92.

Gore, J. S., Bowman, K., Grosse, C., & Justice, L. (in press). *Relational motivation for physical health*. Manuscript in preparation.

Gore, J. S., & Cross, S. E. (2006). Pursuing foal for us: Relationally-autonomous reasons in long-term goal pursuit. *Journal of Personality and Social Psychology, 90*, 848-861.

Gore, J. S., Cross, S. E., & Kanagawa, C. (2009). Acting in our interest: Relational self and goal motivation across cultures. *Motivation and Emotion, 33*, 75-87.

Gore, J. S., Hester, R., Spegal, L., Kavanaugh, K., & Nakai, Y. (2016). *Relational mechanisms in the goal pursuit*. Manuscript in preparation.

Hester, R., & Gore, J. S. (2015). Mechanisms that foster relational motivation. *Psychological Studies*, *60*(1), 50-55.

Hagger, M. S., & Chatzisarantis, N. D. (2007). *Intrinsic motivation and self-determination in exercise and sport*. Champaign, IL, US: Human Kinetics.

Hollembeak, J., & Amorose, A. J. (2005). Perceived Coaching Behaviors and College Athletes' Intrinsic Motivation: A Test of Self-Determination Theory. *Journal Of Applied Sport Psychology*, *17*(1), 20-36.

Hunt, J. M. V. (1965). Intrinsic motivation and its role in psychological development. In D. Levine (Ed.), *Nebraska symposium on motivation* (Vol. 13, pp. 189–282). Lincoln, NE: University of Nebraska Press.

Lonsdale, C., Hodge, K., & Rose, E. (2009). Athlete burnout in elite sport: A self-determination perspective. *Journal of Sports Sciences*, 27(8), 785-795.

Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational model. *Journal of Sports Science, 21*, 883-904

Mallett, C. J., & Hanrahan, S. J. (2004). Elite athletes: Why does the 'fire' burn so brightly?. *Psychology of Sport And Exercise*, *5*(2), 183-200.

Rees, T., & Freeman, P. (2007). The effects of perceived and received support on self-confidence. *Journal Of Sports Sciences*, *25*(9), 1057-1065.

Rees, T., Hardy, L., & Freeman, P. (2007). Stressors, social support, and effects upon performance in golf. *Journal Of Sports Sciences*, *25*(1), 33-42

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68-78.

Ryan, R. M., & Deci, E. L. (2007). Active human nature: Self-determination theory and the promotion and maintenance of sport, exercise, and health. In M.S. Hagger & N.L.D. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp. 1-19). Human Kinetics Europe Ltd.

Ryan, R. M., Williams, G. C., Patrick, H., & Deci, E. L. (2009). Self-determination theory and physical activity: The dynamics of motivation in development and wellness. *Hellenic Journal of Psychology, 6,* 107-124.

Sarrazin, P., Boiché, J., & Pelletier, L. G. (2007). A self-determination theory approach to dropout in athletes. In M. S. Hagger & N. L. D. Chatzisarantis (Eds.), *Intrinsic*

motivation and self-determination in exercise and sport (pp. 229-242). Champaign, IL: Human Kinetics

Sheldon, K.M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons for goals as predictors of effort and attainment. *Personality And Social Psychology Bulletin*, 24(5), 546-557.

Sheldon, K.M., & Elliot, A. J. (B, 1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Personality and Social Psychology Bulletin*, 76(3), 482-497.

Sparks, C., Dimmock, J., Whipp, P., Lonsdale, C., & Jackson, B. (2015). 'Getting connected': High school physical education teacher behaviors that facilitate students' relatedness support perceptions. *Sport, Exercise, and Performance Psychology*, *4*(3), 219-236.

Standage, M., Duda, J. L., & Ntoumanis, N. (2003). A model of contextual motivation in physical education: Using constructs from self-determination and achievement theories to predict physical activity intentions. *Journal of Educational Psychology, 95,*97-110.

Szarabajko, A., & Gore, J. S. (2015). *The association of relationally-autonomous reasons with exercise and performance among college athletes*. Manuscript in preparation

Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, *6*(1), 94-102.

Vallerand, R. J., & Losier, G. F. (1999). An integrative analysis of intrinsic and extrinsic motivation in sport. *Journal of Applied Sport Psychology*, *11*(1), 142-169.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297-333.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, *92*(4), 548-573.

APPENDIX A:

Script

Introduction after team practice:

Hello, my name is Alexandra Szarabajko and I am doing a study for my master thesis on relational motivation and sports performance. Taking this survey is voluntary and should not take longer than 10 minutes. If you decide to take this survey, each participant will be given one Colonel Challenge Point. Please read the following consent form and raise your hand when you agree to participate and are ready to take the survey.

If they say No:

Thank you for your time and have a great day.

If they say Yes:

This is the questionnaire. Please make sure to read and follow the instructions carefully. You can ask me questions if you're finding yourself having trouble in understanding the instructions. First, enter your name, gender, and sports at the top and of the sheet. I need your name to make sure that your questionnaire will match your athletic performance, which will be obtained from the OVC statistics. Once we get this information, the sheet with your name will shredded to ensure your anonymity.

After filling out the first three questions on the top, you will rate the following statements from 1 (Strongly Disagree) through 5 (Strongly Agree). You can skip statements that you would not like to answer. Please let me know when you will be done.

When survey is completed:

Thank you for your participation! Here is the debriefing form that explains the purpose of this study, which is to identify how close relationships affect sports performance and how you will receive the Colonel Challenge Point. Please let me know if you have any questions and thank you again for participating today!

APPENDIX B:

Informed Consent Form

Informed Consent Statement "Relationships and Sports: Mechanisms in Relational Motivation and Its Impact on Athletic Performance"

Alexandra Szarabajko

Hello! My name is Alexandra Szarabajko and I am a General Psychology graduate student here at Eastern Kentucky University. Today, you will be asked to complete a survey concerning reasons for participating in your sport. Your participation should not take longer than 15 minutes. If you agree to participate, you will receive one Colonel Challenge Point.

Participation is voluntary and you have the right to refuse to answer any questions or withdraw from the experiment at any time without giving prior notice and without penalty. I will ask you for your name for organizational purposes. Once the questionnaires are ordered with your athletic performance, which I will obtain from the OVC statistics, the paper with your name will be shredded so that your responses remain anonymous. If you would like to know more about the experiment, you may contact me at alexandra_szaraba@mymail.eku.edu. Thank you for participating!

Alexandra Szarabajko

IF YOU AGREE TO PARTICIPATE, PLEASE CONTINUE WITH THE SURVEY. IF YOU WOULD LIKE TO DISCONTINUE AT THIS POINT, PLEASE INFORM THE RESEARCHER.

APPENDIX C:

Questionnaire

SURVEY

Please answer the following questions:

1. What is your gender? _____
2. What sport do you play? _____
3. Would you consider your sport to be (circle one): Team Sport **or** Individual Sport

Please use the following scale to rate the statements:

1	2	3	4	5
Strongly Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Strongly Agree

4. _____ I am very committed to my sport.
5. _____ I put a lot of effort every week toward my sport.
6. _____ I often find myself thinking of my sport.
7. _____ The work I put into my sport is often effective.
8. _____ I find myself "slacking off" when I am training for my sport.
9. _____ I am happy with the progress I've made in my sport.
10. _____ I often monitor how close I am to becoming a better athlete in my sport.
11. _____ The progress I've made toward becoming a better athlete is close to where I think it should be.
12. _____ A lot of people support my participation in this sport.
13. _____ Whenever I receive support from other people for being an athlete, I find it to be rewarding.
14. _____ I wish I were receiving more support from others for being an athlete.

I devote time and energy to my sport because…

15. _____ the situation demands it.
16. _____ it is important to a close teammate of mine.
17. _____ it provides me with fun and enjoyment.
18. _____ I would let a teammate down if I did not.
19. _____ I really believe it is an important thing to do.
20. _____ I would feel left out from the team if I did not.
21. _____ I would feel guilty, ashamed, or anxious if I did not.

22. _____ the teammates involved make it enjoyable.
23. _____ it strengthens a relationship with someone on the team.
24. _____ a teammate I am close to thinks it is enjoyable.
25. _____ a teammate I am close to is pursuing the same, and we both enjoy it.
26. _____ it allows me to express my independence and individuality.
27. _____ it gives me a sense of control in my life.

Please rate the following statements regarding the relationship to your teammates:

28. _____ Overall, I am satisfied with my relationship to my teammates.
29. _____ I have a strong relationship with my teammates.
30. _____ I consider myself to have a successful relationship with my teammates.
31. _____ My success in my sport will affect my teammates opinion of me.
32. _____ I feel a sense of accountability toward my teammates.
33. _____ My teammates' performance will be affected depending on my success in this sport.
34. _____ My teammates' will benefit from my success in this sport.
35. _____ My teammates' values match my own regarding athletic performance.
36. _____ My teammates and I have the same beliefs about the importance of performing well.
37. _____ My teammates and I have the same outlook as to how hard I should work to achieve my goal in this sport.
38. _____ My teammates and I have the same outlook as to how long it should take to achieve a high performance level.

My head coach….

39. _____ shows understanding for me as a person.
40. _____ is easily approachable about personal problems I might have.
41. _____ demonstrates concern for my whole self (i.e., other parts of my life than sport).
42. _____ is trustworthy with my personal problems.
43. _____ uses fear in his/her coaching methods.
44. _____ yells at me when angry.
45. _____ disregards my opinion.
46. _____ shows favoritism towards others.

47. _____ uses power to manipulate me.
48. _____ makes personal comments to me that I find upsetting.
49. _____ spends more time coaching the best athlete

APPENDIX D:

Organization Sheet

Survey Number	Sport	Name
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		

APPENDIX E:

Debriefing Form

Relationships and Sports: Mechanisms in Relational Motivation and Its Impact on Athletic

Thank you for participating in my research! The purpose of this study was to identify factors that impact student-athletes' relational motivation on their athletic performance. The term relational motivation can be understood as motivation based on one's own beliefs and the beliefs of close others in pursuing a goal. The study predicts that (1) the five mechanisms (closeness, support, accountability, shared values, and coaching relationship) and sports type predict unique variance for RARs and athletic performance, (2) there will be a positive relationship between relational motivation and athletic performance, progress, and effort, (3) the perceived level of closeness with teammates is positively correlated with RARs and predicts stronger athletic performances in student-athletes, (4) closeness, support, and coaching relationship will be a stronger predictor for relational motivation in females, whereas (5) shared values and accountability will be a stronger predictor for relational motivation in males. The study used Gore and Cross' (2006) relational motivation measure to identify personal or relational reasons for motivation. Athletic performance will be obtained from each participant through statistics from the current season.

With this information, we hope to learn more about relational motivation and how it may enhance an athlete's performance. This information can be a field of interest for athletes, coaches, and organizations.

If you have any questions, please contact me at

alexandra_szarabajko@mymail.eku.edu.

If you would like to learn more about the concepts of this study, you may want to read the following papers:

Gore, J. S. (2014). The influence of close others in daily goal pursuit. *Journal of Social and Personal Relationship, 31*, 71-92.

Gore, J. S., Cross, S. E., & Kanagawa, C. (2009). Acting in our interests: Relational self-construal and goal motivation across cultures. *Motivation and Emotion*, *33*, 75-87. doi:10.1007/s11031-008-9113-1

Hester, R., & Gore, J. S. (2015). Mechanisms that foster relational motivation. *Psychological Studies*, *60*(1), 50-55.

Thank you for your participation.