Spring 2008

Comparison of Optimism Levels and Life Stress Levels Among NCAA Division I Athletes and Non-Athletes

Eleanor Kate Shearman

A COMPARISON OF OPTIMISM LEVELS AND LIFE STRESS LEVELS AMONG NCAA DIVISION I ATHLETES AND NON-ATHLETES

by

ELEANOR KATE SHEARMAN

(Under the Direction of Daniel R. Czech)

ABSTRACT

Researchers suggest that optimistic individuals approach life situations with the belief that outcomes will be favorable, and are more likely to exhibit better coping mechanisms when dealing with adversity and stress (Carver, & Scheier, 1987; Karadeaus, Karvelis, Argyropoulou, 2007). Moreover, the cognitive adaptation theory suggests that optimistic individuals are more likely to make appropriate cognitive adaptations to stressful situations (Lightsey, 1994; Alloy & Clements, 1992). Results concerning athletic status, gender, optimism, and stress are mixed. The purpose of this study was to compare athletes and non athletes and gender on optimism and life stress. The present study will utilize the Life Orientation Test-Revised, measuring optimism and the Undergraduate Stress Questionnaire, measuring life stress. The results will be analyzed using three independent t-tests with an alpha level set at .016 utilizing the Bonferroni adjustment technique. Discussion to take place will be between optimism and stress levels, athletic status, and gender.

INDEX WORDS: Optimism, Life Stress, Collegiate Athletes

A COMPARISON OF OPTIMISM LEVELS AND LIFE STRESS LEVELS AMONG NCAA DIVISION I ATHLETES AND NON-ATHLETES

by

ELEANOR KATE SHEARMAN

B. S., University of Tennessee-Martin, 2005

A Thesis Submitted to the Graduate Faculty of Georgia Southern University in Partial Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

STATESBORO, GEORGIA

2008

A COMPARISON OF OPTIMISM LEVELS AND LIFE STRESS LEVELS AMONG NCAA DIVISION I ATHLETES AND NON-ATHLETES

by

ELEANOR KATE SHEARMAN

Major Professor: Daniel R. Czech

Committee: Glenn P. Burdette III
A. Barry Joyner
Jonathan N. Metzler

Electronic Version Approved:
May 2008

DEDICATION

This thesis is dedicated to the family of Shearman's who I miss each and every single day.

Mum and dad for being absolutely spectacular parents; mum for the patience with my tears on the tennis court as a child when I didn't believe I was good enough, dad for the supportive talks in times of stress and anxiety at A-level, and both of you for the undying love and dedication you show towards your children. Not only that but for the opportunities you have provided for us to see the world, and for the many family memories of people, place and laughter. If I can one day be the parents that you are I will be satisfied with my life.

Izzi for your endless support and reassuring e-mails, for the holiday laughs, and your sensible but completely eccentric approach to life. You will take over the TV world and quite honestly you will never understand how extremely valuable a person you are to so many with your patience and consideration for others. You are incredibly special and I hope that you can one day see for yourself your shining colours.

Jacky and Anna for changing our family in the best way possible, for not only being the most personable, fun, and brilliant little brother and sister but for the smiles and humor you bring to the world. You are both absolutely fantastic individuals who will be appreciated by so many, and make such a difference to those who are so much less fortunate than us. Thank you for being you!

ACKNOWLEDGEMENTS

Firstly I would like to thank a man who has been an absolute inspiration in his dedication and work ethic, as well as his enthusiasm for life and people. I consider him an advisor, mentor, role model, and friend and wish only the absolute best to him and his family…Dr. Dan Czech. Without the support of "Czechers" I would never have completed this thesis, I cannot put into words the gratitude and respect I have for you and I hope that I can one day, like you, I can have such an energetic and positive influence on so many people through my love for what I do. You demonstrate this every day, and I think that quite honestly you have been the biggest lesson I have learned about life in my time at Georgia Southern.

I would also like to thank my committee for standing by after last minute changes and showing support no matter what, the time, effort, and understanding was more than appreciated. The patience, commitment to my learning, and constructive thinking has helped me not only throughout the thesis process, but through my entire two years at Georgia Southern. You have made this a fantastic learning experience and have created a growing environment both educationally and personally. I thank you for absolutely everything.

My fellow team, what can I say my loves? What an absolutely fantastic team of individuals I have had the pleasure of being a member of. Johnny Scott, my fabulous Brit and your unforgettable ability to talk for hours and make a joke from every situation; Dale "Brov" White for simply being my brother and brick wall through it all; Teddy "ball-game" Hoffman for being a brilliant roomy, best mate, for allowing me to feed off your confidence, and for too many classic memories; Erin (3-question) Bullett for being a

mate that would do absolutely anything for a friend at the drop of a coin, and for absolute stupidity at the best of times; Jossie (Diversity) Fisher for having the best smile ever and having a matching attitude towards life to go with it; and Mattie (Battie) Harpold for your intelligence, introduction to paintball…and of course green fingers 101. I will never forget any of you, the memories are unforgettable, and your personalities are simply brilliant, from bull-in-the-ring in the library, to sleep-overs in the lab, to beer Olympics, to road trips, AASP, New York, and endless giggles. Live to laugh and laugh to live, cheers to the future.

I would also like to thank my two extremely fantastic roommates, Hol and Hamp, who have provided me with not only huge amounts of support but for some of the most humor-filled moments of my life. Hol, Hamp, and Teddy (Big Sharks) quite honestly each one of you are totally irreplaceable, and simply unforgettable. To my other brothers, Greggy, D-rock, and Stevo, Robbo, and Sammy cheers for laughs and support, and to the Athletic Training staff who are not only my mentors but people I consider brilliant friends and who have made my time at work an absolute blast!

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER 1

INTRODUCTION

Research is plentiful in linking optimists with positivity and pessimists with negativity. Optimistic individuals have been cataloged as having positive expectations for life, and believe that the future will hold favorable outcomes. In comparison, pessimists focus on a more negative perception towards life and see the future as unfavorable (Carver, & Scheier, 1987). Furthermore, optimism and pessimism have been defined by Dember, Helton, Matthews, and Warm (1999) as a disposition inclining one to positive expectations and pessimism as inclining one to negative expectations. Optimistic and pessimistic dimensions have further been investigated in determining success in achievement situations (Czech, Burke, Hardy, & Joyner, 2002). Dispositional optimism has been associated with generalized expectancies and is defined by whether individuals see future outcomes as good or bad (Huan, Yeo, Ang, & Chong, 2006).

Peterson and Bossio (1991) concluded that optimists are more self-confident and have higher levels of self-efficacy in their ability to perform well and achieve goals. Chang (1998) also provides us with knowledge concerning the benefits of optimism, which include lower levels of stress and lower trait anxiety. Chang's (1998) findings support Beck's (1967) cognitive therapy model. This cognitive therapy model highlights the roles of optimism and pessimism on psychological distress (Chang, 1998). In reference to athletes, Seligman et al. (1990) studied varsity swimmers and highlighted that; "(1) Swimmer's with a pessimistic explanatory style were more likely to go on to perform below expectations during the season than swimmers with an optimistic explanatory style; (2) After a simulated defeat, swimmers with a pessimistic explanatory

style showed deteriorated performance, whereas swimmers with an optimistic style did not; (3) Explanatory style predicted performance by the swimmer even after coaches' judgments of ability to come back was taken into account" (Seligman, Nolan-Hoeksema Thornton, & Thornton, 1990, p.145). Therefore, optimism appears to aid performance, whereas pessimism is likely to decrease performance. Research has also reported that pessimistic adults have been shown to experience more depressive symptoms than the more optimistic adults (Bromberger & Matthews, 1996).

Research suggests that optimists and pessimists will react differently to the outcome of competition, which in turn influences their following performance. Furthermore athletes demonstrate explanatory style sport optimism by attributing negative events in sport to external, temporary, and specific causes (Whalen, Metzler, Czech, Joyner, 2007). An example of optimistic explanatory style could be, "we lost last night because they (the opponents) had greater possession". In terms of this example the word "they" externalizes the situation, "last night" makes it temporary, and "greater possession" refers to only a specific element thus suggesting that this loss will not be a consistent occurrence. The methods that have been used to assess explanatory style have been criticized because they identify and rely on looking at past events to explain perceptions of the future (Scheier & Carver, 1985). In contrast to the indirect approach of the explanatory style Scheier and Carver (2001) developed a measure to assess global optimism. This measure is now the most direct method of assessment for explanatory style and was developed by Scheier and Carver in 1994, who coined it the Life Orientation Test-Revised. This measure was developed from the original Life Orientation Test (Scheier & Carver, 1985). The revised measure eliminated 2 items that measured

neuroticism and worded the items so that they evaluate across all situations and domains (Whalen, Metzler, Czech, & Joyner, 2007).

The benefits of optimism include increased motivation, and superior achievement in various domains (Schulman, 1999). Optimists will differ in their approach to life and perceptions of difficult situations. The optimist is more likely to see adversity as a challenge, to have the ability to create opportunities and find solutions from initial problems, give more effort to improve skills, maintain levels of confidence and persistence, as well as having the ability to rebound quickly after a setback (Schulman, 1999). It has been theorized that if an individual has the perception that they are capable of completing a task successfully then he/she is more likely to maintain his/her levels of effort and commitment to the activity (Scheier & Carver, 1987). Thus suggesting that those who recognize a situation as unattainable find that they struggle to continue with maintaining their level of effort, and this may in turn cause a stress response.

Sanna (1996) using manipulated outcomes as either success or failure showed that optimists and defensive pessimists reacted differently. Sanna (1996) utilized the Defensive Pessimism Questionnaire (DPQ) to specifically investigate defensive pessimism. The study primarily identified with defensive pessimists, and recommends that caution should be taken when defining and identifying defensive pessimism due to it being a cognitive strategy and therefore individuals cannot always recognize when they employ these strategies (Norem, 2001). Defensive pessimists expect the worst from situations. Defensive pessimists differ from optimists because they develop self-protective goals and set low standards utilizing anticipatory methods prior to a performance. Optimists on the other hand utilize retrospective methods, therefore putting

their cognitive restructuring into effect following the performance (Sanna, 1998). Sanna's (1996) study showed that individuals with higher levels of optimism were more likely to retain their levels of optimism after failure. The moderating effect of dispositional optimism has also been investigated, concluding that optimistic individuals are more likely to respond with positive expectations and positive emotional reactions (Huan, Yeo, Ang, & Chong, 2006). From this research we can state that pessimism is correlated with negative psychological outcomes, and optimism is correlated with more positive psychological outcomes (Chang, 2002).

Optimism has previously been stated as a vital factor in an individual's ability to adjust in aversive conditions (Karadeaus, Karvelis, & Argyropoulou, 2007). Taylor (1983) illustrates how positive self-relevant distortions can aid in coping with difficult situations by theorizing that individuals experiencing chronic illness can in fact positively change their perceptions, which allows them to adapt successfully to their situation. The concept of cognitive adaptations was initially referred to in terms of adaptations made when chronic illness was experienced, however Taylor and Brown (1988) have developed this concept to state that optimism, perceived control, and positive self-perceptions accumulatively coined as "positive illusions" can promote well being and can positively influence mental health. To explain this further the Motivational Model of Cognitive Adaptation has been developed. This model contributes the theory that having self-determined motivation will be most beneficial for mental health, and those who are most likely to foster this self-determined motivation are those who believe they have control over their lives, those who think well of themselves, and those who see the future as optimistic (Ratelle, Vallerand, Chantal, & Provencher, 2004). A more recent study

concerning the cognitive adaptation theory concluded that levels of internal health-related locus of control, optimism, and self-esteem all decreased during treatments when investigating patients experiencing cancer treatment (Pinquart, Frohlick, & Silbereisen, 2006).

Optimistic students have been proven to have better coping mechanisms to deal with stress related to academics than the more pessimistic students (Huan, Yeo, Ang, & Chong, 2006). Research has shown that stress occurs in sport when athletes have to deal with life situations that they perceive as exceeding their abilities and that threaten their chances of achieving their goals (Santomier, 1983). Research has identified several factors that are attributed to success and achievement in sport and athletics, as well as optimism-pessimism levels being attributed to levels of success in sport and business. To relate the mentioned research to this study, we can begin to hypothesize that stress may be influential on levels of optimism in terms of collegiate athletes and non-athletes.

Research has identified that in adult populations there are various cognitive factors that may interact with stress levels (Ingram, Miranda, & Segal, 1998). It has further been concluded that positive automatic thoughts can aid in reducing stress levels in adults and the psychological symptoms that can potentially follow (Lightsey, 1994; Alloy, & Clements, 1992). Various studies have investigated the interaction between optimism levels and stress, for example Bromberger and Matthews (1996) were able to predict depressive symptoms from optimism-pessimism and stress variables. It has further been theorized that the negative outcomes associated with pessimism can increase the influence of stress on an individual's ability to adjust in a stressful situation (i.e. the life of a collegiate athlete) (Chang, 2002).

There have been numerous definitions suggested for stress, however the most agreed upon statement is that stress is a physical, mental, or emotional reaction that occurs as a response to environmental tensions, conflicts, or pressures (Fontana & Abouserie, 1993). More specifically life stress has been defined as a state of psychobiological arousal produced by interactions between situational and psychosocial factors, which play an influential role on well-being and performance (Felston & Wilcox, 1993). Interrelated with stress is cognitive appraisal, which has been defined by Folkman, Lazarus, Dunkel-Scheffer, DeLongis, and Gruen (1986) as "a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well being, and if so, in what ways" (p.992). So in terms of college students and collegiate athletes this suggests that the process by which these students experience stress is their evaluation of their life/environmental situation. Noblet and Gifford (2002) provide some examples of stressors experienced by athletes including; performance problems such as self-doubts and team selection, environmental problems such as financial costs and practice time, organizational problems such as coaching, leadership, and communication; as well as problematic relationships and experiences outside of their sport.

A greater number of stressful life events have been correlated with higher education, suggesting that college students are more likely to experience stressful life changes than those individuals of the same age who have begun their careers (Crandall, Preisler, & Aussprung, 1992). It was theorized by Felston and Wilcox (1993) that life stress and sport-specific competitive anxiety may be influential in many sports. Intense anxiety develops in students from stress, associated with high expectations in academics

and sporting performance, as well as being related to social factors (Abouserie, 1994; Akgun & Ciarrochi, 2003). Furthermore, western nations, in particular the United States, place a huge emphasis on the importance of sport and success in sport, to be victorious is perceived to be of the utmost importance thus creating additional stressors (Santomier, 1983).

Young people have to persevere with college life, and those who participate in collegiate athletics live extremely demanding lifestyles particularly for that age. Ingham (1975) theorized with reference to his performance principle, that this focus on performance and success in sport places increased demands on athletes. For college student-athletes there are additional factors that may be perceived as further stressors. The intense academic and social pressures experienced by collegiate athletes for example may increase vulnerability to developing clinical symptoms (Striegel-Moore, Silberstein, Frensch, Rodin, 1989). Santomier (1983) provides the following contributions as to reasons why sport can produce a stress reaction, “disrupting or endangering one’s important goals and values, creating uncertainty about one’s physical survival, threatening the maintenance of one’s identity, and affecting the ability to control one’s environment” (p.58)

Research concerning gender on the topic of optimism and stress has had mixed results. A study performed in China investigating stress levels, and optimism, and pessimism in university students concluded that optimism and pessimism play different roles in terms of predicting depression. They also concluded that optimism as a protective construct plays a more vital role in students experiencing higher levels of stress and that pessimistic males with higher levels of stress tend to experience more destructive effects

from their pessimistic tendencies (Tao, 2006). Another study performed by Boman, Smith, and Curtis (2003) concluded that there were no differences in dispositional optimism levels between men and women however, low optimistic men did report greater levels of school hostility. Men have also been found to be more optimistic when predicting grades than women (Delap, 1994). Another example of research reported that men had greater optimistic tendencies than women when the independent variable was judgments of driving abilities (Dejoy, 1992). Williams (1980) concluded that women athletes are more independent, achievement orientated, emotionally stable, aggressive, and assertive compared to women non-athletes.

When comparing athletes to non-athletes research has shown that when investigated specifically by types of sport personality differences are found. There have been mixed results regarding personality constructs and athletic status. A study by Schurr, Ashley, and Joy (1977) concluded that team sport athletes in comparison to non-athletes reported less ego strength, more dependency, less abstract reasoning, and more extroversion. The same study showed that athletes playing individual sports when compared to non-athletes showed more dependency, less anxiety, higher objectivity, and less abstract thinking (Schurr, Ashley, & Joy, 1977). A recent research study involving collegiate athletes and non-athlete samples found no significant differences when investigating optimism levels in first-year and final-year athletes and non-athletes, but did report that final-year athletes showed higher levels of optimism than first-year athletes (Venne, Laguna, Walk, Ravizza, 2006).

Optimism and pessimism have previously been correlated with stress, noting that there are differences in the coping strategies in optimists and pessimists (Czech, Burke,

Joyner, & Hardy, 1998). A study performed by Scheier, Weintrab, and Carver (1986) supported this notion, concluding that their results showed optimists to correlate positively with positive reinterpretation as a coping mechanism for difficult or challenging situations. Research has also previously been stated as lacking when concerned with whether athletes do or do not experience varying levels of stress compared to non-athletes (Felston, & Wilcox, 1993).

In terms of techniques utilized in measuring optimism, various tools have been developed. One such method is the Attributional Style Questionnaire (ASQ), used to consistently and specifically measure individual's explanations of life events, allowing their optimism levels to be operationalized globally (Seligman, et al. 1979). The more prominent and more widely used measure is the Life Orientation Test-Revised (LOT-R) developed by Scheier and Carver (1985). This measure involves six coded statements and four other items to disguise any perception of what the test is measuring. This measure will be utilized because of the convergent validity that correlates scores with depression, perceived stress, and locus of control and its ability to be used as a unidimensional measure for optimism.

An example of a tool used to measure stress appraisal is the Perceived Stress Scale (PSS) previously developed by Cohen, Kamarck, and Mermelstein (1983). The PSS benefits studies such as this because it directly allows for the comparison of interactions between groups concerning stress when different life events and experiences may be influential (Chang, 2002). However, the PSS will not be utilized for this study because of the opportunity to use the USQ, which is more specific to the population who will be approached to participate in this study.

The proposed research is designed to examine and compare optimism, and stress levels among undergraduate NCAA Division I collegiate athletes and non-athletes. The study will also make comparisons between high-level optimists and low-level optimists, and men and women within the sample. A growing body of knowledge is developing on stress, personality constructs, and collegiate athletes. Such research could provide vital information for athletic advisors working to mentor college athletes as well as coaches and sport psychology consultants to reduce stress levels in athletes that may affect performance levels. It is also hoped that people can recognize the benefits of optimism, and being an athlete and competing and participating in sport and physical activity with the growing problem on obesity in the western world.

With this information the following research questions have been proposed; “Do high-level optimists differ significantly from low-level optimists in life stress scores in collegiate athletes within the sample?” “Do high-level optimistic athletes have lower levels of life stress than high-level optimistic non-athletes within the sample?” Do high-level optimistic men have significantly lower levels of life stress than high-level optimistic women within the sample?” This research question allows for the following hypotheses to be stated; 1) High-level optimistic athletes will have significantly lower levels of life stress than low-level optimistic athletes within the sample; 2) High-level optimistic athletes will have significantly lower levels of life stress than high-level optimistic non-athletes within the sample; 3) High-level optimistic men will have significantly lower levels of life stress than high-level optimistic women within the sample.

CHAPTER 2

METHODS

Participants

This study involved a total of 332 NCAA Division I University participants including, non-athletes (N=155) 46.7% and athletes (N=177) 53.3%. From this population 64.8% were men (N = 215) and 35.2% were women (N = 117) were involved. Participants were included from all four undergraduate school classifications, freshmen (N=111) 33.4%, sophomores (N=87) 26.2%, juniors (N=100) 30.1%, and seniors (N=34) 10.2%. The age of the participants ranged between 18 and 23 with the most frequently recorded ages being 19 (N=96) 28.9% and 20 (N=91) 27.4%. A convenience sample was utilized. The athletes participating in this study participated in 13 different sports, the most frequently represented sports were; baseball (N=45) 25.4%, men's and women's soccer (N= 39) 22%, football (N=35) 19.8%, men's and women's tennis (N=31) 17.5%. The participants were assumed to be from a range of ethnic and cultural backgrounds however this data was not included in the demographics and not collected. The non-athletes from the NCAA Division I universities in the southeastern region of the United States were recruited from undergraduate classes.

Instrumentation

The Life Orientation Test-Revised (LOT-R) (Scheier, Carver, & Bridges, 1994) was used to measure optimism and the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992) was utilized to measure stress in undergraduates. A personal statement questionnaire was included in the packet to gain information on

demographics including age, gender, school classification, and type of sport played at the collegiate level.

Dispositional Optimism. The original design of the LOT-R was unidimensional; however more recent research concerning optimism and pessimism has suggested that in fact optimism and pessimism are independent variables (Hummer, Dember, Melton, Howe, & Schefft, 1992). Thus this study will utilize the LOT-R by producing an overall score for optimism. The original test-retest reliability for the Life Orientation Test-Revised (LOT-R) has been shown as follows r = .68, for a 4 week period, r = .60, for a 12 month period, r = .56, for a 24 month period, and r = .79, for a 28 month period. Using Cronbach's alpha =.78 for internal reliability, and the test-retest reliability have been shown to be at adequate levels, in particular for the unidimensional scoring. Reliability for the Life Orientation Test-Revised was gained, and shown to be .754.

The design of the LOT-R incorporates 3 types of questions. These include 4 items that are not scored, 3 positive statements, and 3 negative statements. An example of a statement may be, "I'm always optimistic about my future." The subjects must respond to the statements by choosing their appropriate response using a Likert scale, with 5 possible choices. The scale ranges from "strongly agree" to "strongly disagree".

Life Stress. Stress in undergraduate college students was measured using the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992). The USQ is an 82 item checklist based on life events that undergraduate students have experienced within the last 2 weeks in the last semester, totaling up to give one final score of level of life stress (Powers, Cramer, & Grubka, 2007).

The Undergraduate Stress Questionnaire (USQ) is a checklist of life events that has been proven to predict symptoms more reliably than various other measures of stress (Crandall, Preisler, & Aussprung, 1992). The USQ has be shown to have split-half reliability (.71) and with the use of the Spearman-Brown method the reliability is shown at .83 (Crandall, Preisler, & Aussprung, 1992). Internal consistency and test-retest reliability has also be proven to be acceptable for the USQ (Powers, Cramer, & Grubka, 2007), and it has further been shown to correlate negatively with mood, and positively with physical symptoms (Crandall, Preisler, & Aussprung, 1992).

Procedure

The meeting location was arranged at a southeastern NCAA Division I university either prior to a practice or weight lifting session, or following a practice or weight lifting session. The non-athletes were approached at the beginning of classes taught at a southeastern NCAA Division I university. Participants were informed that if they are under the age of 18 then their parents must be present to sign a separate consent paper. To ensure no interference between participants, all subjects were separated. The researcher ensured silence was maintained in the room and gave an explanation of the procedure prior to the questionnaires (the demographics, the LOT-R, and the USQ) being given out to the subjects. The participants were briefed on the purpose of the study then the informed consent forms were read, and any questions answered before the subjects were asked to sign the informed consent form. It was explained that participation would be confidential and that no data will be associated with any individual. Participants were then asked to complete the forms to the best of their ability. The order that they were asked to fill them out was as follows: Demographic questionnaire, the Life Orientation

Questionnaire-Revised (Scheier, Carver, & Bridges, 1994), and The Undergraduate Stress Questionnaire (USQ) (Crandall, Preisler, Aussprung, 1992). The participants were asked to answer all questions truthfully and to the best of their ability. Once all inventories were completed, the researchers informed the participants that if they wished to view their individual results they may mark the front page of their package.

Participants were also recruited through use of an online survey. The survey was set to only allow those invited to take the survey within the required population for the study (athletes and non-athletes from NCAA Division I universities in the southeastern region of the United States). The participants were recruited by e-mailing contact persons who had interaction with Division I athletes at southeastern universities in the United States. The e-mail was kept brief including a short explanation of the study, how long the survey would take (5 minutes), the link for the survey, and contact information in the case of questions arising. A copy of the passive consent form was also attached to the e-mail file. All results were printed before being stored in a secure room. The completed inventories were scored and kept in a private and secure room in a private locked cabinet.

Statistical Analysis

The data analysis for this study entailed two stages: 1) a descriptive analysis, and 2) three independent t-tests. All data analysis was conducted using the SPSS computer program. Included in the descriptive analysis were the means, standard deviation ranges, and as a function of gender, athletic status, and level of optimism. The high-level and low-level optimist groups were delineated by thirds. The top 33% of the LOT-R scores were considered high-level optimists within the sample, and the lowest 33% of the LOT-R scores were considered low-level optimists within the sample. These cut points differ

between the three independent t-tests that were run. Three 1-tailed independent t-tests were utilized to measure differences between high-level and low-level optimists, high-level optimism and athletic status, and high-level optimism and gender. To control for possible Type I errors in the statistical analysis the Bonferroni adjustment technique was utilized to adjust the alpha level to $p<.016$.

CHAPTER 3

RESULTS

Given that three independent t- tests were to be performed on samples from the same population the Bonferroni adjustment technique was utilized resulting in an alpha level of .016.

Both results from the LOT-R and the USQ were not normally distributed, both violating the assumption of normal skewness. The LOT-R was significantly negatively skewed, whereas the USQ was significantly positively skewed. Both variables were within the normal range and recognized as mesokurtic.

Table 1 displays the means and standard deviations for high-level optimistic athletes and low-level optimistic athletes on life stress. High-level optimistic athletes operationalized as the top 33% of scores on the Life Orientation Test-Revised ($n = 60$) whereas low-level optimistic athletes were the lowest 33% of scores ($n = 55$). An independent t-test revealed a significant difference ($p < .016$) between high and low optimistic athletes on levels of life stress. Thus high-level optimistic athletes reported significantly lower levels of life stress than low-level optimistic athletes.

Table 2 displays the means and standard deviations for high-level optimistic athletes and high-level optimistic non-athletes ($n = 128$) on life stress. High-level optimistic athletes ($n = 60$) and high-level optimistic non-athletes ($n = 68$) were operationalized as the top 33% of scores on the Life Orientation Test-Revised for each respective category. An independent t-test revealed a significant difference ($p < .016$) between high-level optimistic athletes and high-level optimistic non-athletes on levels of

life stress. Thus high-level optimistic athletes reported significantly lower levels of life stress than high-level optimistic non-athletes.

Table 3 displays the means and standard deviations for high-level optimistic women and high-level optimistic men (n=126). High-level optimistic women (n=45), and high-level optimistic men (n=81) were operationalized as the top 33% of scores on the Life Orientation Test-Revised for each respective category. An independent t-test revealed a significant difference (p<.016) between high optimistic men and high optimistic women on levels of life stress. Thus high-level optimistic men reported significantly lower levels of life stress than high-level optimistic women.

CHAPTER 4

DISCUSSION

The results from this study support the hypotheses that 1) high-level optimistic athletes would experience significantly lower levels of life stress than low-level optimistic athletes; 2) high-level optimistic athletes would experience significantly lower levels of life stress than high-level optimistic non-athletes; and 3) high-level optimistic men would experience significantly lower levels of life stress than high-level optimistic women within the sample.

In reference to Hypothesis I, research shows that those higher in optimism levels report less frequencies of psychological health problems when compared to individuals with lower levels of optimism (Pritchard, Wilson, Yamnitz, 2007). African-American college students displaying higher levels of optimism have been correlated with lower perceived stress levels (Baldwin, Chambliss, & Towler, 2003). Chang and Sanna (2003) found a significant negative association between optimism levels and life stress in an adult population. This is in agreement with Scheier and Carver's (1988) study, which showed that optimism aided students in their abilities to deal with stress related to college and that when students reported themselves as optimistic at the beginning of a semester they were more likely to deal with adversity and stressful situations effectively later in the semester. A recent research study involving collegiate athlete and non-athlete samples found no significant differences when investigating optimism levels in first-year and final-year athletes and non-athletes in those respective year groups, but did report that final-year athletes showed higher levels of optimism than first-year athletes (Venne, Laguna, Walk, Ravizza, 2006). Aspinwall and Taylor (1992) concluded that those higher

in optimism adjust more successfully to the transition of high school to college and stressful life events. As discussed by Seligman (1998) optimism can be learned, which may begin to explain these results comparing first and final-year collegiate athletes.

In terms of reasoning why high-level optimistic collegiate athletes may experience lower levels of life stress than low-level optimistic athletes we can refer to research on the more effective coping mechanisms displayed by those higher in optimism. Karademas, Karvelis, Argyropoulou (2007) investigated stress-related predictors of optimism in individuals who survived breast cancer, they highlighted that coping was associated with stress, and that higher levels of optimism were strongly correlated with effective adjustment to stressful situations. Jackson, Weiss, and Lundquist (2000) proceed to suggest that it is not just the case that those higher in optimism levels will see the future as more favorable but also that they could be more likely to differ in their behaviors when compared to low-level optimists when adjusting to stressful situations. In reference to the cognitive adaptation theory Taylor and Brown (1988) theorized that by positively changing perceptions of situations and making the appropriate cognitive adaptations it allows for effective coping. Moreover those who are more optimistic have better abilities to adjust to adversity (Karadeaus, Karvelis, Argyropoulou, 2007), and those with greater levels of “positive illusions” (optimism, perceived control, and positive self-perceptions) benefit in terms of general well-being and in their abilities to cope with chronic illness (Taylor & Brown, 1988). Thus providing us with reasoning as to how high levels of optimism may have a beneficial influence in coping with the adversity and stressful situations that collegiate athletes experience on a day-to-day basis.

In regards to Hypothesis II, when investigating collegiate sport as a leisure activity, Kimball and Freysinger (2003) concluded that participation in sport at the collegiate level was perceived by some as a stressful situation, and by others as a buffer against stress. In their qualitative study they were able to gain evidence from collegiate athletes that participation in collegiate sport allowed them to develop a social support network, personal identification, and a connection with others who had common interests and life experiences (Kimball, and Freysinger, 2003). Four buffers have previously been identified by Wheeler and Frank (1988) to be influential against the adverse effects of stress on health, these buffers included; leisure activity, exercise pattern, sense of purpose, and sense of competence. So the lifestyles of collegiate athletes automatically incorporate the buffers of leisure activity, and consistent exercise pattern.

There is the likelihood that there are small numbers of collegiate athletes that do not develop a social support network from their team and participation in their sport. These athletes may also feel a sense of missing out on other social activities in the collegiate setting, and may therefore perceive their involvement in their sport as a stressor (Kimball and Freysinger, 2003). Grove, Lavallee, and Gordon (1997) further suggest that student-athletes when compared to non-athletes show higher levels of anxiety in regard to career paths. However, today with staff members such as tutors for student-athletes, life skills coordinators, and academic advisors employed specifically for our student-athlete populations perhaps we provide an opportunity for such stressors to be reduced in the student-athlete population.

In terms of athletic status and how it affects optimism and life stress, from the results of this study we can see that being a collegiate Division I athlete results in lower

levels of life stress, but how? At this point it is important to recognize that athletes at the collegiate level have had to manage their time throughout their childhood much more than children who invest time into a hobby/activity. Thus there is the possibility that athletes have had to learn coping skills earlier in life than their non-athlete counterparts. Aspinwall and Taylor (1997) put forth the concept that by developing proactive coping skills it allows individuals to not only prepare for stressors, but to also have the ability to anticipate them. Furthermore participation in regular physical activity has been shown to result in lower levels of stress, diabetes, and depression (International Society of Sport Psychology, 1992). In agreement with this it has been proposed that participation in sport and recreation from an early age and throughout childhood is beneficial from both a mental and physical standpoint, including better self-esteem and body image (Miller & Levy, 1996; Ryska, 2002; Storch et. al., 2005). As suggested by Czech et. al (2002) it may be that the majority of athletes have rigorous work ethics and no fear of failure and therefore have high achievement levels compared to non-athletes.

The factor of scholarship funding in terms of the collegiate athlete may also be influential in life stress levels (Amorose & Horn, 2000). Financial stability plays a key role in stress levels within most populations. Those student-athletes with minimal financial support from sports scholarships may experience an additional stress from this source that perhaps others with higher levels of financial support do not have to cope with.

Hypothesis III stated that high-level optimistic men will experience significantly lower levels of life stress than high-level optimistic women within the sample. The significant differences found in this study between high-level optimistic men and high

optimistic women do not coincide with the results comparing men and women collegiate athletes at the Division I level studied by Czech, Burke, Hardy, and Joyner (2002). Their results showed no significant differences when investigating gender not only in optimism and pessimism levels, but also competitiveness, goal orientation, and bipolar optimism/pessimism (Czech, Burke, Hardy, Joyner, 2002). In the case of this study the significant results could be as a result of many of the coaching staffs of female sports placing more pressures on their student-athletes in terms of both the sporting environment and educational standards than the majority of coaches of male sports. Within society particularly at the high school level there is often an expectation for girls to be well-mannered and hard-working, because of this they may expect to gain better grades than perhaps boys do at this level. This is perhaps a social pattern that continues through to the collegiate level, and perhaps why the women may experience more life stress due to the high standards they feel they are expected to maintain with not only their sport but their education.

The vital issue to be acknowledged when discussing gender and sport is the history of women's participation in sport. As highlighted by Veri (1999), the traditional socialization of participation in sport suggests an association between the sporting "norm" and masculinity, in which women participating in sport at a high level may be looked upon as conflicting with their traditional feminine role. Kimball and Freysinger (2003) associate with this social construct in their conclusions that both gender and race are influential in shaping the levels of stress experienced by collegiate athletes.

In discussing the role of gender in sport and the role of optimism, it is also important to identify with the influence of media. The media is renowned for its ability to

manipulate societal issues, and despite successful women being recognized as attractive by men, women in sport and their achievements are still trivialized (Kimball, & Freysinger, 2003). Research has also identified that the differences in socialization patterns related to sport participation and gender begin early in childhood, parents are more likely to encourage participation in sport in boys than girls, and throughout childhood and adolescence boys are more likely to participate in sport and be physically active (Coakley, 2007). In reference to gender and childhood participation in sport Greendorfer, (1983) highlights that boys are encouraged to a far greater extent than girls outside of the family home, in particular by the school environment and peers.

Having acknowledged the societal issues surrounding gender and sport, and by understanding the lengthy process of alleviating societal stereotyping discussion can return to life stress and why female collegiate athletes may experience greater levels of life stress than their male counterparts.

Recent research has shown significant differences in life stress levels between men and women collegiate athletes at the Division II level (Tinsley, 2007). In Kimball and Freysinger's (2003) qualitative study of collegiate sport and stress they found that only the women collegiate athletes that they interviewed stated that participation in collegiate sport was a stressor. The reasons given for the additional stress experienced by the women athletes was the lack of control over the perceptions others had of them, in particular being viewed as masculine and lacking confidence about their bodies (Kimball, & Freysinger, 2003). In contrast, a study involving an adolescent population found that gender did not predict academic stress specifically, nor was there a two-way interaction between the optimism and gender variables, despite finding a significant negative

relationship between optimism and academic stress over the general population (Huan, Yeo, Ang, & Chong, 2006). This provides an opportunity for different stressors and optimism to be investigated in the collegiate athlete population in future research studies.

When testing the overall LOT-R and USQ mean scores we can conclude that there were not significant differences between athletes and non-athletes suggesting that by investigating optimism and pessimism in the upper and lower 33% of scores we are identifying that there is a relationship between life stress and optimism levels.

The significant results allows for an analysis of the practical applications that can potentially be introduced providing a purpose to the study. How can we benefit from these results, and who can benefit from these results? First, collegiate coaches can utilize these results as a reason to be self-aware of their coaching style/techniques, to recognize the pressures they may put on their athletes, and to understand that their athletes are all individuals. The results could also suggest that coaches should be mindful of how different individual athletes cope and deal with stressful situations, from sources such as their sporting environment, their home life, and their education. The reasoning behind this being that significant differences were found between high-level optimistic and low-level optimistic collegiate athletes in levels of life stress, and low optimism levels have been associated with less effective coping skills. Coaches may want to take these results into consideration and ensure they understand their athlete's levels of optimism as individuals. Perhaps coaches may want to give their athletes opportunities to meet and discuss how they are coping on a regular basis, ensure that they provide their athletes with days off to aid in time management, and utilize the services of sport psychology consultants.

An effective working relationship between coach and sport psychology consultant has the potential to benefit the student-athlete. The sport psychology consultant can educate student-athletes on their ability to learn optimism as theorized by Seligman (1998) as well as teaching skills such as stress management, time management, and effective communication skills. Whether it is the student-athletes coping differently with life stress or perceiving stress differently, an effective understanding between the coach and sport psychology consultant can play an important role in aiding those who are more vulnerable to increased stress levels. This knowledge can provide the opportunity for intervention as well as providing student-athletes with a stable support staff.

Student-athletes can give these results practical significance by increasing their self-awareness of their ability to be optimistic when coping with different aspects of their life as a student-athlete, as well as the levels of stress that they experience from stressors in their lives. By increasing their self-awareness of these variables and by recognizing the adverse effects of high levels of stress and low levels of optimism from research such as this study, the student-athlete may be more mindful of communicating with their coaching staff and sport psychology consultant more effectively. Thus, these three populations (coach, sport psychology consultant, and athlete) can potentially play an optimal role as part of the collegiate athletic team to prevent student-athletes suffering from low optimism, poor coping skills, and high stress levels.

Limitations that became apparent throughout this research process include factors such as the use of online surveys. The online method was utilized to gain the required number of athletes for sufficient power, again recruited from NCAA Division I southeastern universities. However, compared to the entire data pool for non-athletes

being from one NCAA Division I southeastern university this would be considered a limitation due to the varying ease of collecting this data. Ideally both groups of participants would be would gain from the same group of NCAA Division I southeastern universities. Another limitation to mention was the difference in numbers when analyzing the high-level optimistic male (n=81) and high-level optimistic female (n=45) populations, and maybe a factor to consider in terms of sufficient data for power for each population to be tested.

Throughout the data collection procedure it also became apparent that the Undergraduate Stress Questionnaire and its instructions for use were unclear. Several questions were asked as to whether “past semester” referred to the semester at the time, or the previous semester. The questionnaire is referring to the semester at the time of questionnaire completion however I do believe that this should be made clearer for optimal validity of the questionnaire to clarify whether it is state or trait life stress that is being tested.

Another factor to consider if this study was to be performed on a grander scale would be the validity of utilizing the top 33% and lower 33% of the populations being analyzed in terms of their level of optimism to determine whether they were a high or low-level optimist. Despite Scheier, Carver, and Bridges (1994) developing the LOT-R as unidimensional, there has been factor analyses performed on the LOT suggesting that optimism and pessimism may in fact be independent of one another (Hummer, Dember, Melton, & Schefft, 1992). Further research could investigate valid and reliable cut-points for the LOT-R scale when used as a bipolar scale. This would open up further opportunity for research into the use of the LOT-R. Whalen et al. (2007) investigated

conceptualizing the LOT-R in a sport specific manner, concluding that the conceptualized LOT-R in terms of the sport played can potentially provide better predictive validity than the original LOT-R, and this may also be something to be considered in future research.

Future research in terms of optimism involving longitudinal designs may also be an interesting path to explore. This study amongst others, reports results that show how higher levels of optimism can be beneficial to different aspects of life, in particular buffering stress levels. What may be of interest in this field is whether an optimism intervention can be implemented at the high school or collegiate level. Such a design could ultimately investigate the effectiveness of learned optimism and implementation of a direct intervention within the sporting environment.

Another suggestion for further research may be to investigate the causal direction of the relationship between optimism levels and life stress. It would be interesting to examine out whether it is high optimism levels that prevent high stress levels, or whether high levels of stress lead to lower levels of optimism, or in fact that it is a bidirectional relationship. The study has potential to be replicated on a larger scale across the United States and even be developed into a cross-cultural study taking into consideration the lack of collegiate sports internationally and the possible opportunity to expand to professional athletes.

In conclusion, the evidence gained from this study has allowed several populations to be identified as more susceptible to higher levels of life stress when associating with optimism levels in collegiate and non-collegiate athletes. Those who are lower in optimism levels, those who are not collegiate athletes and those athletes that are women have proved to be more susceptible to higher levels of life stress when compared

to those who are higher in optimism levels, those who are collegiate athletes and those that are men in the Division I college setting. In agreement with Chang and Sanna's (2003) remarks, that there is still a need for further research in this topic area in different populations concerning how optimism and pessimism are associated with physical and psychological adjustments. In particular, populations in which stress and the adjustments to stressors may be vital in the success of those individuals in respect to aspects of life such as education, sport, and the workplace.

TABLES

Table 1

Mean Undergraduate Stress Questionnaire Scores Results

	N	*Mean USQ Score*	*Standard Deviation*	*Std. Error Mean*
High-level Optimistic Athletes	60	19.17	10.83	1.40
Low-level Optimistic Athletes	55	*25.13	12.30	1.66
High-level Optimistic Non-Athletes	68	*24.69	11.23	1.37
High-level Optimistic Males	81	20.32	11.27	1.25
High-level Optimistic Females	45	*25.84	11.74	1.75

*Significantly different at the .016 level

Table 2

Mean Totals: USQ and LOT-R

	N	*Mean USQ Score*	*Standard Deviation*	*Std. Error Mean*
Athletes	177	22.5	11.9	.89
Non-Athletes	155	24.9	11.8	.95

	N	*Mean LOT-R Score*	*Standard Deviation*	*Std. Error Mean*
Athletes	177	21.9	3.35	.25
Non-Athletes	155	21.6	3.9	.31

Table 3

Cronbach's Alpha: Life Orientation Test-Revised

Cronbach's Alpha	N of Items
.754	6

REFERENCES

Abouserie, R. (1994). Sources and levels of stress in relation to locus of control and self-esteem in university students. *Educational Psychology, 14*(3), 323-330.

Akgun, S., & Ciarrochi, J. (2003). Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educational Psychology, 23*(3), 287-294.

Alloy, L.B., &Clements, C. M. (1992). Illusion of control: Invulnerability to negative affect and depressive symptoms after laboratory and natural stressors. *Journal of Abnormal Psychology*, *101,* 234–245.

Amorose, A., & Horn, T. (2000). Intrinsic motivation: Relationship with collegiate athletes' gender, scholarship status, and perceptions of their coaches' behavior. *Journal of Sport and Exercise Psychology, 22, 63*-84.

Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology, 65*, 989-1003.

Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin, 121*, 417-436.

Baldwin, D. R., Chambliss, L. N., & Towler, K. (2003). Optimism and stress: An African-american college student perspective. *College Student Journal, 37*, 276-283.

Boman, P.,Smith, D. C., & Curtis, D. (2003). Effects of pessimism and explanatory style on development of anger in children. *School Psychology International, 24*, 80-94.

Bromberger, J. T.,&Matthews,K.A. (1996).Alongitudinal study of the effects of pessimism, trait anxiety, and life stress on depressive symptoms in middle-aged women. *Psychology and Aging, 11,* 207–213.

Carver, C. S., & Scheier, M.F. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality, 55,* 170-210.

Carver, C., & Scheier, M. F. (2004). *Perspectives on personality* (5th ed.). Boston: Allyn & Bacon.

Chang, E. C., & Bridewell, W. B. (1998). Irrational beliefs, optimism, pessimism, and psychological distress: A preliminary examination of differential effects in a college population. *Journal of Clinical Psychology, 54*(2), 137-142.

Chang, E. C. (2002). Optimism-pessimism and stress appraisal: Testing a cognitive interactive model of psychological adjustment in adults. *Cognitive Therapy and Research, 26*(5), 675-690.

Chang, E. C., & Sanna, L. J. (2003). Optimism, accumulated life stress, and psychological and physical adjustment: Is it always adaptive to expect the best? *Journal of Social and Clinical Psychology, 22*(1), 97-115.

Coakley, J. (1998). *Sport and Society*. St Louis: Moseby.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 386-396.

Cohen, S. (2002). Coping and emotional distress in primary and recurrent breast cancer patients. *Journal of Clinical Psychology in Medical Settings, 9,* 245-251.

Crandall. C. S., Preisler, J. J., & Aussprung, J. (1992). Measuring life event stress in the lives of college students: The undergraduate stress questionnaire (USQ). *Journal of Behavioural Medicine, 15*, 627-662.

Czech, D. R., Burke, K. L., Hardy, C. J., & Joyner, A. B. (2002). An explanatory investigation of optimism, pessimism and sport orientation among NCAA division I college athletes. *International Sports Journal, 6*(2), 136-145.

Dejoy, D. M. (1992). An examination of gender differences in traffic accident risk perception. *Accident Annual Preview, 24*, 237-246.

Delap, M. R. (1994). An investigation into the accuracy of A-level predicted grades. *Educational Research, 36*, 135-148.

Dember, W. N., Helton, W. S., Matthews, G., & Warm, J. S. (1999). Optimism, pessimism, and false failure feedback: Effects on vigilance performance. *Current Psychology: Developmental, Learning, Personality, Social, 18*(4), 311-325.

Felston, G., & Wilcox, K, (1993). Relationships between life stress and performance in sports: much theory, but very little data. *Journal of Sport Behavior 16*(2), 99-110.

Folkman, S., Lazarus, R., Dunkel-Schetter, C., Delonger, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter; Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.

Fontaine, K. R., & Cheskin, L. J. (1999). Optimism and obesity treatment outcomes. *Journal of Clinical Psychology, 55*(1), 141-143.

Fontana, D. & Abouserie, R. (1993). Stress levels, gender, and personality factors in teachers. *British Journal of Educational Psychology, 63*(2), 261-270.

Greendorfer. S. L. (1983). Shaping the female athlete: The impact of the family. In M. A. Buitilier& L. SanGiovinni (Eds). *The Sporting Woman* (p.135-149), Champaign, IL: Human Kinetics.

Hayes, C. T., & Weathington, B. L. (2007). Optimism, stress, life satisfaction, and job burnout in restaurant managers. *Journal of Psychology, 141*(6), 565-579.

Huan, V. S., Yeo, L. S., Ang, R. P., & Chong, W. H. (2006). The influence of dispositional optimism and gender on adolescent's perception of academic stress. *Adolescence, 41*(163), 533-546.

Hummer, M., Dember, W. N., Melton, R. S., Howe, S. R., & Schefft, B. (1992). On the partial independence of optimism and pessimism. *Current Psychology: Research and Reviews, 11*, 37-50.

Ingham, A. G. (1975). Occupational subcultures in the world of work. In D. W. Ball & J. W. Low (Eds), *Sport and social order: Contributions to the sociology of sport*. Menlo Park, Calif: Addison-Wesley.

Ingram, R. E., Miranda, J.,& Segal, Z.V. (1998). *Cognitive vulnerability to depression*. NewYork: Guilford Press.

Jackson, T., Weiss, K. E., & Lundquist, J. J. (2000). Does procrastination mediate the relationship between optimism and subsequent stress? *Journal of Social Behavior and Personality, 15*(5), 203-212.

Kamen, L. P., & Seligman, M. E. (1987). Explanatory style and health. *Current Psychological Review, 6*, 207-218.

Karademas, E. C., Karvelis, S., & Argyropoulou, K. (2007). Short communication: Stress-related predictors of optimism in breast cancer survivors. *Stress and Health 23*, 161-168.

Kimball, A., & Freysinger, V. J. (2003). Leisure, stress, and coping: The sport participation of collegiate student-athletes. *Leisure Sciences 25*, 115-141.

Lavallee, D., Grove, R. J., & Gordon, S. (1997). The experience of loss in sport; *In:* Perspectives on loss: A sourcebook. Harvey, John H.; Philadelphia, PA, US: Brunner/Mazel, 1998. pp. 241-252.

Lightsey,O. R., Jr. (1994). "Thinking positive" as a stress-buffer: The role of positive automatic cognitions in depression and happiness. *Journal of Counseling Psychology*, *41,* 325–334.

Long, B. C., Kahn, S. E., & Shultz, R. W. (1992). Causal model of stress and coping: Women in management. *Journal of Counseling Psychology, 39,* 227-239.

Miller, J. L., & Levy, G. D. (1996). Gender role conflict, gender-typed characteristics, self-concepts, and sport socialization in female athletes and non-athletes. *Sex Roles,* 35, 111-122.

Noblet, A. J., & Gifford, S. M. (2002). The sources of stress experienced by Australian professional footballers. *Journal of Applied Sport Psychology, 14,* 1-13.

Nolen-Hoeksema, S., Seligman, M. E. P., Thornton, K. M., & Thornton, N. (1990). Explanatory style as a mechanism of disappointing athletic performance. *Psychological Science, 1,* 143-146.

Norem, J. K. (2001). Defensive pessimism, optimism and pessimism. In E. C. Chang (Ed.). *Optimism and pessimism: Implications for theory, research, and practice* (pp.77-100). Washington, DC: American Psychological Association.

Peterson, C., & Bossio, L. M. (2001). Optimism and physical well-being. *Optimism and pessimism: Implications for theory, research, and practice* (pp.127-145). Washington, DC: American Psychological Association.

Pinquart, M., Frohlick, C., & Silbereisen, R. K. (2006). Change in psychological resources of younger and older cancer patients during chemotherapy. *Psycho-Oncology, 16*, 626-633.

Powers, D. V., & Cramer, R. J., & Grubka, J. M. (2007). Spirituality, life stress, and affective well-being. *Journal of Psychology and Theology, 35*(3), 235-243.

Pritchard, M. E., Wilson, G. S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. *Journal of American College Health, 56*(1), 15-21.

Ratelle, C. F., Vallerand, R. J., Chantal, Y, & Provencher, P. (2004). Cognitive adaptation and mental health: A motivational analysis. *European Journal of Social Psychology, 34*, 459-476.

Ryska, T. A. (2002). Perceived purposes of sport among recreational participants: The role of competitive dispositions. *Journal of Sport Behavior*, 25, 91-112.

Sanna, L. J. (1996). Defensive pessimism, optimism, and simulating alternatives: Some ups and downs of prefactural and counterfactural thinking. *Journal of Personality and Social Psychology, 71*, 1020-1036.

Sanna, L. J. (1998). Defensive pessimism and optimism: The bitter –sweet influence of mood on performance and prefactual and counterfactual thinking. *Cognition and Emotion, 12*(5), 635-665.

Santomier, J. (1983). The sport stress connection. *Theory into Practice, 22*(1), 57-63.

Sax, L. J. (1997). Health trends among college freshman. Journal of American College Health, 45, 252-262.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.

Scheier, M. F., & Carver, C. S. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality, 55*, 169-210.

Scheier, M. F., & Carver, C. S. (1988). A model of behavioral self-regulation: Translating intention into action. In L. Berkowitz (Ed.), *Advances in experimental and social psychology* (Vol. 21, pp. 303-346). New York: Academic.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*, 1063-1078.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, Pessimism, and psychological well-being. In E. C. Chang, ed., *Optimism and Pessimism: Implications for Theory, Research, and Practice*. Washington, DC. American Psychological Association, 2001.

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51*, 1257–1264.

Schulman, P. (1999). Applying learned optimism to increase sales productivity. *Journal of Personal Selling and Sales Management, 19*(1), 31-37.

Schurr, K. T., Ashley, M. A., & Joy, K. L. (1977). A multivariate analysis of male athlete characteristics: Sport type and success. *Multivariate Experimental Clinical Research, 3*, 53-68.

Seligman, M. E. P. (1998). Learned Optimism: How to Change Your Mind and Your Life. New York: Pocket Books.

Seligman, M. E. P., Abramson, L. Y., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology, 88*, 242-247.

Storch, E. A., Storch, J. B., Killiany, E. M., Roberti, J. W. (2005). Self-reported psychopathology in athletes: A comparison of intercollegiate student-athletes and non-athletes. *Journal of Sport Behavior, 28*(1).

Striegal-Moore, R. H., Silberstein, L. R., Frensch, P., & Rodin, J. (1989). A prospective study of disordered eating among college students. *International Journal of Eating Disorders, 8*(5), 499-509.

Tao, S. Optimism, pessimism, and depression; The relations and differences by stress level and gender. *Acta Psychologica Sinica, 38*(6), 886-901.

Taylor, S. E. (1983). Adjustment to threatening events: *A theory of cognitive adaptation. American Psychologist, 38*, 1161–1173.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103,* 193–210.

Tinsley, S. C. (2007). An assessment of gender, sport, and classification of student athletes on life stress. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 67*(10-A), 3727.

Venne, S. A., Laguna, P., Walk, S., & Ravizza, K. (2006). Optimism levels among collegiate athletes and non-athletes. *International Journal of Sport and Exercise Psychology, 4*(2), 182-195.

Veri, M. (1999). Homophobic discourse surrounding the female athlete. *Quest, 51,* 355-368.

Whalen, S. J. (2007). The evaluation of contextualization of the life orientation test-revised to enhance predictive validity in sports. Unpublished masters thesis, Georgia Southern University, Statesboro, Georgia.

Wheeler, R. J., & Frank, M. A. (1988). Identification of stress buffers. *Behavioral Medicine, 14,* 78-89.

Williams, J. M. (1980). Personality characteristics of the successful female athlete. In W. F. Straub (Ed.), *Sport psychology: An analysis of athlete behavior*. Ithaca, NY: Mouvement.

APPENDICES

APPENDIX A

HYPOTHESES

Hypotheses

Hypothesis I: High-level optimists will experience significantly lower levels of life stress than low level optimists in collegiate athletes within the sample.

Hypothesis II: High-level optimistic athletes will experience significantly lower levels of life stress than high level optimistic non-athletes within the sample.

Hypothesis III: High-level optimistic males will experience significantly lower levels of life stress than high level optimistic females within the sample.

Delimitations

1) This study will be delimited to Division I athletes, both male and female between the ages of 18 and 23 playing the sports of men's soccer, women's soccer, baseball, softball, men's and women's basketball, men's golf, women's swimming and diving, volleyball, women's track and field, and football, and cheerleading.
2) A demographic questionnaire will be administered to the participants to gain relevant demographic information. The study will also administer the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994), and the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992).

Limitations

1) This study will be limited to collegiate athletes at one south-eastern university. Thus a larger scale study would need to be replicated to allow for generalizations.
2) Athletes will be both in-season and out of season, therefore we cannot assume that stress levels will be consistent year round and further studies performed on a larger scale will need to be more specific.

3) There will be no control over different coaching styles in differing teams, and therefore no control over the intensity level of the specific sports program. There is no guarantee that the athletes from different teams are being put under the same stressors. Different sports also have differing lengths of season and varying practice schedules.
4) The research will be limited to athletes competing within the Southern Conference level of competition in their varying sports, and therefore cannot be generalized to all athletes at the Division I level.
5) There is a risk that the participants may answer the questions to socially conform or not comprehend the questions, and that they may show disinterest in the topic resulting in inaccurate completion of the forms/measures.

Assumptions

1) It will be assumed that all participants will complete the testing tools accurately and to the best of their ability and fully comprehend the wording of the questions.
2) It will be assumed that all participants will not socially conform when answering the testing inventories, and will not answer the questions as they believe they should.
3) By using such measures as the LOT-R, and USQ it is assumed due to previous use in research and reasonable levels of reliability and validity that this method of assessment and data collection will be valid and reliable.

Definitions

1) Optimism – The general expectation that the future holds positive outcomes.
2) Pessimism – The general expectation that the future inevitably holds negative outcomes.
3) Within Sample High Optimists – Individuals that fall within the top 33% of scores on the LOT-R within the sample involved in this study.
4) Within Sample Low Optimists – Individuals that fall within the bottom 33% of scores on the LOT-R within the sample involved in this study.
5) Life Stress - is a physical, mental or emotional reaction that results from a response to environmental tensions, conflicts, and pressures (Fontana & Abouserie, 1993).
6) Explanatory style optimism - the way people consistently explain events in their lives (Seligman, 2006).

APPENDIX B

EXTENDED LITERATURE REVIEW

Extended Literature Review

Optimism versus Pessimism

Optimism and pessimism have historically been seen as a continuum (Domino & Conway, 2001). The initially introduction to the term optimism was first introduced by Leibniz, who defined optimum as the unique maximum or minimum of an indefinite range of outcomes (Domino & Conroy, 2001). More recently specific definitions have been developed. Optimism can be defined as the general expectation that the future holds positive outcomes, and pessimism in contrast can be defined as the general expectation that the future holds negative outcomes.

Seligman (1995) stated that optimism encompasses positive images of victory as well as the way individuals think about the causes of victory. This in essence can be referred to as explanatory style, and Seligman (1995) continues by suggesting three factors that explain why good or bad events may arise; permanence, personalization, and pervasiveness. To explain this we can acknowledge that individuals will be more optimistic if they have an expectation that more positive life events will be permanent rather than if they were to believe that they are temporary (Czech, Burke, Joyner, & Hardy, 1998). Personalization refers to whether individuals internalize or externalize the blame for certain events. For example an individual higher in optimism is more likely to externalize a bad event (Seligman, 1995). The final factor is pervasiveness concerning whether individuals perceive results/causes from a global or specific perspective. Therefore, the more optimistic individuals will identify bad events with specific causes and good events as having a positive influence on themselves and their life (Seligman, 1995). So to summarize explanatory style it is an explanation as to why some people

persist and why other people give up when experiencing difficult situations (Hayes & Weathington, 2007). Individuals who display an unstable, external, and specific explanatory style are more likely to be optimists, whereas those individuals who display global, stable and internal explanatory style are more likely to be found to be pessimistic (Czech, Burke, Joyner, & Hardy, 1998).

Optimism level within an individual can determine how well the individual can adjust both physically and psychologically when faced with adversity (Scheier & Carver, 1985). It is further suggested by Hayes, and Weathington (2007) that this ability to adjust in adversity allows those high in optimism to develop a "buffer" against elements such as stress. Previous research has concluded that optimism positively influential on physical and psychological wellbeing (Czech, Burke, Joyner, & Hardy, 1998). In conjunction with this, past research has highlighted that higher levels of optimism are also associated with increased recovery rate from disease, lower frequency of infectious disease, higher rates of successful rehabilitation, less depressive symptoms, and compliance with doctor's visits (Kamen & Seligman, 1987; Peterson & Bossio, 2001; Chang & Sanna, 2003; Hayes & Weathington, 2007). It has also been reported that patients with reoccurring breast cancer have higher levels of anxiety and depression, as well as less problem solving and positive focusing strategies (Cohen, 2002).

A recent study investigating optimism, stress, life satisfaction, and job burnout in restaurant managers (Hayes, & Weathington, 2007) concluded that those managers who displayed higher levels of dispositional optimism also reported lower levels of job burnout and stress. Those managers who report with higher dispositional optimism also experienced higher life satisfaction. In conjunction with this the individuals who reported

higher levels of stress also reported increased job burnout and lower life satisfaction (Hayes & Weathington, 2007). Furthermore a study performed by Aspinwall and Taylor as cited in Scheier and Carver (1992) investigated undergraduate students experiencing their first semester at college and how they made adjustments. The variables measured in this study included optimism, self-esteem, locus of control, and desire for control. They concluded that over time optimism as a personality construct resulted in less later distress, and those with high optimism levels also suggested they would experience lower levels of psychological distress (Aspinwall & Taylor, 1992). Research has further shown that optimists are also more likely to take risks than pessimists (Tennen & Affleck, 1987), although in contrary to this the general consensus is that there is not enough evidence to prove this point (Scheier, Carver, & Bridges, 2001).

Hayes and Weathington (2007) state that further research should be designed to identify specific relationships between stress, optimism, job burnout, and life satisfaction as well as the possible health consequences.

Athletes versus Non-athletes

Research considering the physical benefits of optimism was initiated by Riker and Wong (1983) and reported optimists as more positive in psychological, physical, and overall well-being. In 1992, Long, Kahn, and Shultz utilized the LOT with a population of female business managers, they found that higher LOT scores were correlated with high job satisfaction, and lower anxiety. More recently it has been investigated as to whether the LOT-R measuring dispositional optimism is a predictor for weight loss and program attendance. The results reported from this study showed that despite previous research showing dispositional optimism as being associated with health related

variables, in this case no significant associations were identified with attendance and weight loss in the obese population (Fontaine & Cheskin, 1999). Research has further identified that optimism is a predictor and benefit to health when measured in various ways; doctor visits, successful rehabilitation, and survival time after a heart attack (Peterson & Bossio, 2001).

Men versus Women

The way in which men and women perceive social support has been proven to be different. Social support is ultimately more important to women and their well-being, as well as being more influential on a woman's interpersonal relationships (Prinstein et al., 2005). Furthermore it has been suggested that important family and social relationships can act as a "buffer" against negative life stress (Chong, Huan, Yeo, Ang, 2006).

Research concerning gender and optimism has shown that in many cases there are no significant differences in the specific populations investigated. For example one study examining dispositional optimism levels and their intention to utilize vaccines for disease prevention found that there were no significant differences between gender and the level of optimism (Lai, & Cheng, 2004). In another study investigating the effect of optimism on health again no significant differences were found between gender and optimism in college students in the United States and China (Song, 2003). However Schweizer and Schneider (1997) actually concluded that men reported high social optimism than women. In agreement with this Dejoy (1992) in his study concerning the driving of vehicles concluded that men perceived accidents as less likely to occur and if they did then the incident would be less serious than how women perceived such a situation.

Dejoy (1992) further reported that women were less optimistic when comparing themselves to other drivers.

Life Stress

The history concerning stress and its definition has been a rollercoaster of research and explanations striving to gain an accurate statement. For the purpose of this study stress will be defined as "a physical, mental, or emotional reaction resulting from an individual's response to environmental tensions, conflicts, pressures, and similar stimuli" (Fontana & Abouserie, 1993). The justification for studying the topic of stress lies primarily in the adverse effects that can result from differing levels of stress in different populations. Stress can ultimately be caused by multiple sources, specifically in sport. Santomier (1983) theorizes that the nature of sport can produce a stress reaction by affecting individual's ability to control their environment, disrupting and endangering individual's ability to achieve their goals and values, and by creating uncertainty about the maintenance of an individual's identity and ability to physically survive. Collegiate athletes specifically experience the pressure to perform both academically and physically in their sport. Ingham (1975) theorized with reference to his performance principle, that this focus on performance and success in sport places increased demands on athletes. For college student-athletes there are additional factors that create further stressors.

Coping with and preventing stress is essential due to the potential adverse affects. A study investigating optimism and stress in the workplace suggests that stress can be prevented by reducing workload and providing necessary resources (Hayes & Weathington, 2007). College students however do not always have complete control over their workload, or over the resources available to them. This suggests that perhaps stress

management is a more realistic target. In terms of the study concerning the workplace, optimism, and stress the importance of identifying sources of stress and utilizing management and coping strategies is highlighted (Hayes & Weathington, 2007). Powers, Cramer, and Grubka (2007) concluded that sub-factors of life stress, daily hassles, and major life events correlate with negative affective states and depressive symptoms. It is further suggested that stress can result in burnout and that by individuals addressing how they react to stressful situations they can help alleviate the problems the are experiencing (Hayes & Weathington, 2007).

The type of stress has also been highlighted in research as a point of interest. It has been concluded when studying the effects of stress that life stress is associated with negative affect, but not positive affect (Powers, Cramer, & Grubka, 2007). This research concerning life stress has identified that this correlation with negative affect is likely due to the focus on negative events in stress measures, eustress and distress are not separated (Powers, Cramer, Grubka, 2007). In terms of this investigation we hypothesize that high-level optimistic athletes will experience less life stress than high-level optimistic non-athletes. We can refer back to this research which suggests that athletes may experience stress, but this stress is likely to have positive affects for example success in their sport and membership of a team providing a support group. Life stress has been proven to be directly associated with maladaptive coping behaviors and increased illness and disease, and the levels of stress experienced by college students has been increasing significantly over the past decades (Sax, 1997).

Psychometric Tests

The psychometric tests to be utilized for this study are the Life Orientation Test-Revised (LOT-R) developed by Scheier and Carver (1983) and the Undergraduate Stress Questionnaire (USQ) developed by Crandall, Preisler, & Aussprung, (1992). The LOT-R measures the dimensions of optimism and pessimism and the USQ measures life stress.

Concerning the measurement of optimism and pessimism this paper will discuss the measures available for this purpose. One such measure is a content analysis of verbatim explanations technique, also named the CAVE technique. This measure identifies individuals as optimists or pessimists by providing coding that explains causes for internality, stability, and globality (Whalen, Metzler, Czech, & Joyner, 2007). An alternative method is the Attributional Style Questionnaire (ASQ), utilized to consistently and specifically measure individual's explanations of life events, allowing their optimism levels to be operationalized globally (Seligman, et al. 1979).

The Life Orientation Test-Revised (LOT-R) is the most commonly used tool, which can either be utilized as a bipolar dimensional or unidimensional measure. It was developed based on the theory that individuals have stable personality constructs, which is where individual differences stem from (Scheier & Carver, 1985). In comparison to other measures the LOT-R identifies with generalized expectancies in contrast to more specific expectancies (Steed, 2002). The LOT-R consists of eight coded items and four items primarily to disguise the purpose of the measure. The items include half statements worded optimistically and half worded pessimistically. For example, the optimistic statements could be worded as follows; "I expect good things to happen to me". An example of a pessimistic statement may be; "I hardly ever expect things to go my way."

A five-point Likert scale is used with respondents deciding as to what extent they agree with the statement. High scores when summed together suggest optimistic orientation, and low scores suggest a pessimistic orientation (Scheier & Carver, 1993). There has been some debate as to whether the LOT-R should be utilized as unidemensional scale or as a two-factor model. Despite findings following a confirmatory factor analysis (CFA) that data reported a two-factor model to fit slightly better than a unidimensional model Scheier and Carver argued for the measure to be used unidimensionally due to all items loading by at least .5 on the unrotated factor (Scheier & Carver, 1985; Whalen, Metzler, Czech, & Joyner, 2007). Therefore this will be the approach taken for this research study.

Additional Review of Literature References

Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology, 65*, 989-1003.

Chong, W. H., Huan, V. S., Yeo, L. S. (2006). Peer, and school support and psychological adjustment: The mediating role of dispositional optimism. *Current Psychology: Developmental Learning, Personality, Social, 25*(3), 212-228.

Czech, D. R., Burke, K. L., Hardy, C. J., & Joyner, A. B. (2002). An explanatory investigation of optimism, pessimism and sport orientation among NCAA division I college athletes. *International Sports Journal, 6*(2), 136-145.

Dejoy, D. M. (1992). An examination of gender differences in traffic accident risk perception. *Accident Annual Preview, 24*, 237-246.

Domino, B., & Conway, D. W. (2001). Optimism and pessimism from a historical perspective. In E. C. Chang (Ed.). Optimism and pessimism: Implications for theory, research, and practice. Washington, DC: American Psychological Association.

Fontaine, K. R., & Cheskin, L. J. (1999). Optimism and obesity treatment outcomes. *Journal of Clinical Psychology*, *55*(1), 141-143.

Fontana, D. & Abouserie, R. (1993). Stress levels, gender, and personality factors in teachers. *British Journal of Educational Psychology, 63*(2), 261-270.

Hayes, C. T., & Weathington, B. L. (2007). Optimism, stress, life satisfaction, and job burnout in restaurant managers. *Journal of Psychology, 141*(6), 565-579.

Ingham, A. G. (1975). Occupational subcultures in the world of work. In D. W. Ball & J. W. Low (Eds), *Sport and social order: Contributions to the sociology of sport*. Menlo Park, Calif: Addison-Wesley.

Lai, J. C. L., & Cheng, S. T. (2004). Health beliefs, optimism, and health-related decisions: A study with Hong Kong Chinese. *International Journal of Psychology, 39,* 179-189.

Long, B. C., Kahn, S. E., & Shultz, R. W. (1992). Causal model of stress and coping: Women in management. *Journal of Counseling Psychology, 39,* 227-239.

Peterson, C., & Bossio, L. M. (2001). Optimism and physical well-being. *Optimism and pessimism: Implications for theory, research, and practice* (pp.127-145). Washington, DC: American Psychological Association.

Powers, D. V., & Cramer, R. J., & Grubka, J. M. (2007). Spirituality, life stress, and affective well-being. *Journal of Psychology and Theology, 35*(3), 235-243.

Prinstein, M. J., Borelli, J. L., Cheah, C. S. I., & Simon, V. A. (2005). Adolescent girls' interpersonal vulnerability to depressive symptoms: a longitudinal examination of reassurance seeking and peer relationships. *Journal of Abnormal Psychology, 114,* 676-688.

Riker, G. T. & Wong, P. T. P. (1983). The salutary effects of personal optimism and meaningful on the physical and psychological well-being if the elderly. Paper presented at the 29th Annual Meeting of the Western Gerontological Society, Albuquerque, NM.

Schweizer, K., & Schneider, R. (1997). Social optimism as generalized expectancy of a positive outcome. *Personality and Individual Differences, 22,* 317-325.

Scheier, M. F., Carver, C. S. (1987). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.

Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical wellbeing: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*, 201-228.

Song, L. Z. (2003). *Relations between optimism, stress and health in Chinese and American students*. Unpublished doctoral dissertation, The University of Arizona, Arizona.

Steed, L. G. (2002). A psychometric comparison of four measures of hope and optimism. *Educational and Psychological Measurement, 62*(3), 466-482.

APPENDIX C

INSTRUMENTATION

DEMOGRAPHIC QUESTIONNAIRE

Participant Code #:

Please circle the following:

1) Athletic Status:

Collegiate Athlete Non-Collegiate Athlete

If a collegiate athlete, what sport do you play_____

2) School Classification:

Freshman Sophomore Junior Senior

3) Gender

Male Female

4) Age: _____

LIFE ORIENTATION TEST-REVISED

Please be honest and as accurate as you can throughout this questionnaire. Try not to let your response to one statement influence your response to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

SA = Strongly Agree
A = Agree
Neither = Neither Agree or Disagree
D = Disagree
SD = Strongly Disagree

1.	In uncertain times, I usually expect the best.	SA	A	Neither	D	SD
2.	It's easy for me to relax.	SA	A	Neither	D	SD
3.	If something can go wrong for me, it will.	SA	A	Neither	D	SD
4.	I'm always optimistic about my future.	SA	A	Neither	D	SD
5.	I enjoy my friends a lot.	SA	A	Neither	D	SD
6.	It's important for me to keep busy.	SA	A	Neither	D	SD
7.	I hardly ever expect things to go my way.	SA	A	Neither	D	SD
8.	I don't get upset too easily.	SA	A	Neither	D	SD
9.	I rarely count on good things happening to me.	SA	A	Neither	D	SD
10.	Overall, I expect more good things to happen to me than bad.	SA	A	Neither	D	SD

Undergraduate Stress Questionnaire (USQ)

Please check the appropriate stressors in your life that have affected you during the past semester.

____ 1. Death (family member or friend)
____ 2. Had a lot of tests
____ 3. It's finals week
____ 4. Applying to graduate school
____ 5. Victim of a crime
____ 6. Assignments in all classes due the same day
____ 7. Breaking up with boyfriend/girlfriend
____ 8. Found out boyfriend/girlfriend cheated on you
____ 9. Lots of deadlines to meet
____10. Property stolen
____ 11. You have a hard upcoming week
____ 12. Went into a test unprepared
____ 13. Lost something (especially wallet)
____ 14. Death of a pet
____ 15. Did worse than expected on test
____ 16. Had an interview
____ 17. Had projects, research papers due
____ 18. Did badly on a test
____ 19. Parents getting a divorce
____ 20. Dependent on other people
____ 21. Having roommate conflicts
____ 22. Car/bike broke down, flat tire
____ 23. Got a traffic ticket
____ 24. Missed your period and waiting
____ 25. Thoughts about future
____ 26. Lack of money
____ 27. Dealt with incompetence at the Register's Office
____ 28. Thought about unfinished work
____29. No sleep
____ 30. Sick, injury
____ 31. Had a class presentation
____ 32. Applying for a job
____ 33. Fought with boyfriend/girlfriend
____ 34. Working while in school
____ 35. Arguments, conflicts of values with friends
____ 36. Bothered by having no social support of family
____ 37. Performed poorly at a task
____ 38. Can't finish everything you needed to do
____ 39. Heard bad news
____ 40. Had confrontation with an authority figure
____ 41. Maintaining a long-distance boyfriend/girlfriend

____ 42. Crammed for a test
____ 43. Feel unorganized
____ 44. Trying to decide on your major
____ 45. Feel isolated
____ 46. Parents controlling with money
____ 47. Couldn't find a parking space
____ 48. Noise disturbed you while trying to study
____ 49. Someone borrowed something without permission
____ 50. Had to ask for money
____ 51. Ran out of toner while printing
____ 52. Erratic schedule
____ 53. Can't understand your professor
____ 54. Trying to get into your major or college
____ 55. Registration for classes
____ 56. Stayed up late writing a paper
____ 57. Someone you expected to call did not
____ 58. Someone broke a promise
____ 59. Can't concentrate
____ 60. Someone did a "pet peeve" of yours
____ 61. Living with boyfriend/girlfriend
____ 62. Felt the need for transportation
____ 63. Bad haircut today
____ 64. Job requirements changed
____ 65. No time to eat
____ 66. Felt some peer pressure
____ 67. You have a hangover
____ 68. Problems with your computer
____ 69. Problem getting home form bar when drunk
____ 70. Used a fake ID
____ 71. No sex in a while
____ 72. Someone cut ahead of you in line
____ 73. Checkbook didn't balance
____ 74. Visit from a relative and entertaining them
____ 75. Decision to have sex on your mind
____ 76. Spoke with a professor
____ 77. Change of environment (new doctor, dentist, etc)
____ 78. Exposed to upsetting TV show, book, or movie
____ 79. Got to class late
____ 80. Holiday
____ 81. Sat through a boring class
____ 82. Favorite sporting team lost

Source: Crandall, C. S., Preisler, J. J., & Aussprung, J. (1992). Measuring life event stress in the lives of college students: The undergraduate stress questionnaire. Journal of Behavioral Medicine, 15, 627-662.

APPENDIX D

E-MAIL MATERIALS

Hi NAME,

My name is Elly Shearman and I am a masters student studying sport psychology at the Georgia Southern University. I am working on my thesis and am investigating optimism and life stress levels in collegiate and non-collegiate athletes. To complete this project I need as many NCAA Division I student-athletes as possible to complete a short, 5 minute survey. I would really appreciate it if you could help me out by forwarding this e-mail with the link to the student-athletes enrolled in your school. If you are willing to help me, please delete this portion of the email (to the SUBJECT LINE point) and change the subject of the email to "Short Research Survey", and send this email to your student-athletes. The scales measure optimism and life stress. If the student-athlete has in depth questions about their results and you do not feel comfortable answering the questions please instruct them contact the Mental Edge Training Facility at Georgia Southern University (sppsylab@georgiasouthern.edu), Dr. Daniel R. Czech (drczech@georgiasouthern.edu), or Dr. Jonathan N. Metzler (jmetzler@georgiasouthern.edu). Thank you in advance for your time and efforts, it is entirely appreciated. Please do not hesitate to ask any questions.

Sincerely,

Elly Shearman (ATC)

SUBJECT LINE: Short Research Survey

Hello!

My name is Elly Shearman and I am a graduate student in sport psychology at the Georgia Southern University. I am in the process of my thesis and am studying optimism and life stress. For this I need the assistance of both student athletes and non-student athletes to fill out a very quick 5 minute online survey. All information will be completely anonymous. Participation is completely voluntary and so if you wish to stop you may. A passive consent form is attached if you wish to view it prior to participation. I am trying to gain all participants this week, so if you have 5 minutes I would be entirely grateful for your help in this process.

Thank you so much

Elly Shearman

COLLEGE OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF HEALTH & KINESIOLOGY

INFORMED PASSIVE CONSENT FORM

Title of Project: A comparison of optimism and life stress among NCAA Division I collegiate athletes and non-athletes

1. **Principal Investigator:** Eleanor Shearman, Graduate Student, Department of Health & Kinesiology

2. **Purpose of the Study:** The purpose of this research study is to examine optimism and stress levels in NCAA Division I collegiate athletes and non-athletes.

3. **Procedures to be followed:** You will be asked to answer 96 questions on a survey. Non-collegiate athletes will be approached by an introduction from the researchers in health and kinesiology undergraduate classes and explaining the purpose and what the study entails. Athletes will be approached by the researcher at the beginning of practices and again the purpose will be explained, as well as what the study entails.

4. **Discomforts and Risks:** There is minimal risk for physical or emotional harm should you choose to participate. You may experience some minor embarrassment or discomfort while completing the questionnaires. No other risks are known.

5. **Benefits:** You might learn more about yourself by participating in this study. This research might provide a better understanding of the nature of optimism and stress in different populations. If athletes are interested in finding out their results they may contact the researcher (Eleanor Shearman) on; 731-513-4074, or e-mail the researcher at; eleanorshearman1982@hotmail.com. Results should be available within 2 weeks of the data collection.

6. **Duration:** It will take about 15 minutes to complete the questions.

7. **Statement of Confidentiality:** Only the person in charge, and his/her assistants, will know your identity. If this research is published, no information that would identify you will be written.

8. **Right to Ask Questions:** You can ask questions about the research. The person in charge will answer your questions. Contact Eleanor Shearman at (731) 514-4074 with questions. If you have questions about your rights as a research participant, contact the Office of Research Services and Sponsored Programs by email at oversight@georgiasouthern.edu or phone at (912) 681-5465.

9. **Compensation:** There is no compensation provided for participating in this study.

10. **Voluntary Participation:** You do not have to participate in this research. You can end your participation at any time by telling the person in charge. You do not have to answer any questions you do not want to answer.

11. **Penalty:** There is no penalty for deciding not to participate in this study. You may decide at any time you don't want to participate further and may simply withdraw.

12. You must be 18 years of age or older to consent to participate in this research study. Completion and return of the questionnaire materials implies that you have read the information in this form and consent to participate in the research.

Please keep this form for your records or future reference.

APPENDIX E

IRB DOCUMENTATION

Georgia Southern University
Office of Research Services & Sponsored Programs

Institutional Review Board (IRB)

Phone: 912-681-0843
Fax: 912-681-0719 IRB@GeorgiaSouthern.edu
Veazey Hall 2021
P.O. Box 8005
Statesboro, GA 30460

To: Eleanor Shearman
1400 Statesboro Circle E165
Statesboro, GA 30458

Daniel Czech
P.O. Box 08076

cc: Charles E. Patterson
Associate Vice President for Research

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Date: February 15, 2008

Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered: **H08161**, and titled **"Examining a Comparison of Optimism and Life Stress Among NCAA Division I Athletes"**, it appears that your research involves activities that do not require approval by the Institutional Review Board according to federal guidelines.

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt under the following exemption category(s):

☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (I) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (II) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation**.**

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research is exempt from IRB approval. **You may proceed with the proposed research.**

Sincerely,

Eleanor Haynes
Compliance Officer

Research Compliance Consolidated Cover Page

Georgia Southern University

<u>For electronic submission</u>: Your proposal narrative should already be completed and saved. Next complete cover page and "Save As" a word document to your computer or disk named "Coverpage_Year_Month_Date_lastname, First initial.doc". Then open and complete Informed Consent Checklist.

Application for Research Approval

Investigator Information:		
Name of Principal Investigator: Eleanor Shearman	Email: eleanorshearman1982@hotmail.com	**For Office Use Only:** Protocol ID: _____ Date Received:
Phone: 731-514-4074	Address: 1400 Statesboro Place Circle E165, Statesboro, Georgia, 30458	
Department: Health & Kinesiology		
Name(s) of Co-Investigators:	Title of Co-Investigator(s):	
Personnel and/or Institutions Outside of Georgia Southern University involved in this research: None		
Project Information:		
Title: Examining a comparison of optimism and life stress among NCAA Division I athletes.		
Brief (less than 50 words) Project Summary: The purpose of this study is to examine optimism and stress levels in NCAA Division I collegiate athletes. The project will consist of three questionnaires; demographic questionnaire, the Undergraduate Stress Questionnaire (USQ), and the Life Orientation Test – Revised (LOT-R). I will use 3 independent T-tests to analyze this data.		
Compliance Information:		
Please indicate which of the following will be used in your research:		
☒ Human Subjects (Complete *Section A: Human Subjects* below) ☐ Care and Use of Vertebrate Animals (Complete *Section B: Care and Use of Vertebrate Animals* below) ☐ Biohazards (Complete *Section C: Biohazards* below)		
Section A: Human Subjects		

Number of Subjects: 200	Project Start Date: Feb. 20 2008 Project End Date: (no more than 1 year)
*Date of IRB education completion: **(attach copy of completion certificate)**	
Purpose of Research: ☒ For use in thesis/dissertation ☐ Completion of a class project ☐ Publication (journal, book, etc.) ☐ Poster/presentation to a scientific audience ☐ Results will **not** be published ☐ Other	*Please indicate if the following are included in the study***:** ☒ Informed Consent Document ☐ Greater than minimal risk ☐ Research Involving Minors ☐ Deception ☒ Generalizable knowledge (results are intended to be published) ☐ Survey Research ☐ At Risk Populations (prisoners, children, pregnant women, etc) ☐ Video or Audio Tapes ☐ Medical Procedures, including exercise, administering drugs/dietary supplements, and other procedures
Check one: ☒ Student ☐Faculty/Staff ***If student project please complete advisor's information below:***	
Advisor's Name: Dr. Daniel Czech	Advisor's E-mail: drczech@georgiasouthern.edu
Advisor's Phone: 912-681-5267	Advisor's Department: Health & Kinesiology P.O. Box:
Signature of Applicant: X	Date:
Signature of Advisor (if student): X	Date:
Section B: Care and Use of Vertebrate Animals	
Project Start Date: Project End Date: (no more than 1 year)	
Purpose of use/care of animals:	*Please indicate if the following are included in the study***:**

☐ Research ☐ Teaching ☐ Exhibition ☐ Display	☐ Physical intervention with vertebrate animals ☐ Housing of vertebrate animals ☐ Euthanasia of vertebrate animals ☐ Use of sedation, analgesia, or anesthesia ☐ Surgery ☐ Farm animals for biomedical research (e.g., diseases, organs, etc.) ☐ Farm animals for agricultural research (e.g., food/fiber production, etc.) ☐ Observation of vertebrate animals in their natural setting

Check one: ☐Student ☐Faculty/Staff ***If student project please complete advisor's information below*:**

Advisor's Name:	Advisor's E-mail:
Advisor's Phone:	Advisor's Department: P.O. Box:

Signature of Applicant: Date:

X

Signature of Advisor(if student)/Dept. Chair(if faculty): Date:

X

Section C: Biohazards

Project Start Date: Project End Date: (no more than 3 years)

Biosafety Level: ☐ Exempt ☐ BSL 1 ☐ BSL 2	*Please indicate if the following are included in the study*: ☐ Use of rDNA

Signature of Applicant ***(Faculty ONLY)****:* Date:

X

Please submit this protocol electronically to the Georgia Southern University Compliance Office, c/o The Office of Research Services & Sponsored Programs, P.O. Box 8005. The application should contain all required documents specific to the committee to which you are applying. Questions or comments can be directed to (912)681-0843 or ovrsight@georgiasouthern.edu

COLLEGE OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF HEALTH & KINESIOLOGY

INFORMED PASSIVE CONSENT FORM

Title of Project: A comparison of optimism and life stress among NCAA Division I collegiate athletes and non-athletes

13. **Principal Investigator:** Eleanor Shearman, Graduate Student, Department of Health & Kinesiology

14. **Purpose of the Study:** The purpose of this research study is to examine optimism and stress levels in NCAA Division I collegiate athletes and non-athletes.

15. **Procedures to be followed:** You will be asked to answer 96 questions on a survey. Non-collegiate athletes will be approached by an introduction from the researchers in health and kinesiology undergraduate classes and explaining the purpose and what the study entails. Athletes will be approached by the researcher at the beginning of practices and again the purpose will be explained, as well as what the study entails.

16. **Discomforts and Risks:** There is minimal risk for physical or emotional harm should you choose to participate. You may experience some minor embarrassment or discomfort while completing the questionnaires. No other risks are known.

17. **Benefits:** You might learn more about yourself by participating in this study. This research might provide a better understanding of the nature of optimism and stress in different populations. If athletes are interested in finding out their results they may contact the researcher (Eleanor Shearman) on; 731-513-4074, or e-mail the researcher at; eleanorshearman1982@hotmail.com. Results should be available within 2 weeks of the data collection.

18. **Duration:** It will take about 15 minutes to complete the questions.

19. **Statement of Confidentiality:** Only the person in charge, and his/her assistants, will know your identity. If this research is published, no information that would identify you will be written.

20. **Right to Ask Questions:** You can ask questions about the research. The person in charge will answer your questions. Contact Eleanor Shearman at (731) 514-4074 with questions. If you have questions about your rights as a research participant, contact the Office of Research Services and Sponsored Programs by email at oversight@georgiasouthern.edu or phone at (912) 681-5465.

21. **Compensation:** There is no compensation provided for participating in this study.

22. **Voluntary Participation:** You do not have to participate in this research. You can end your participation at any time by telling the person in charge. You do not have to answer any questions you do not want to answer.

23. **Penalty:** There is no penalty for deciding not to participate in this study. You may decide at any time you don't want to participate further and may simply withdraw.

24. You must be 18 years of age or older to consent to participate in this research study. Completion and return of the questionnaire materials implies that you have read the information in this form and consent to participate in the research.

Please keep this form for your records or future reference.

<u>For electronic submission:</u> First complete the proposal narrative in entirety and "Save As" a word document to your computer or disk named "propnarr_Year_Month_Date_lastname, First initial.doc". Then open and complete Cover page.

Please respond to the following as briefly as possible, but keep in mind that your responses will affect the actions of the Board. Clearly label your responses in sections that correspond to the specific information requested. You may insert your responses in each section on this page, leaving a space between the question and your answers. Narrative should not exceed 4 pages.

The application should be submitted electronically or 2 duplicate copies sent to the Office of Research Services and Sponsored Programs, at P. O. Box 8005, Statesboro, GA 30460, and should contain, in this order: <u>a signed cover page</u>, <u>the informed consent checklist page</u>, <u>the project proposal narrative</u>, and <u>the informed consent that you will use in your project</u>. Additional information, such as copies of survey instruments, advertisements, or any instruments used to interact with participants should be attached at the end of the proposal clearly designated as an Appendix.

Personnel. Please list any individuals who will be participating in the research beyond the PI and advisor. Also please detail the experience, level of involvement in the process and the access to information that each may have.

The only individuals to be involved in the research process will be the researcher and the advisor, Dr. Daniel Czech. The level of involvement it will entail will be to explain the measures and introduce the purpose of the study to the participants. Silence whilst the questionnaires are being completed will also be instilled by the researcher.

Purpose. 1. Briefly describe in one or two sentences the purpose of your research. 2. What questions are you trying to answer in this experiment? Please include your hypothesis in this section. The jurisdiction of the IRB requires that we ensure the appropriateness of research. It is unethical to put participants at risk without the possibility of sound scientific result. For this reason, you should be very clear on how participants and others will benefit from knowledge gained in this project. 3. What current literature have you reviewed regarding this topic of research? How does it help you to frame the hypothesis and research you will be doing?

The proposed research is designed to examine and compare optimism, and stress levels among undergraduate Division I collegiate athletes and non-athletes. The study will also make comparisons between high optimists and low optimists, and males and females. There has been little association made in previous research concerning stress, personality constructs, and collegiate athletes. Such research could provide vital information for athletic advisors working to mentor college athletes as well as coaches and sport psychology consultants to reduce stress levels in athletes that may affect performance levels. It is also hoped that people can recognize the benefits of being an athlete and competing and participating in sport and physical activity with the growing problem on obesity in the western world.

With this information the following research question is proposed; "Do high optimists differ significantly from low optimists in life stress scores in collegiate athletes?" This research question allows for the following hypotheses to be stated;

1) High optimistic athletes will have significantly lower levels of life stress than low optimistic athletes;

2) High optimistic athletes will have significantly lower levels of life stress than high optimistic non-athletes;

3) High optimistic males will have significantly lower levels of life stress than high optimistic females.

Peterson and Bossio (1991) concluded that optimists are more self-confident and have higher levels of self-efficacy in their ability to perform well and achieve goals. Chang (1998) provides us with knowledge concerning the benefits of optimism, which include lower levels of stress and lower trait anxiety. Chang (1998) concludes that his findings support Beck's (1967) cognitive therapy model. This cognitive therapy model highlights the roles of optimism and pessimism on psychological distress (Chang, 1998).

The benefits of optimism include increased motivation, and superior achievement in various domains (Schulman, 1999). Optimists will differ in their approach to life and perceptions of difficult situations. The optimist is more likely to see adversity as a challenge, and to have the ability to create opportunities and find solutions from initial problems, give more effort to improve skills, maintain levels of confidence and persistence, as well as having the ability to rebound quickly after a setback (Schulman, 1999). If an individual has the perception that they are capable to complete a task successfully then they are more likely to maintain their levels of effort and commitment to the activity (Scheier, & Carver, 1987).

Pessimism has been correlated with negative psychological outcomes and optimism correlated with more positive psychological outcomes (Chang, 2002). This prior research suggests that optimists and pessimists will react differently to the outcome of competition, which in turn influences their following performance. Athletes demonstrate explanatory style sport optimism by attributing negative events in sport to external, temporary, and specific causes (Whalen, Metzler, Czech, Joyner, 2007).

Further research has shown that stress occurs in sport when athletes have to deal with demands and situations that they identify as exceeding their abilities and that threaten their chances of achieving their goals (Santomier, 2001). Optimistic students have better coping mechanisms to deal with stress related to academics then the more pessimistic students (Huan, Yeo, Ang, & Chong, 2006).

In adult populations various cognitive factors interact with stress levels (Ingram, Miranda, & Segal, 1998). Past research has further concluded that positive automatic thoughts can be influential in reducing stress levels in adults and the psychological symptoms that can potentially follow (Lightsey, 1994; Alloy, & Clements, 1992). Various studies have investigated the interaction between optimism levels and stress, Bromberger and Matthews (1996) were able to predict depressive symptoms from the optimism-pessimism and stress variables. Negative outcomes associated with pessimism can increase the influence of stress on an individual's ability to adjust in a stressful situation (i.e. the life of a collegiate athlete) (Chang, 2002).

Furthermore appropriate cognitive adaptations can result in impact mental health positively (Taylor, & Brown, 1988). Cognitive adaptations were associated with adaptations made when individuals experience chronic illness, however Taylor and

Brown (1988) have developed this concept to state that optimism, perceived control, and positive self-perceptions accumulatively coined as “positive illusions” can promote well being. To explain this further the Motivational Model of Cognitive Adaptation was developed. This model contributes the theory that having self-determined motivation will be most beneficial for mental health, and those who are most likely to foster this self-determined motivation are those who believe themselves to have control over their lives, those who think of themselves with positive regard, and those who approach the future with optimism (Ratelle, Vallerand, Chantal, Provencher, 2004). A more recent study concerning the cognitive adaptation theory concluded that in patients experiencing cancer treatment levels of their internal health-related locus of control, optimism, and self-esteem all decreased during treatments (Pinquart, Frohlick, & Silbereisen, 2006).

Outcome. Please state what results you expect to achieve? Who will benefit from this study? How will the participants benefit (if at all). Remember that the participants do not necessarily have to benefit directly. The results of your study may have broadly stated outcomes for a large number of people or society in general.

The proposed research hopes to examine results concerning stress and the personality constructs, and optimism in different populations to ultimately highlight whether high optimists perceive less stress than low optimists. By identifying populations that are vulnerable to higher stress levels, the adverse effects of stress, and associated anxiety that interventions can be designed to prevent excessive stress levels and pessimistic tendencies in our collegiate athletes. This information will provide a useful tool for sport psychology consultants and coaches who work directly with collegiate athletes. The participants will not benefit directly, but if the results agree with the stated hypotheses it will highlight to the public that sport and optimism can able individuals to deal with adversity and to develop successful coping strategies. This study is a small scale study and therefore great generalizations are not possible across larger populations, but results from this study may encourage larger scale research.

Describe your subjects. Give number of participants, approximate ages, and gender requirements (if any).
Describe how they will be recruited, how data will be collected (i.e., will names or social security numbers be collected, or will there be any other identification process used that might jeopardize confidentiality?), and/or describe any inducement (payment, etc.) that will be used to recruit subjects. Please use this section to justify how limits and inclusions to the population are going to be used and how they might affect the result (in general).

This study will involve 100 athletes and 100 non-athletes participants, with equal representation of males and females at a NCAA Division I university in the southeastern region of the United States. The age of the participants will range between 18 and 23, with the sample being a convenience sample. The athletes participating in this study will be members of the following sports teams; men’s and women’s tennis, baseball, softball, volleyball, men’s and women’s soccer, football, golf, swimming and diving, and women’s track and field. The participants will be from all school classifications and from a range of ethnic and cultural backgrounds. Participants will only be identified by a number on their paper to allow them to find out results if they care to, but if not all information will be locked in private and will be completely confidential.

Delimitations:

3) This study will be delimited to Division I athletes, both male and female between the ages of 18 and 23 playing the sports of men's soccer, women's soccer, baseball, softball, men's and women's basketball, men's golf, women's swimming and diving, volleyball, women's track and field, and football.
4) A demographic questionnaire was administered to the participants to gain relevant demographic information. The study will also administer the Life Orientation Test-Revised (Scheier, Carver, & Bridges, 1994), and the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992).

Limitations:

6) This study will be limited to collegiate athletes at one south-eastern university, thus a larger scale study would need to be replicated to allow for generalizations.
7) Athletes will be both in-season and out of season, therefore we cannot assume that stress levels will be consistent year round and further studies performed on a larger scale will need to be more specific.
8) There will be no control over different coaching styles in differing teams, and therefore no control over the intensity level of the specific sports program. There is no guarantee that the athletes from different teams are being put under the same stressors. Different sports also have differing lengths of season and varying practice schedules.
9) The research will be limited to athletes competing within the Southern Conference level of competition in their varying sports, and therefore cannot be generalized to all athletes at the Division I level.
10) There is a risk that the participants may answer the questions to socially conform or not comprehend the questions, and that they may show disinterest in the topic resulting in inaccurate completion of the forms/measures.

Assumptions:

4) It will be assumed that all participants will fill in the testing tools accurately and to the best of their ability and fully comprehend the wording of the questions.
5) It will be assumed that all participants will not socially conform when answering the testing inventories, and will not answer the questions as they believe they should.
6) By using such measures as the LOT-R, and USQ it is assumed due to previous use in research and reasonable levels of reliability and validity that this method of assessment and data collection will be valid and reliable.

Risk. Is there greater than minimal risk from physical, mental or social discomfort? Describe the risks and the steps taken to minimize them. Justify the risk undertaken by outlining any benefits that might result from the study, both on a participant and societal level. Even minor discomfort in answering questions on a survey may pose some risk to subjects. Carefully consider how the subjects will react and address ANY potential risks. Do not simply state that no risk exists, until you have carefully examined possible subject reactions.

This study will not open up any possible chance for the participants to be at risk. The only involvement required from the participants will be to attend the time and meeting place (a classroom setting) to fill out the demographic questionnaire, the Life Orientation Test-Revised (LOT-R), and the Undergraduate Stress Questionnaire (USQ).

Methodology (Procedures). Enumerate specifically what will you be doing in this study, what kind of experimental manipulations you will use, what kinds of questions or recording of behavior you will use. If appropriate, attach a questionnaire to each submitted copy of this proposal. Describe in detail any physical procedures you may be performing.

A specified meeting location will be arranged at the southeastern NCAA Division I university in a classroom setting in the Hanner Field House. Participants were informed that if they are under the age of 18 then their parents must be present to sign a separate consent paper. All participants will be separated to ensure no interference between them, and the researcher gave an explanation of the procedure prior to the questionnaires, (the demographics, the LOT-R, and the USQ) being given to the subjects. The participants were briefed on the purpose of the study then the informed consent forms will be read, and any questions answered before the subjects are asked to sign the informed consent form. It will be explained that participation will be confidential and no data will be associated with any individual. Participants will then be asked to complete the forms to the best of their ability. The order that they will be asked to fill them out will be as follows; Demographic questionnaire, the Life Orientation Questionnaire-Revised (Scheier, Carver, & Bridges, 1994), and The Undergraduate Stress Questionnaire (USQ) (Crandall, Preisler, Aussprung, 1992). The participants will be asked to answer all questions truthfully and to the best of their ability. Once all inventories are completed the researchers will inform the participants that if they wish to view their individual results they may mark the front page of the package. The completed inventories will be scored and kept in a private and secure room in the Hollis building at Georgia Southern University.

The Life Orientation Test-Revised (LOT-R) (Scheier, Carver, & Bridges, 1994) will be used to measure optimism and the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992) will be utilized to measure stress in undergraduates. A personal statement questionnaire will also be included in the packet to gain information on demographics including age, gender, race, school classification, and type of sport played at the collegiate level.

The original design of the LOT-R was unidimensional, however more recent research concerning optimism and pessimism has suggested that in fact optimism and pessimism are independent variables (hummer, Dember, Melton, Howe, & Schefft, 1992). Thus this study will utilize the LOT-R by producing an overall score for optimism. The original test-retest reliability for the Life Orientation Test-Revised (LOT-R) has been shown as follows ($r = .68$, for a 4 week period), ($r = .60$, for a 12 month period), ($r = .56$, for a 24 month period), and ($r = .79$, for a 28 month period). Using Cronbach's alpha =.78 for internal reliability, and the test-retest reliability have been shown to be at adequate levels, in particular for the unidimensional scoring.

The design of the LOT-R incorporates 3 types of questions. These include 4 items that are not scored, 3 positive statements, and 3 negative statements. The subjects must respond to the statements by choosing their appropriate response using a Likert scale, with 5 possible choices. The scale ranges from "strongly agree" to "strongly disagree".

Stress in undergraduate college students will be measured using the Undergraduate Stress Questionnaire (Crandall, Preisler, & Aussprung, 1992). The

Undergraduate Stress Questionnaire (USQ) is a checklist of life events and has been proven to predict symptoms more reliably than various other measures of stress (Crandall, Preisler, & Aussprung, 1992). The USQ has be shown to have split-half reliability (.71) and with the use of the Spearman-Brown method the reliability is shown at .83 (Crandall, Preisler, & Aussprung, 1992). Internal consistency and test-retest reliability has also be proven to be acceptable for the USQ (Powers, Cramer, & Grubka, 2007), and it has further been shown to correlate negatively with mood, and positively with physical symptoms (Crandall, Preisler, & Aussprung, 1992). The USQ is an 83 item checklist based on life events they have experienced within the last 2 weeks, totaling up to give one final score of level of life stress (Powers, Cramer, & Grubka, 2007).

Special Conditions:

Research involving minors. Describe how the details of your study will be communicated to parents/guardians. If part of an in-school study (elementary, middle, or high school), describe how permission will be obtained from school officials/teachers, and indicate whether the study will be a part of the normal curriculum/school process. Please provide both *parental consent* letters and *child assent* letters (or processes for children too young to read).

All participants for this study will be aged eighteen or older (aged 18-23) so no parental consent forms will be required. However all participants will be required to sign a consent form to participate.

Deception. Describe the deception and how the subject will be debriefed. Briefly address the rationale for using deception. Be sure to review the *deception disclaimer* language required in the informed consent. Note: All research in which deception will be used is required to be reviewed by the full Board.

The participants will have a full description and explanation of the study prior to participation, however unless requested the participants will not be debriefed. There will be no deception involved in this research design.

Medical procedures. Describe your procedures, including safeguards. If appropriate, briefly describe the necessity for employing a medical procedure in this study. Be sure to review the *medical disclaimer* language required in the informed consent.

There are no relevant medical procedures necessary for this research study. The participants will be put at no risk at any point during the research, with all answers to the questionnaires kept entirely confidential.

Cover page checklist. Please provide additional information concerning these risk elements. If none, please state "none of the items listed on the cover page checklist apply." *Click here* to go to cover page for completion.

APPENDIX F

BIOGRAPHICAL SKETCH

Elly is originally from Bristol, England where her family still resides. Elly came to the United States in August 2001with a full tennis scholarship to play Division I tennis at the University of Tennessee-Martin. At the University of Tennessee-Martin Elly completed an undergraduate degree in athletic training with a minor in psychology. Elly's passion for sport and people led her to pursue a graduate assistantship in athletic training and complete a masters program in sport psychology. In fact it was the sport psychology aspect of Elly's A-level sports science program in England and her undergraduate class in sport psychology that really sparked her interest in the field of sport psychology. Prior to beginning her masters in 2006 Elly became certified by the National Athletic Training Association. Having had difficulty finding a Division I university with graduate assistantships open in athletic training and an applied sport psychology program she landed successfully at Georgia Southern University.

Elly has had many different opportunities at Georgia Southern University over the past two years academically in the research environment, and with the consultation aspect of her program as well as in the athletic training room. Elly has a passion for sport and the beneficial influences it can have on individuals. Elly has been able to work with both teams and individuals, in particular working with tennis players, which is an area she would like to pursue in the future. Elly has not only learned concerning her education, but also in terms of life skills and personal growth throughout the masters program here at Georgia Southern University.

Elly loves all aspects of all sports, and is a firm believer in team work and in a proactive work ethic. Elly is an active member of AASP (the Association for Applied Sport Psychology), NATA (the National Athletic Training Association), and Phi Kappa

Phi. Elly intends on pursuing her career either as a collegiate tennis coach, as an athletic trainer at the Division I level, and with either of these incorporate sport psychology consultations with athletes of all ages.