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Aggression as a Predictor of Burnout in Male and Female NCAA
Soccer Players

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BARRY UNIVERSITY
SCHOOL OF HUMAN PERFORMANCE AND LEISURE SCIENCES

AGGRESSION AS A PREDICTOR OF BURNOUT IN MALE AND FEMALE
NCAA SOCCER PLAYERS

BY

ANDREW J. SCOPA

A Thesis submitted to the
Department of Sport and Exercise Sciences
in partial fulfillment of the
requirements for the Degree of
Master of Science in
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with a specialization in
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Miami Shores, Florida,
2007

BARRY UNIVERSITY
MIAMI SHORES, FLORIDA

Date

To the Dean of the School of Human Performance and Leisure Sciences:

I am submitting herewith a thesis written by Andrew J. Scopa entitled "Aggression as a Predictor of Burnout in Male and Female NCAA Soccer Players." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science with a major in Movement Science with a specialization in Sport and Exercise Psychology.

Dr. Gualberto J. Cremades, Thesis Chair

We, members of the thesis committee,
have examined this thesis
and recommend its acceptance:

Accepted:

Chair, Department of Sport and Exercise Sciences

Accepted:

Dean, School of Human Performance and
Leisure Sciences

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ABSTRACT

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The purpose of this study was to examine if athletic aggression predicts athletic burnout in NCAA Division I, NCAA Division II, and Division III men's and women's soccer players, if NCAA men's soccer players are more aggressive than NCAA female soccer players, and if NCAA female soccer players are more prone to burnout than NCAA male soccer players. The participants completed three questionnaires: The Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980), The Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001), and The Aggression Inventory Revised (AI-R) (Gladue, 1991b). The first hypothesis stated that NCAA athletes who show higher levels of athletic aggression will be more prone to burnout in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results of a hierarchical regression found that athletic burnout was not predicted from athletic aggression. The second hypothesis stated that NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. A MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). The analysis revealed significant gender differences in aggression while follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression and physical aggression. The third hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. The second MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Results did reveal significant burnout differences among NCAA divisions with the

highest total means for the RA, E, and D subscales being in division I athletes. Follow-up univariate ANOVA showed significant differences with higher scores for the RA and D subscales for Division I athletes when compared to NCAA Division I and II. There were no significant differences found between any of the NCAA divisions in the E subscale.

Significant differences in burnout among NCAA divisions were also shown in post hoc Tukey analysis. In this analysis significant differences were found in the RA subscale when NCAA Division I was compared to NCAA division II and in the D subscale when NCAA Division I was compared to both NCAA Division II and III. There were no significant differences found between any of the NCAA Divisions in the E subscale. A similar study with a sample that has a balanced number of participants from each NCAA division may be beneficial and more conclusive. Results from the present study may have been affected by having a large number of NCAA Division I males and no NCAA Division I females in the sample. Furthermore it may also be beneficial to not only conduct studies that clearly distinguish between physical aggression and relational aggression but to conduct further research on relational aggression itself as the work on it has been limited.

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CHAPTER I

Introduction

Aggression in sport has been given several descriptions that all share characteristics of the following widely accepted definition; actions performed with the intent to physically or psychologically harm an opponent. These behaviors include those such as illegally hitting an opponent with a fist or a piece of equipment, or any action directed toward physically or psychologically tormenting opponents (Tucker & Parks, 2001). Salmivalli and Kaukiainen (2004) cite several studies (Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988; Salmivalli et al, 2000) that have argued that males are more prone to this type of aggression during competition than females, and that females are more prone to engaging in a type of aggression known as relational aggression than males. Crick, (1996, 1997), Crick and Grotpeter, (1995), Grotpeter and Crick, (1996), and Werner and Crick, (1999) stated that relational aggression involves behaviors that are focused on harming others through social isolation and damage to inter-personal relationships such as starting rumors about other individuals as cited by Storch, Werner, and Storch (2004). Results from a study by Maxwell (2004) are also consistent with the above mentioned (Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988; Salmivalli et al, 2000) findings about males and aggression. Maxwell (2004) examined the relationship between anger rumination (thinking obsessively over past experiences that have provoked a negative response of anger) and athlete aggression. The results showed a significant effect for gender indicating a higher level of reported physical aggression for male athletes compared with female athletes.

The present study examined the potential existence of a link between athletic aggression and burnout and in doing so considered the arousal level of an athlete when examining a link

between these two subjects. This physiological reaction and the fight or flight response may be what leads to an athlete committing an act of athletic aggression. The possibility exists that an athlete involved in repeated acts of athletic aggression may be more prone to burnout since they are experiencing repeated increase in arousal levels. Arousal is a physiological phenomenon that is connected with increases in heart rate, blood pressure, and respiration. Thase and Howland (1995) stated that if an individual perceives the stimulus that caused the arousal as a threat it will result in activation of the sympathetic division of the autonomic nervous system as cited by U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health and National Institute of Mental Health, (1999). The body will then react with increased stimulation of the adrenal medullae which sit on top of each kidney. When they are stimulated by the sympathetic nervous system they release large amounts of norepinephrine and epinephrine into the blood stream. These hormones are then carried to all the tissues of the body in order to make the organs of the body function as efficiently as possible during the fight or flight response. Such a large volume of these hormones is released at this time that they often stay in the blood stream five to 10 times as long as normal due to the time it takes to remove such vast quantities of them from the blood stream (Cox, 2002). Thus the body has to work harder on a physiological level and expend increased amounts of energy cleansing the blood stream of these hormones. This increased physiological workload could leave the athlete feeling physically exhausted which is one characteristic of burnout. This physical feeling of exhaustion may be due to the body having to work so much harder to remove the constantly high levels of norepinephrine and epinephrine that are released just before the fight or flight response which readies the athlete for aggressive behavior. This feeling of physical exhaustion could also lead an athlete to a mental state

associated with in burnout in which they feel the activity is no longer worth participating in. Maslach (1976) defined burnout as a characteristic where an individual experiences physical fatigue, carelessness, and a lack of desire which is usually a by-product of exposure to excessive stress. The stresses of sport wear an athlete down to the point where they feel that it is more beneficial to quit the sport than to continue to participate in it as cited by Lai and Wiggins, (2003).

Aggressive behavior in sports and what causes an athlete to exhibit such behavior will always be significant topics in the world of sports. When an athlete engages in aggressive behavior some potential explanations for his or her behavior are that he or she is not being coached properly, that the coach lacks proper control over his or her players, or that the player is not responding to the specific style of coaching used in his or her training. If this explanation is correct it suggests that coaching behavior will have a major impact on aggressive sports behavior. If there is a link between physiological arousal and athletic burnout perhaps it would not be out of the question to propose that coaching style could influence an athlete's level of arousal, aggression, or his or her path to burnout. While a study conducted by Sherman, Fuller, and Speed, (2000) does not address whether or not this is true it does show that there is a difference in the preferred coaching behaviors of men and women. In a study of gender comparisons of preferred coaching behaviors among Australian football, netball, and basketball players Sherman, Fuller, and Speed, (2000) found the only notable difference was that female athletes showed a slightly greater preference for democratic behavior and positive feedback from coaches than males. This partially supports similar findings by Chelladuari and Saleh (1978) and Terry (1984) that found that male athletes prefer a more autocratic coach and that female athletes prefer a more democratic coach. While coaching style will not be closely examined in the present study it is important to recognize that

a coach's behavior can potentially impact a player's behavior. Perhaps the gender differences in preferred leader behaviors listed above could explain why males and females are so different in the way they express their aggression. It may be due to observing this same aggressive behavior they believe is preferable in most of their male and female coaches. Coaching style will serve as the control variable but a link between coaching style, aggression, and athletic burnout will not be examined in the present study. However, the point that modeling of behaviors (Bandura, 1973, 1978) by coaches has a large impact on future behaviors of their players is important enough that its' mention was warranted.

This study will investigate whether athletes who show higher levels of aggression may be more prone to burnout than those with lower levels and if females are more prone to burnout. Since men are more prone to engaging in athletic aggression with an opponent during competition it may be counterintuitive to think that women would be more prone to burnout since they do not engage in this type of athletic aggression as much as men do. This was examined in a study by Caccese and Mayerberg (1984) which found that female coaches tended to feel more frustrated and emotionally drained from their jobs than male coaches. Caccese and Mayerberg (1984) also cite similar findings by Lai and Wiggins (2003) who found that female coaches had a lower sense of personal accomplishment. While studying the effects of emotional exhaustion Pastore and Judd (1993) also found that female coaches have a higher level of emotional exhaustion than male coaches. The female coaches in the Pastore and Judd (1993) study felt that more pressure was placed on them due to the high turnover rate from a social aspect than was placed on the male coaches as cited by Lai and Wiggins (2003). The fight or flight response may impact males and females in the same way physiologically but females who engage in athletic aggression may be more prone to burnout due to social factors. It is more

socially acceptable for a male to engage in athletic aggression with an opponent than it is for a female athlete. So the female athlete who does so is being worn down by being told by outside sources such as the media and non athletic female peers that she should not be engaging in such behavior as well as from the negative physiological effects of the fight or flight response. The possibility also exists that such a female athlete may also be engaged in relational aggression with those same opponents or even her own teammates off of the field. So relational aggression could cause the same flight or fight response as physical athletic aggression and the same negative effects that lead to burn out. This could also be compounded by the possibility that the same female athlete is affected greater mentally than her male counterpart because of all the factors listed above in the studies conducted by Caccese and Mayerberg (1984), Pastore and Judd (1993), and Lai and Wiggins (2003). The result of this could be that female athletes are more prone to burnout than male athletes because they are more likely to be engaging in more than one type of aggression. They may also be at greater risk of burnout due to exposure to additional stressors when compared to male athletes. This may result in experiencing the feelings associated with burnout such as a reduced sense of accomplishment or devaluation more so than a male athlete since the aggressive male athlete is less likely to have to deal with any issue other than the negative effects of the fight or flight response.

Statement of the Problem

While there has been much attention given to athletic aggression (Bandura, 1973, 1978, Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988, Salmivalli et al, 2000, Salmivalli & Kaukiainen, 2004, and Maxwell, 2004) and athletic burnout (Maslach, 1976, Lai & Wiggins, 2003, Pastore and Judd, 1993, and Caccese & Mayerberg, 1984) separately, research linking aggression to athletic burnout was not found in the literature.

Bjorkvst et al. (1992), Crick et al. (1997), Crick and Grotpeter (1995), Lagerspetz et al. (1988), Salmivalli et al (2000), as cited by Salmivalli and Kaukiainen (2004) have suggested that females are more prone to burnout as well as to engage in relational aggression than males, and that males are more prone to engage in physical aggression than females.

Therefore, some important areas examined were if athletic aggression is a predictor of athletic burnout, the gender differences in aggression, and the gender differences in athletic burnout.

Purpose

1. This study examined to what extent athletic aggression predicts athletic burnout in NCAA men's soccer players and NCAA women's soccer players by using the three subscales of the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) of reduced sense of accomplishment (RA), emotional/physical exhaustion (E), and devaluation (D) while controlling for coaching style and NCAA division.
2. This study examined if NCAA men's soccer players are more aggressive than NCAA female soccer players using the four subscales of Aggression Inventory-Revised (Gladue, 1991) of physical aggression (PA), verbal aggression (VA), impulsive-impatient (II), and avoidance (Avoid) while controlling for coaching style and NCAA division
3. This study examined if NCAA female soccer players are more prone to burnout than NCAA male soccer players using the above mentioned subscales from the ABQ (Raedeke & Smith, 2001) while controlling for coaching style and NCAA division.

Hypothesis

1. NCAA athletes who show higher levels of athletic aggression will be more prone to burnout in all three subscales (RA, E, D) while controlling for coaching style and NCAA division.
2. NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division.
3. NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division..

Significance of Study

This study examined to what extent athletic aggression predicts athletic burnout while controlling for coaching style and NCAA division of 64 NCAA men's soccer players and 60 women's soccer players. Establishing a connection between burnout and aggression would be beneficial to coaches and athletes. The information gained from this the present study may help alert coaches to players who are in danger of burnout. It is hoped this will lead to coaches noticing behaviors in their athletes that they do not currently know about that may be linked to burnout. The coaches would then be more prepared to take the steps necessary to help their athletes avoid burnout.

Assumptions

This study will be subject to the following assumptions:

1. All soccer players were equally motivated.
2. Referees were fair and impartial.
3. Coaches had the best players on the field when ever possible.
4. Coaches were equally motivated.
5. Coaches treated all players equally.

Limitations

This study will be subject to the following limitations.

1. This study was designed to examine three NCAA Men's soccer teams and three NCAA Women's soccer teams.
2. The researcher had no control over which players will begin the game.
3. The researcher had no control over substitution patterns.
4. The researcher had no control over injuries.
5. The researcher had no control over which referee was selected to officiate each game.
6. The researcher had no control over the gender of coaches.
7. The researcher had no control over the coaching style used by each coach.

Extraneous variables in this study were factors in the personal lives of the male and female soccer players and coaches. Certain factors could affect their mental attitude and in turn affect responses given about aggression and burnout. Such factors could be fights with boy friends or girl friends, car trouble, or financial problems. These factors were not included or controlled for in this study.

Delimitations

This study was subject to the following limitations.

1. This study was confined to 64 NCAA Men's soccer players and 60 NCAA Women's soccer players. The study was confined to players from NCAA soccer teams. This creates a limitation of how this study could be related to other sports.

Operational Definitions

Aggression in Sport: Actions performed with the intent to physically or psychologically harm an opponent. These behaviors include those such as illegally hitting an opponent with a fist or a piece of equipment, or any action directed toward physically or psychologically tormenting opponents (Tucker & Parks, 2001).

Hostile Aggression: The intent in this type of aggression is to make the person physically or psychologically suffer. For example, if a pitcher in baseball throws at a batter simply to hit him because a previous batter hit a home run the intent would be to injure and make the batter suffer (Loughead and Leith, 2001).

Instrumental Aggression: Intent is to harm a person in order to achieve a particular goal. For example, a baseball pitcher may throw a high inside fastball at a batter almost hitting then in order to insure the batter and other batters stay back off the plate. Any injury that occurs in this situation is not personal or intentional and is designed to limit the effectiveness of the batter (Loughead and Leith, 2001).

Soccer: A game played on a rectangular field with net goals at either end in which two teams of 11 players each try to drive a ball into the other's goal by kicking, heading, or using any part of the body except the arms and hands. The goalie is the only player who may touch or move the ball with the arms or hands (Dictionary.com 2000).

Intercollegiate Soccer Players: For this study intercollegiate soccer players will refer to players from NCAA men's soccer teams and NCAA women's soccer teams.

NCAA: National Collegiate Athletic Association, the governing body of college athletics.

Autocratic or Dictatorial Coaching Style: A coach who insists on being in complete control and determining down to the last detail what transpires on the practice or playing field (Cox, 2002).

Democratic Coaching Style: A coach who is more democratic in nature, and is willing to share the control of the team with his players and assistant coaches (Cox, 2002).

Athlete Burnout Questionnaire: (ABQ) (Raedeke & Smith, 2001) Questionnaire that was used in this study to gauge athlete's level of burnout.

Aggression Inventory-Revised: (AI-R) (Gladue, 1991) A modified version of the Olweus Multifaceted Aggression Inventory (Olweus, 1986) Questionnaire that was used in this study to gauge athlete's perceptions about aggression.

Leadership Scale for Sports: (LSS) (Chelladurai & Saleh, 1980) Questionnaire that was used in this study to gauge athlete's perceptions of coaching behaviors and relationships with their coaches.

Chapter II

Literature Review

The review of literature is presented in this chapter. The order of this chapter will be as follows. A) Theories of aggression B) Gender differences in aggression in sport, B) Gender differences in burnout in sport, C) Influence of coaching style on aggression, , D) Summary.

Introductory Statement

Aggressive behavior in people and what causes a person to exhibit such behavior has been widely researched and it has branched out in many different directions. The branch that the present study will examine is the area of aggression in sport. Aggression in sport has been defined as behaviors or actions performed with the intent to harm an opponent, either physically or psychologically. (Bandura, 1973, 1978; Bredemeier, 1985; Silva, 1983; Tucker & Parks, 2001). Aggression can also be broken down into the sub categories of physical or relational aggression. Physical aggression can also be broken further down into two additional sub categories known as instrumental and hostile aggression. The differences between these subcategories will be explored in greater detail shortly.

Theories of Aggression

Some of the most popular theories used to examine aggression in sports include the frustration-aggression theory (Dollard, Doob, Miller, Mower, & Sears, 1939), frustration – aggression theory-revised (Berkowitz, 1958, 1993) and social learning theory (Bandura, 1973, 1983).

According to frustration-aggression theory (Dollard, Doob, Miller, Mower, & Sears, 1939) aggression is a response to frustration and the aggressive response provides a purging of the anger caused by the frustration. Berkowitz's (1958, 1993) revision of this theory as cited by Cox

(2002) states that frustration does not necessarily result in aggression but results in an individual's readiness to aggress. It also states that certain stimuli that the frustrated person associates with aggression must be present in order for the individual to act aggressively.

Berkowitz suggests that there are several stages in aversive emotional experiences. In the first stage the event produces a negative affect. The unpleasant feeling then gives rise to expressive motor reactions, feelings, thoughts, and memories that are associated with the fight or flight response or the desire to escape or attack. Fear accompanies the escape response while anger accompanies the attack or more aggressive response. The clearest example of negative affect is physical pain. Many experiments have shown that pain frequently causes humans as well as other species to attack available targets (Berkowitz, 1983).

While some animals would rather flee than fight there are several factors involved such as genetics and prior learning which determines what response is given to an aversive stimulus. However, an aggressive response is likely in such a situation if the target is close by, if fleeing may not remove the aversive occurrence, and if there is nothing stopping an aggressive response at the time. If the aggression activated in such a situation is hostile the negative affect in this situation creates a desire to hurt the person who initiated the original attack (Berkowitz, 1987). Berkowitz (1990) also states that an individual's response to an aversive stimulus may also be influenced by their cognitions about it as well as others related to the situation. An example of this could be seen during a soccer game in which a midfielder has been tripped several times during a game by a defender who is also spiking him with his cleats. If the referee is allowing this behavior to occur with out reprimanding the defender, the midfielder is likely to experience a negative affect from the physical pain combined with the frustration of the non calls by the referee. This negative affect in conjunction with the cognitions of the athlete may cause the

athlete to respond with aggressive behavior. Such cognitions may include that the player believes the referee is not going to stop the tripping and spiking from happening so he has to do it himself. He may also be thinking about how his coach will react if he behaves aggressively in this situation against the available target of the defender.

While frustration-aggression theory (Dollard, Doob, Miller, Mower, & Sears, 1939) and frustration – aggression theory-revised (Berkowitz, 1958,1993) are both rooted in how an individual responds to frustration Cox (2002) points out another theory of aggression known as social learning theory developed by Bandura (1973, 1983) that has its foundation not in frustration but in learning.

Social learning theory (Bandura, 1973, 1983) states that one of the ways through which people learn is modeling. Modeling or imitative behavior refers to learning through observation. Bandura (1978) believed behavior and consequences that could be learned through direct experience could just as easily be learned through observation. Bandura, Ross, and Ross (1963) demonstrated the power of observational learning with children in regards to aggressive behavior in a classic bobo doll experiment. In this experiment, the subjects observed a video tape of adults beating a bobo doll. After viewing this video tape, they were given no instruction and were placed in a room with a bobo doll. In this room, the children then exhibited the same behavior of beating the bobo doll that they had observed in the adults

Bandura (1978) stated that aggressive behavior was learned from three sources; behavior of family members, the values people are taught by that subculture they live in, and the mass media. Bandura (1978) also stated that watching examples of violence on television would lead to an individual mimicking such violent behavior and that one act of aggression would lead to another act of aggression. These concepts can be seen in the sports world in the game of hockey. When

young hockey players watch professionals play on television they often see them fighting and violently checking each other. By watching this aggressive and violent style of professional play on television younger players learn that this is how they should play. They are also encouraged by older family members who also played the game to play with this aggressive style. In the pro ranks many players are able to carve out careers that are several years long simply because they can fight and check well. They are often known as enforcers in hockey circles. Even players with considerable skill and talent are expected to be able to hit or take a hit to some degree. These younger players then mimic the violent aggressive behavior that has been modeled for them on television and play with this style as they progress up the ranks and into the pro game. These new professional players then become the role models from the game of professional hockey that the new batch of younger players is watching on television. The new generation of younger players then learns from watching the older players on television. This cycle perpetuates itself as the younger players learn the way they should play hockey is with the aggressive and violent style they are observing in the older players. This will be explored in greater detail later in discussion of a Loughhead and Leith (2001) study of youth hockey players.

Gender Differences in Aggression in Sport

Gender differences in aggression have been a popular topic in the world of sport psychology. Many studies, (Baron & Richardson, 1994; Buss & Perry, 1992; Eagly & Steffen, 1986; Tucker & Parks, 2001; and Wann, Haynes, McLean, & Pullen, 2003) have found that male athletes tend to be more physically aggressive than female athletes.

In a study conducted by Maxwell (2004) that examined if thinking about past aggressive experiences are a cause of athletic aggression a modified version of Baron and Richardson's (1994) definition of aggression was used. This definition stated aggression was any form of

behavior directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment. In the Maxwell study (2004) male athletes reported a higher level of aggression than female athletes. It is important to point out that the definition that Maxwell (2004) uses only covers physical aggression. It does not take into consideration that men and women can express aggression in ways that are gender specific and that men and women think differently about aggression. Research (Crick, 1996, 1997; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999) has shown that female athletes are more likely to engage in something known as relational aggression while men are more prone to engage in physical aggression. There is no mention of relational aggression at all so it would stand to reason that men would score higher on such a measurement tool as used in the Maxwell (2004) study.

This different concept of aggression was explored by Storch, Werner, and Storch (2004) when they examined the relationship between psychosocial adjustment and relational aggression in intercollegiate athletes. In doing so they illustrated the difference in how the genders think about and display aggression. Storch et al. (2004) focused on relational aggression in athletes and stated that recent research (Crick, 1996, 1997; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999) extended the definition of aggression to include harmful acts such as social ostracism and spreading malicious rumors. Referred to as relational aggression, such behaviors attempt to harm others through social isolation and damage to inter-personal relationships. Research on relational aggression has generated information showing that overall, females engage in aggressive acts at similar rates as males, and that such acts are associated with significant psychosocial impairment among males and females. One of the aims of Storch et al. (2004) was to examine the gender differences in the link between relational aggression and maladjustment. Past research (Crick & Grotpeter, 1995; Werner & Crick, 1999) suggested that

relational aggression may be more pertinent to females' social and psychological adjustment than males.

The measure used by Storch et. al. (2004) was the peer assessment of relational aggression and social adjustment, which is a 24-item peer nomination instrument. Subscales of this measure assesses overt (physical and verbal) and relational aggression, pro social behavior, and socio-metric status. This is one of the few studies (Storch et. al. 2004) that suggest females may be just as aggressive as males. However, one of its main points is that females may go about expressing and displaying their aggression in a much different way than males.

Similar findings to those of Storch et. al. (2004) were reported by Tucker and Parks (2001) in a study on gender and sport type in relation to athletes' perceptions of aggressive behaviors. The study (Tucker & Parks, 2001) was designed to examine athletes' perceptions of the legitimacy of aggression in sport. Tucker and Parks (2001) found that female athletes show a lower acceptance of aggressive behaviors than men in non contact sports as opposed to collision and contact sports. The participants came from collision (rugby, ice hockey, and football), contact (basketball) and non contact sports (softball, baseball, volleyball, gymnastics, golf, swimming, tennis, track and cross country).

Tucker and Parks (2001) discuss how females in non contact sports might be influenced by gender role expectations reinforced by society and the non contact sport environment, neither of which rewards females for aggressive behavior.

Wann, Haynes, McLean, and Pullen, (2003) also reported similar results regarding gender differences in attitudes about aggression. Wann et al., (2003) examined sport team identification and its connection with willingness to commit acts of aggression. Participants in the study filled out the Sport Spectator Identification Scale (SSIS) (Wann & Branscombe, 1993). The final

section was made up of six items assessing the participants' willingness to consider acts of anonymous hostile aggression toward players and coaches of rival teams. Participants were asked to imagine a University of Kentucky men's basketball team playing a late season game against a major rival. After imagining this participants were then asked to answer questions which all focused on acts of violence.

The results showed that males reported higher levels of team identification than females and males were also found to have a higher willingness to commit a hostile act of aggression (Wann, et al, 2003). Baron and Richardson, (1994), Buss and Perry, (1992), and Eagly and Steffen, (1986) have all found that although males are more aggressive than females, this difference is greater for physical aggression than for other forms of violence, such as spreading rumors or verbally abusing someone as cited by Wann et al. (2003). This is an important point as it was illustrated by Storch et. al. (2004) in a study on relational aggression and psychosocial adjustment.

While males may display equal to greater amounts of physical aggression the present study will examine both physical aggression against an opponent as well a relational aggression in sport.

The studies that have been reviewed so far have all shown that men are more prone to displaying physical aggressive behavior than women while women are more prone to engaging in relational aggression.

Definitions of Burnout

The general definition of burnout given by Maslach (1976) is “where an individual experiences physical fatigue, carelessness, a lack of desire, which is usually a by product of excessive stress. The stresses of an activity then wear the individual down to the point where

they feel it is more beneficial to quit the activity than to participate” (Lai and Wiggins, 2003, p. 121). Maslach and Jackson (1984) later updated the definition of burnout as “a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity (p.134)” (Raedeke, 1997, p. 397).

These definitions were more applicable to individuals working in the service industry than those in athletics. Due to the overwhelming demands of athletics in this day and age athletes and coaches are as susceptible to burnout as service providers. Due to this fact a slightly different definition for burnout in sport was given by Raedeke (1997). Raedeke (1997) added the component of sports devaluation to differentiate his definition from those of Maslach (1976) and Maslach and Jackson (1984). Raedeke (1997) defined burnout in sport as “a syndrome of physical/mental exhaustion, sport devaluation, and reduced athletic accomplishment” (Raedeke, Lunney, and Venables 2002, p. 184). Raedeke (1997) also believed that depersonalization manifested itself in the form of sports devaluation which refers to the athlete no longer caring about their sport and performance in athletic burnout (Raedeke, Lunney, and Venables, 2002).

Gender Differences in Burnout in Sport

The amount of research (Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor; 1999; Lai & Wiggins, 2003; Pastore & Judd, 1993; and Pastore & Kuga, 1993) that has examined the gender differences in burnout is limited. Lai and Wiggins (2003) conducted one such study when they assessed the differences in burnout between male and female Division I NCAA soccer players. In the same study Lai and Wiggins (2003) also examined the affect of burnout over the course of a season. The participants were four NCAA programs from various parts of the

U. S. that reported valid and complete data for the whole season. Each program was sent a set of two questionnaires. The first was a general questionnaire about years of playing experience, age, and demographics. The second questionnaire was the Burnout Inventory for Athletes (BIA) (Van Yperen, 1997). This instrument had been shown to be valid and reliable in measuring burnout in two previous separate studies by Van Yperen (1993, 1997) as cited by Lai and Wiggins (2003). The survey included questions that dealt with attending training, fatigue, questions of doubt, and burnout from soccer.

The results of the study by Lai and Wiggins (2003) revealed that burnout did significantly increase from the start of the season to the end of the season. The results also showed that there were no significant differences in male and female burnout perceptions and that males tended to score higher on the BIA (Van Yperen, 1997) than females.

Similar findings to the Lai and Wiggins (2003) study mentioned above were revealed in a study (Pastore & Kuga, 1993) that examined burnout levels of high school coaches of women's teams. Pastore and Kuga (1993) cite several studies (Hart, Hasbrook, & Mathes, 1986; Hasbrook, Hart, Mathes, & True, 1990; Heishman, Bunker, & Tutwiller 1990; Sisley & Capel, 1986; Wilkson & Schneider, 1991) that have found that the number of female coaches in high school coaching positions has been declining since the inception of title IX. Pastore and Kuga (1993) contend that these women are leaving these positions due to burnout and conducted a study to examine their theory. Pastore and Kuga (1993) randomly surveyed 330 coaches from Iowa, Wisconsin, and Ohio with the Maslach Burnout Inventory (Maslach & Jackson, 1986) (MBI). The MBI (Maslach & Jackson, 1986) has three subscales that measure emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). 169 of the 330 coaches responded. 61.1 % of those that responded were male coaches and 38.9% were female coaches.

It should be noted that the MBI (Maslach & Jackson, 1986) was found to be valid and reliable but was originally constructed to measure burnout in individuals involved in helping professions such as mental health counseling and not those in the coaching professions (Pastore & Kuga, 1993).

The findings from the returned surveys showed that female coaches reported higher levels of emotional exhaustion, depersonalization, and personal accomplishment than male coaches. The overall level of burnout was found to be average for males and average to high for females (Pastore & Kuga, 1993). The findings of this study (Pastore & Kuga, 1993) are consistent with others in the literature (Pastore & Judd, 1993; Caccese & Mayerberg, 1984; and Kelley, Eklund, & Ritter-Taylor 1999) that found that female coaches tended to experience burnout at higher rates than males.

Research similar to the study mentioned above (Pastore & Kuga, 1993) was conducted by Felder and Wishnietsky (1990) in which the reason why the number of female coaches has been declining since title IX was examined. (Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor 1999; Lai & Wiggins, 2003; Pastore & Judd, 1993; Pastore & Kuga, 1993) Felder and Wishnietsky (1990) utilized a self report designed by Hoehn (1985) to assess coaching burnout. The Hoehn (1985) instrument was sent to 100 randomly selected male and 100 randomly selected female coaches in North Carolina. 60 male and 60 female head coaches responded. The results showed that the female coaches who responded did so with answers indicating symptoms of burnout significantly more than male coaches. These results were consistent with other studies (Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor 1999; Lai & Wiggins, 2003; Pastore & Judd, 1993; Pastore & Kuga, 1993) examining gender differences in burnout.

Felder and Wishnietsky (1990) contend that this is the case in North Carolina because many of the female head coaches are academic teachers as opposed to the male head coaches who are mostly physical education teachers. Felder and Wishnietsky (1990) propose the result is that the female coaches have a tendency to fall behind due to the greater academic demand of the classes they teach. Felder and Wishnietsky (1990) also contend that physical education teachers may be better prepared to coach a team from their physical education training than a female head coach that has not had such training. Felder and Wishnietsky (1990) propose that coaches be required to attend workshops on coaching or receive a form of coaching certification in order to alleviate this problem.

Due to the limited amount of research done on gender differences in athletic burnout the present study will be beneficial in adding to the research in this area since one of its aims is to examine gender differences in athletic burnout.

Influence of Coaching Style on Aggression in Sport

When an athlete displays aggressive behavior some potential explanations for his or her behavior are that he or she is not being coached properly, that the coach lacks proper control over his or her players, or that the player is not responding to the specific style of coaching used in his or her training. These explanations suggest that coaching style will have a major impact on aggressive sports behavior.

Stornes & Bru (2002) make the point in a study on sports personship and perceptions of leadership in adolescent handball players that according to social learning theory (Bandura, 1978) the process of modeling is essential. Stornes & Bru (2002) stated that through this process individuals are likely to adopt leaders' ways of acting towards them and treat others the same way. In this study (Stornes & Bru, 2002) four hundred and forty 14 to 16 year old boys

competing in handball were the participants of this study. Fifty handball teams were selected from the southern part of Norway to be surveyed using the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980). 46 of the 50 teams responded. This scale has been used to measure athlete's preferences for specific types of leadership behavior, athlete's perceptions of their coach's leadership behavior, and/or coach's perceptions of their own behavior. The LSS (Chelladurai & Saleh, 1980) has shown high validity and reliability rates in different studies in different countries. The four subscales of the LSS (Chelladurai & Saleh, 1980) which are democratic behavior, autocratic behavior, social support, and positive feedback were used by Stornes and Bru (2002) in this study. Stornes and Bru (2002) also discussed the effect a coach's behavior and the examples that he sets has on the player's behavior.

“Social learning theory also maintains that if desirable behavior is rewarded by significant people, this will reinforce and strengthen the tendency to such action even further. Such a relationship was underscored by Stornes, who showed that social expectations of significant others, the coach in particular, could occasionally be so strong that hand ball players tended to compromise their own views and beliefs in accordance with the coach's expectations" (Stornes & Bru, 2002, p.3).

The results reported by Stornes and Bru (2002) stated that the perceptions of autocratic leadership were primarily associated with increased levels of unsporting behavior. These results are consistent with previous research (Deci & Ryan, 1985, 1991; Deci, Vallerand, Pelletier, & Ryan, 1991) which suggests that lack of autonomy and low self-determination is closely related to anti social behavior. Further findings (Stornes & Bru, 2002) concerning supportive and democratic leadership suggest that management strategies which provide opportunities for players to develop through close relationships and team work are linked to fairness and sport personship. These finding are also consistent with self-determinations theory (Deci & Ryan, 1985, 1991; Deci, Vallerand, Pelletier, & Ryan, 1991), claiming that intrinsic motivation and pro-social behavior are enhanced by positive relationships and self-determination (Stornes &

Bru, 2002). This would suggest that a coach could influence a player to exhibit aggression during game play through modeling even if it was not in the player's nature. The possibility also exists that the coach can impact the aggression of an individual player as well as the entire team. This also highlights the importance coaching style has in regards to aggression in sport and the responsibility coaches have to model and teach appropriate athletic behavior.

In a different study Amarose and Horn (2000) examined the effects of scholarship status, gender, and perceptions of coach's behavior on intrinsic motivation. Since a large portion of the study was devoted to athlete's perceptions of their coach's behavior two instruments of measure were used in this study to gage the athlete's perceptions of their coach's behavior. The first instrument of measure was the LSS (Chelladurai & Saleh, 1980), which has already been discussed at length. The second instrument of measure was the Coaching Feed Back Questionnaire (CFQ) used to assess the athlete's perceptions regarding the type of feedback their coaches give them in response to their performance successes and a failure.

Through this research Amarose & Horn (2000) found that;

"coaches who exhibit a leadership style characterized by low levels of autocratic behavior, who provide high frequencies of positive, encouraging, and informationally based feedback, and low frequencies of ignoring players successes and failures may create an environment that facilitates the development of intrinsic motivation in their athletes" (Amarose and Horn, 2000, p. 78).

These results provide further evidence of the impact that a coach's leadership style and attitude towards his players can have on them. The findings of this study support the idea that if a coach uses a certain style he or she can actually increase the athlete's enjoyment of his or her sport. If a coaching style can impact motivation it is not much of a stretch to think that a coach can impact aggression of the individual player as well as the team.

A different study by Loughead and Hardy (2004) that examined coaching and peer leader behaviors also used the LSS (Chelladurai & Saleh, 1980) to measure coaching behaviors. The participants in this study were 238 Canadian athletes from 15 different sports teams representing several different sports. The athletes had been involved with their own particular sports for an average of nine years. Coach behaviors were measured using the LSS (Chelladurai & Saleh, 1980). The results indicated that coaches exhibited leadership behaviors to a different extent than peer leaders; peer leaders were team captains and players in leadership positions. Coaches were perceived by athletes as exhibiting greater amounts of training and instruction and autocratic behavior than by peer leaders. Peer leaders were perceived by athletes to display the leadership behaviors of social support, positive feedback and democratic-decision making behaviors to a greater extent than coaches (Loughead and Hardy, 2004).

In a study on hockey coaches and players perceptions of aggression (Loughead and Leith, 2001) distributed questionnaires to thirty competitive minor league male hockey teams at the Atom (10 to 11 year olds), Pee wee (12 to 13 year olds) and Bantam (14 to 15 year olds) levels. Responses were obtained from 30 head coaches and 171 one athletes. Pee wee and Bantam responses were combined into one group due to lack of responses.

Loughead and Leith (2001) had predicted that as level of play increased that approval of hostile and instrumental aggression from the coaches would exist. However, regardless of levels of play, coaches tended to give the higher level of approval for instrumental aggression as did the players surveyed. Loughead and Leith (2001) cite a study by Spallanzani (1988) that points out that 75% of minor league coaches have been hockey players. Loughead and Leith (2001) also mention a study by Smith (1979) which examined the fact that minor league coaches, as a result of their playing experience, look for players who are able to with stand violent illegal play as

well as us it to their benefit. Loughead and Leith (2001) also predicted that player's accepted levels of aggression would be similar to that of their coach as previous studies have (Stephens & Bredemeier, 1996). The unexpected results did not support this hypothesis. Loughead and Leith (2001) state that other studies (Smith, 1979; Morra & Smith, 1995) suggest there are several factors that influence perceptions about aggressive play in hockey players. These factors include fans, teammates, parents, and the media (Smith, 1979; (Morra & Smith, 1995) and may explain the findings from the self report portion of this study that Loughead and Leith (2001) reported.

While the self report section of Loughead and Leith (2001) would seem to contradict the findings of past studies (Stornes & Bru, 2002; Luxbacher, 1986) the observational portion of Loughead and Leith (2001) told a different story. While players and coaches spoke of giving a higher approval to instrumental aggression the penalties observed in on ice play contradicted these statements as they occurred at twice the rate as instrumental penalties. The role that social learning theory (Bandura, 1978) may have played in these findings is highlighted by Loughead and Leith (2001) in the following statement. "Players who show a reputation for being tough, regardless of how they feel about aggression, are the ones who demonstrate the characteristics that the game of hockey reinforces" (Loughead and Leith, 2001, p.404)

While past studies (Stornes & Bru, 2002; Luxbacher, 1986) have shown that athletes are likely to adopt their coach's attitudes about aggression in the Loughead and Leith (2001) study the self report portion of the study provides evidence to the contrary. The evidence from the observational portion of this study (Loughead & Leith, 2001) is of more assistance to the case that a coach does influence player behavior that the present study is attempting to build. The findings of Loughead and Leith (2001) give credence to the fact that an athlete on the playing surface is in full control of his actions and will behave how he or she sees fit at the time

regardless of how they say they will behave. While coaches may be responsible for putting that athlete on the field and clearly influences the athletes behavior coaches do not commit violent acts, the athlete has to make a conscious choice to participate in aggression that is hostile in nature.

The review of these previously discussed studies on coaching behavior illustrate why coaching style needs to be controlled and why only the players gave their opinions of their coach's leadership style. While research shows that autocratic coaches usually tend to have more aggressive players, Stephens and Bredemeier, 1996) Loughhead and Leith (2001) show that players do not always mimic their coaches and that players of autocratic coaches do not always become physically aggressive. If coaches were surveyed about their own coaching style in the present study there is the possibility that they could have answered with the style that they think they possess not the one they actual exhibited on the field with their players, this may be what happened in the Loughhead and Leith (2001) study since they surveyed head coaches as part of their study. Due to this issue coaching style was controlled for and only the athletes were surveyed about their coach's leadership style in the present study. The LSS (Chelladurai & Saleh, 1980) which was the instrument used (Chelladurai & Saleh, 1980) in some of the studies (Stornes & Bru, 2002, Amarose & Horn, 2000) reviewed above was used in the present study to gauge athlete's perceptions about their coach's leadership style.

Differences in NCAA Divisions

The biggest determining factors in whether or not a school is categorized as a NCAA Division I, II or III institution is how many sports teams it fields as well as how the schedules of these teams are constructed;

“Division I member institutions have to sponsor at least seven sports for men and seven for women (or six for men and eight for women) with two team sports for each gender.

Each playing season has to be represented by each gender as well. There are contest and participant minimums for each sport, as well as scheduling criteria. For sports other than football and basketball, Division I schools must play 100 percent of the minimum number of contests against Division I opponents -- anything over the minimum number of games has to be 50 percent Division I. men's and women's basketball teams have to play all but two games against Division I teams.” (NCAA.org, 2007, para. 1)

NCAA Division I schools also have a minimum and a maximum amount of financial awards that can be given as well as attendance requirements. NCAA Division I football programs must have paid attendance of 15,000 or higher per game to remain a Division I school (NCAA.org, 2007, para. 1).

NCAA Division II institutions have similar determining factors regarding what makes them division II schools;

“Division II institutions have to sponsor at least five sports for men and five for women, (or four for men and six for women), with two team sports for each gender, and each playing season represented by each gender. There are contest and participant minimums for each sport, as well as scheduling criteria -- football and men's and women's basketball teams must play at least 50 percent of their games against Division II or Football Bowl Subdivision (formerly Division I-A) or Football Championship Subdivision (formerly Division I-AA) opponents. For sports other than football and basketball there are no scheduling requirements” (NCAA.org, 2007, para. 2).

NCAA Division II schools have lesser financial aid to award to student athletes as they have a maximum of aid they can offer but no minimum. These and other monies for a Division II athletic program are part of the institutions overall budget. Since there is far less money for athletics in Division II as opposed to NCAA Division I there is less cross country travel. This lends itself to regional rivalries that are found throughout NCAA Division II (NCAA.org, 2007, para. 2).

NCAA Division III institutions have similar factors that place them with in that particular NCAA Division;

“Division III institutions have to sponsor at least five sports for men and five for women, with two team sports for each gender, and each playing season represented by each

gender. There are minimum contest and participant minimums for each sport. Division III athletics features student-athletes who receive no financial aid related to their athletic ability and athletic departments are staffed and funded like any other department in the university. Division III athletics departments place special importance on the impact of athletics on the participants rather than on the spectators” (NCAA.org, 2007, para.3).

It is a widely held belief that since the NCAA Division I programs are operating with the most money, then those programs have the best athletes. This was supported by Garstecki, Latin, and Cuppett (2004) when they compared physical fitness levels of NCAA Division I and NCAA Division II football players and found that the NCAA Division I groups outperformed the NCAA Division II level at a significant level. It may also stand to reason that those in different NCAA Divisions may be more likely to show different levels of aggression and burnout due to the pressures and demands on the athletes that differ in each corresponding division. Level of NCAA Division (I, II or III) will be used as a control variable in the present study.

Summary

Aggression has been an important as well as controversial subject in the world of sports for years. Every incident involving an over aggressive athlete is now played on television repeatedly. There have been several athletes that have climbed into stands to fight with overly boisterous fans such as professional basketball player Vernon Maxwell of the Houston Rockets. In 1995 Maxwell went into the stands and punched a fan that had been verbally abusing him through out the game (Cox, 2002). There are also examples from other sports such as professional football. Darryl Stingley, a wide receiver for the New England Patriots, was permanently paralyzed from the neck down in August of 1978. He jumped up for a ball that never could have been caught and was viciously tackled by strong safety Jack Tatum of the Oakland Raiders. In December of 1977 Kermit Washington, a basketball player for the L.A. Lakers, shattered the face of Houston Rockets forward Rudy Tomjanovich with a single punch

(Cox, 2002). A more recent example occurred during the World Series in 2000. Roger Clemens of the New York Yankees had a piece of broken bat spray at him during an at-bat by the New York Mets Mike Piazza. Clemens picked up the splintered wood and threw it at Piazza (Stark, 2000).

There have also been recent incidents in the sport of hockey of involving serious head injuries due to angry players illegally using sticks as near deadly weapons. One such incident included Boston Bruin defenseman Marty McSorley hitting Vancouver Canucks forward Donald Brashear in the head with his stick, knocking him unconscious and sending him sprawling to the ice (Wigge, 2000).

These examples of physical aggression in sport are almost exclusively male which is consistent with past research (Baron & Richardson, 1994, Buss & Perry, 1992, and Eagly & Steffen, 1986). There is also one example of female aggression in sport which is one of the most famous and bizarre in sports history. On the afternoon of Jan. 6, 1994, the day before she was to defend her U.S. figure skating title in Detroit, Nancy Kerrigan was attacked and struck above the knee with a metal baton. The blow which gave Kerrigan a bruised kneecap and quadriceps tendon, occurred after practice as she stopped to talk to a reporter (Swift, 2003). It was soon discovered that those responsible for the attack were associates of Kerrigan's main American rival, Tonya Harding; including Harding's ex-husband Jeff Gillooly, her bodyguard at the time Shawn Eric Eckardt, and Derrick Smith. Smith was Eckardt's nephew and the person who actually struck Kerrigan in the knee. Harding eventually pleaded guilty to hindering the investigation of the incident which many took as an admission of being involved in it's planning from the beginning although she maintains she was not (Howard, 1994).

One of the reasons this was such a highly publicized case was that it involved two women and as the research (Baron & Richardson, 1994, Buss & Perry, 1992, and Eagly & Steffen, 1986) has shown aggressive and violent physical acts are usually not performed by women. It was even more bizarre by the fact that the actual physical violent act was performed by a male on female. However, even though a male actually performed the assault it was alleged that it was Tonya Harding that was behind the entire plan and she was eventually punished accordingly. If Harding was the mastermind behind this it would seem that she had attacked Kerrigan to clear the way for her to win the 1994 gold medal which would have elevated her own social status and decreased Kerrigan's. So her reasoning may have been about social status; to raise her own and to damage Kerrigan's. This is the same mechanism at work when a female engages in relational aggression. However, in this case Harding chose to act through somebody else and use physical aggression instead of starting rumors about or verbally abusing her opponent as a means of achieving her goal. Perhaps Harding was hoping to start public speculation about what Kerrigan had been participating in to provoke such an attack. If this was the case the attack may have been rooted in relational aggression and then evolved into physical aggression. Harding suffered athletically in the short term following the attack. She was allowed to skate at the 1994 Winter Olympics but performed miserably finishing 8th. Perhaps this was a result of her experiencing burnout due to being involved in an incident involving both relational and physical aggression. She was soon forced to leave the sport by U.S. Figure Skating Association and stripped her of 1994 national championship and banned for life from figure skating (Brennan, 1994). It would have been interesting to see if this act of physical and relational aggression would have affected her career in the long term if she had been allowed to continue to compete. The information gained from

the present study may make it possible to gauge the effects of such an act of athletic aggression on athletic burnout in the future.

These instances, whether male or female are what the professional sports fan is being exposed to, as well the children of these fans who watch the games along side their parents. If children and amateur athletes are watching this kind of behavior there is a good chance according to social learning theory (Bandura, 1973, 1978) that they will repeat the actions they have observed. Over the years the majority of professional sports have been male dominated, especially those that have been heavily covered by television. This may help to explain through the use of social learning theory (Bandura, 1973, 1978) why so many studies show that men display more aggression during athletic competition than women. Amateur male athletes have been observing aggressive behavior of professional male athletes on television for years. They may simply be mimicking the aggressive behavior they observe in these athletes on television when they begin to play competitive sports. If these aggressive behaviors in males and females do result in burnout the younger athletes maybe predisposed towards burnout before they even begin playing their respective sports. This happens as they are learning to perform these same aggressive behaviors which later lead to burnout by watching the examples of the professional athletes on television such as those listed above. As soon as they begin playing their sports in youth leagues they will begin to mimic the behavior they have had modeled for them and begin down their own path to burnout. These are the wrong messages for our children and future athletes to be seeing and hearing. If athletes should arrive at sports programs with the notion that aggression and violence are acceptable the coaches will have to bear the burden of retraining their athletes and reshaping attitudes towards aggression and violence as well as having to deal with several athletes predisposed to burnout. Athletes are often encouraged to play an aggressive style that is

inclusive of doing what ever it takes to win with in the framework of the rules. That seems to entail anything that stops just short of illegally hitting an opponent with a fist or a piece of equipment, or any action directed toward physically debilitating or psychologically tormenting opponents (Tucker & Parks, 2001). However, a problem arises when that aggression moves from an athlete simply trying his or her hardest to win to a hostile or violent type of aggression in which the intent is to harm. Sports leagues do have rules and regulations in place in an attempt to regulate this sort of aggressive behavior, however, as can be seen form the examples listed above something needs to be done about those who cross the line. Perhaps stiffer fines, stiffer suspensions, or even league expulsions are needed because what is being done now does not seem to be working.

CHAPTER III

Methods

Participants

Three NCAA women's soccer teams and three NCAA men's soccer teams were participants for this study. For this study, surveys were used to examine if displayed athletic aggression predicts athletic burnout.

The AI-Revised (Gladue, 1991) which is a modified version of the Olweus Multifaceted Aggression Inventory (Olweus, 1986), The LSS (Chelladurai & Saleh, 1980), and The ABQ (Raedeke & Smith, 2001) were administered to three NCAA men's soccer teams and three NCAA women's soccer teams. All athlete participation in this study was voluntary and will remain confidential. The surveys were used to determine if athletic aggression predicts burnout in NCAA men's and women's soccer players while controlling for coaching style and NCAA Division.

Instruments

The instruments used in this study were the Aggression Inventory-Revised (Gladue, 1991), The Leadership Scale for Sports (Chelladurai & Saleh, 1980), and The Athlete Burnout Questionnaire (Raedeke & Smith, 2001). The AI-Revised (Gladue, 1991b) was used to gauge athlete's perceptions about aggression. The LSS (Chelladurai & Saleh, 1980) was used to measure athlete's perceptions about the coaching style of their own head coach. Finally, the ABQ (Raedeke & Smith, 2001) was used to assess the athlete's level of athletic burnout.

Validity and Reliability

In the course of examining the differences in aggressive behavioral characteristics, hormones, and sexual orientation between men and women Gladue (1991b) used and described

the measurement tool which he derived by modifying the Olweus Multifaceted Aggression Inventory (Olweus, 1986). "The aggression inventory contained a total of 28 items each scored using a 5-point Likert scale (1 = "does not apply at all to me" to 5 = "applies exactly to me")" (Gladue, 1991, p. 315). The AI (Gladue, 1991a) is made up of five subscales. Physical aggression deals with physical confrontations and consists of statements such as "I get into fights with other people". Verbal aggression deals with verbal responses to criticism or insults and consists of statements such as "when a person is unfair to me I get angry and protest". Impulsive/impatient refers to decision making and frustration-tolerance and consists of statements such as "I become easily impatient and irritable if I have to wait". The last factor Avoid, deals with avoiding confrontation and consists of statements such as "whenever someone is being unpleasant I think it is better to be quiet than make a fuss".

In a separate study Gladue (1991b) found that the AI (Gladue, 1991b) had fair to good internal consistency. The subscales were as follows, for men the alpha coefficients were Physical Aggression (PA) =.82; Verbal Aggression (VA) =.81; Impulsive/Impatient (II) =.80 and .65 for Avoid (A). For women the alpha coefficients were PA=.70; VA=.76; II=.76, and .70 for Avoid. In the same study Gladue (1991b) states that the validity of the AI (Gladue, 1991b) subscales has been supported by factor analysis. The AI-Revised (Gladue, 1991b) was the measure used in the present study to assess NCAA male and female soccer player's attitudes on aggression.

While examining the preferred coaching behaviors of Australian athletes Sherman, Fuller and Speed (2000) used the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980) as one of the instruments and also give a description of the LSS (Chelladurai & Saleh, 1980).

The LSS is a 40- item questionnaire developed by Chelladurai and Saleh (1980) to be used as an assessment tool for leadership behavior in sport. It contains five subscales; Training Behavior

(TB), Autocratic Behavior (AB), Democratic Behavior (DB), Social Support (SS), and Rewarding Behavior (RB). Responses are given on a five point Likert scale. 1 equals always, 2 equals often, 3 equals occasionally, 4 equals seldom, and 5 equals never. There are three versions of the original questionnaire, the athlete preference, the athlete perception, and the coach perception version. The athlete preference version was used by Sherman, Fuller and Speed (2000), with each item of the questionnaire preceded by the phrase "I prefer my head coach to". The present study used that athlete perception version in which the questions were preceded by the phrase "my head coach".

In regards to validity of the instrument Sherman, Fuller and Speed (2000) point to a large body of work (Chelladurai & Saleh, 1980; Chelladurai, 1986; Chelladurai, Imamura, Yamaguchi, Oinuma, & Miyauchi, 1988, Isberg & Chelladurai) that has shown the LSS (Chelladurai & Saleh, 1980) to be a valid instrument.

While examining the relationship between leadership behaviors and group cohesion Shields, Gardner, Bredemeier, and Bostro (1997) used the LSS (Chelladuarai & Saleh, 1980) as one of their instruments and in doing so (1997) examined the internal reliability of the LSS. The results revealed that Cronbach's (1951) alpha for each subscale was with in acceptable parameters except for Autocratic Behavior at .65 which is slightly lower than the desired minimum .70. The Training and Instruction subscale was .88, Democratic Behavior was .83, Social Support was .81, and Positive Feedback was .85. The present study used the athlete perception version of the LSS (Chelladuarai & Saleh, 1980) in which the questions were preceded by the phrase "my head coach" to asses NCAA male and female soccer players perceptions about their coaches' leadership style.

In a study (Cresswell & Ecklund, 2006) examining the validity of measures used to

assess burnout the Athletic Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) was one of the psychometric tests in question. Cresswell and Ecklund (2006) give a description as well as a review of the validity and reliability of the ABQ (Raedeke & Smith, 2001).

“The ABQ (Raedeke & Smith, 2001) was developed by Raedeke and Smith (2001) to assess athlete burnout. The ABQ contains 15 items. Participants respond on a 5-point Likert scale with anchors of: (1) "almost never", (2) "rarely", (3) "sometimes", (4) "frequently" and (5) "most of the time". The instrument contains three subscales designed to measure (a) reduced sense of accomplishment (e.g. "I'm accomplishing many worthwhile things in sport"), (b) devaluation (e.g. "I have negative feelings towards sport") and (c) emotional/physical exhaustion (e.g. "It seems that no matter what I do, I don't perform as well as I should"). Raedeke and Smith (2001) reported acceptable reliability for all subscales (Cronbach's alpha coefficients ranging from 0.71 to 0.87) as well as test - retest reliability and construct validity” (Cresswell and Ecklund, 2006, p. 211).

The ABQ (Raedeke & Smith, 2001) was used in the present study to assess levels of athletic burnout with in NCAA men's and women's soccer players.

Procedures

It was originally planned that coaches of all the NCAA men's soccer team NCAA women's soccer teams which play in a local conference would be contacted to outline the study and ask permission for the teams to fill out questionnaires. However, so few teams from the local area were willing to participate that the study was expanded to all NCAA men's and women's soccer programs in the U.S. Teams were continually contacted until 64 male and 60 female surveys were obtained by willing participants. Approval was obtained from the coaches, athletes were approached and a given a complete description of the project on the cover letter attached to the survey packet. Participants were assured anonymity and confidentiality of their responses. The questionnaires were administered to all teams in various times between April of 2006 and March of 2007.

Design Analysis

Cohen (1992) suggests that power should be set at .80 for research in the behavioral sciences

and that automatically setting alpha level at .05 in such research makes a type II error 4 times as likely as type I error. In order to avoid this alpha level should be set at .01. According to Cohen's (1992) sample size planning table an N of 92 combined with an alpha level setting of .01 would have a power of .75. Since the present study has an N of 124 these settings will be more than adequate to raise power to .80. Power of .80 in this case would yield an effect size of just under 0.5 according to Thomas and Nelson (2001).

The independent variable was aggression of NCAA men's and women's soccer players assessed by administering of the AI-Revised (Gladue, 1991). The dependent variable was athletic burnout of NCAA men's and women's soccer players assessed by administering of the ABQ (Raedeke & Smith, 2001) to the teams.

A hierarchical regression analysis was conducted to predict burnout based on aggression scores. Gender was entered in the 1st block, aggression subscales were entered in the 2nd block.

A MANCOVA was carried out to determine gender differences in burnout while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Coaching style was determined by administering the LSS (Chelladurai & Saleh, 1980) to the teams. The dependent variables were the 3 subscales of the ABQ (Raedeke & Smith, 2001) of reduced sense of accomplishment (RA), emotional/physical exhaustion (E), and devaluation (D).

A second MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Coaching style was determined by administering the LSS (Chelladurai & Saleh, 1980) to the teams. The dependant variable was the 4 subscales of the Aggression Inventory-Revised (AI-Revised) (Gladue, 1991) of physical aggression (PA), verbal aggression (VA), impulsive/impatient (II), and avoid (A).

Chapter IV

Results

The first purpose of the present study was to determine to what extent athletic aggression predicts athletic burnout in NCAA men's and NCAA women's soccer players. The second purpose was to examine if NCAA men's soccer players are more aggressive than NCAA women's soccer players. The third and final purpose was to examine if NCAA female soccer players are more prone to burnout than NCAA male soccer players. The following subsections will discuss in greater detail the following areas: (a) data screening, (b) descriptive statistics and reliability analysis, (c) hypothesis one, (d) hypothesis two, (e) hypothesis three.

Data Screening

Data management procedures showed that there were no outliers and that all variables and all combinations of the variables were normally distributed. Tests of homogeneity (Box M's test) were computed for each MANCOVA and the results were significant, thus violating the assumption of homogeneity of variances-covariances. Therefore Pillai's Trace was used to report the findings for this study.

Descriptive Statistics and Reliability Analysis

Data was collected from a total sample of 124 participants. Participants were NCAA male (N=64) and NCAA female (N=60) soccer players from NCAA Division I, II, and III. Participants were surveyed on perceptions of aggression, coaching style, and athletic burnout. The measures used to gather this information were the Aggression Inventory Revised (AI_R) (Gladue, 1991b), the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980), and the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001).

Descriptive statistics for NCAA division and gender (see Table 1 and Table 2) were computed (see Table 1 and Table 2). The following sections will discuss in greater detail the results for the hierarchical regression and the two separate MANCOVAs. The subscales of the AI-R (Gladue, 1991b), the LSS (Chelladurai & Saleh, 1980), and the ABQ (Raedeke & Smith, 2001) were all analyzed for internal consistency (See Table 3). During this analysis it was found that Cronbach's alpha coefficient were above .70 and acceptable (Nunnally, 1967) for all subscales except for the avoidance (A) subscale of the AI-R and the reduced sense of accomplishment subscale (RA) from the ABQ.

Table 1

Descriptive Statistics for Converted Means of Aggression Inventory- Revised by Division

Division		Physical Aggression	Verbal Aggression	Impulsive/Impatience
I	Mean	2.50	2.78	2.45
	Std. Deviation	.87	.81	.76
II	Mean	2.07	2.67	2.42
	Std. Deviation	.85	.71	.76
III	Mean	1.90	2.28	2.21
	Std. Deviation	.81	.70	.70

Table 2

Descriptive Statistics for Converted Means of Athlete Burnout Questionnaire by Division

Division		Reduced Sense of Accomplishment	Devaluation	Exhaustion
I	Mean	2.17	2.60	2.50
	Std. Deviation	.65	.96	1.08
II	Mean	2.10	2.46	1.73
	Std. Deviation	.69	.93	.76
III	Mean	2.27	2.55	2.42
	Std. Deviation	.79	.76	.85

The avoidance (A) subscale was not found to be reliable with a Cronbach's alpha of .363.

Thus, this subscale will not be utilized in the present study.

The reduced sense of accomplishment (RA) subscale was found not to be reliable either with a Cronbach's alpha of .659. However, item 7 was deleted and the Cronbach's alpha for the RA subscale was elevated to .691. The RA subscale used in the present study included 4 items. (Items 1, 5, 13 and 14).

Table 3

Reliability of Aggression Inventory-Revises, Leadership Scale for Sports, and Athlete Burnout Questionnaire Subscales

Subscale	Cronbach's Alpha
Physical Aggression	.73
Verbal Aggression	.77
Impatient/Impulsive	.76
Avoidance	.36
Autocratic	.80
Democratic	.86
Exhaustion	.89
Devaluation	.88
Reduced Sense of Accomplishment	.69

Hypothesis One

The first hypothesis stated that NCAA athletes who show higher levels of athletic aggression would more prone to burnout in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis.

A hierarchal regression with two blocks was performed to predict each of the RA, E, and D subscales from the ABQ (Chelladurai & Saleh, 1980), from aggression while controlling for coaching style and NCAA division. Both gender and division were entered in the 1st block followed by the VA, PA, and II subscales of the AI-R (Gladue, 1991b) in the 2nd block. In the

RA equation, neither gender nor division were significant predictors in the first step explaining only 0.2% of the variance ($p > .05$). When VA, PA, and II were entered into the equation after the control variables there was not a significant change in R^2 .

In the E equation, neither gender nor division were significant predictors in the first step explaining only -0.6 % of the variance ($p > .05$). When VA, PA, and II were entered into the equation after the control variables there was not a significant change in R^2 .

In the D equation, neither gender nor division were significant predictors in the first step explaining only 2.3 % of the variance ($p > .05$). When VA, PA, and II were entered into the equation after the control variables there was not a significant change in R^2 .

None of the burnout subscales (RA, E, and D) were significantly predicted from aggression (See Table 4).

Table 4

Results of Regression Analyses including all 3 burnout subscales: Reduced Sense of Accomplishment, Emotional/Physical Exhaustion), and Devaluation

Variables	Reduced Sense of Accomplishment	Devaluation	Exhaustion
Step 1	$\beta(t)$	$\beta(t)$	$\beta(t)$
Gender	-.060(.580)	.116(1.109)	.057(.557)
Division	-.096(-.919)	.043(.406)	-.163(-1.578)
Step 2			
Verbal Aggression	-.083(-.669)	.27(.220)	.09(.701)
Physical Aggression	.033(.267)	.146(1.205)	-.003(-.026)
Impulsive/Impatient	.103(.837)	.053(.430)	-.003(-.026)
Overall model F	.66	1.05	1.11
Adjusted R^2	-.01	.00	.00
Standard Error	.73	.89	.90
Degrees of freedom	5,118	5,118	5,118

Note: Beta coefficients reported are from each step of the hierarchical regression.

Hypothesis Two

The second hypothesis stated that NCAA men's soccer players would be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. Coaching style was measured by using the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980) to determine if athletes perceived their coaches to behave in an autocratic or democratic manner. NCAA Division was determined simply by which NCAA Division the participants NCAA institution belonged too; I, II, or III. The results partially

supported this hypothesis. Specifically, the analysis revealed significant gender differences in aggression (Pillai’s Trace (3,115) = 7.13, $p < .05$, $\eta_p^2 = .157$). Follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression ($F(1,117) = 12.14$, $p < .01$; $M = 2.60$, $SD = .75$) and physical aggression ($F(1,117) = 17.03$, $p < .01$; $M = 2.50$, $SD = .85$). There was a marginal significance in the impulsive impatient subscale ($F(1,117) = 3.36$, $p = .06$; $M = 2.51$, $SD = .80$) (See table 5 and Figure 1).

Table 5

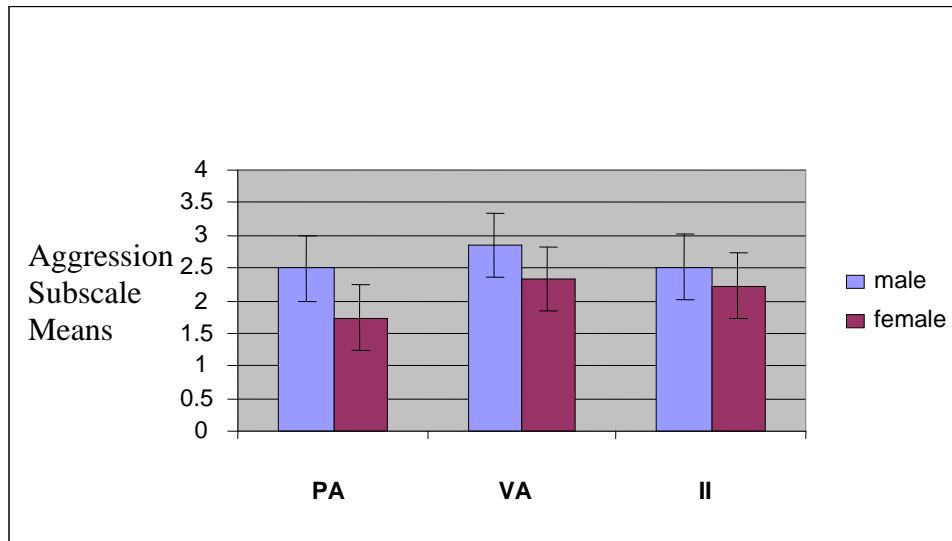
Descriptive statistics on the follow up ANOVA for the effects of gender on the subscales of Physical Aggression, Verbal Aggression, and Impulsive/Impatient

AI-R Subscale	F	Male		Female	
		Mean	SD	Mean	SD
Physical Aggression	12.14**	2.50	.85	1.74	.71
Verbal Aggression	17.03**	2.85	.72	2.33	.70
Impulsive/Impatient	3.36**	2.51	.80	2.22	.80

Note: ** Significance at $p < .01$ level

Figure 1

Gender Differences in the 3 Aggression Subscales: Physical Aggression (PA), Verbal Aggression (VA), and Impulsiveness/Impatience (II).



Hypothesis Three

The third hypothesis stated that NCAA female soccer players would be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. However, results did reveal significant burnout differences in NCAA division as the highest total means for the RA (2.54), E (2.6), and D (2.45) subscales were scored by division I athletes. (Pillai's Trace (6,232) = 3.69, $p < .05$, $\eta_p^2 = .087$). Follow-up univariate ANOVA showed significant differences with higher scores for the RA ($F(2,117) = 4.78$, $p = .01$; $M = 2.54$, $SD = .65$) and D ($F(2,117) = 8.27$, $p = .000$; $M = 2.45$, $SD = 1.08$) subscales for Division I athletes when compared to lower NCAA Divisions. There were no significant differences seen in the E ($F(2,117) = 1.47$, $p = .234$; $M = 2.6$, $SD = .96$) subscale (See table 6 and Figure 2).

Significant differences in burnout between divisions were also shown in post hoc Tukey analysis. In this analysis significant differences were found in the RA subscale when NCAA Division I was compared to NCAA division II and in the D subscale when NCAA Division I was compared to both NCAA Division II and III. There were no significant differences found between NCAA Divisions in the E subscale.

Table 6

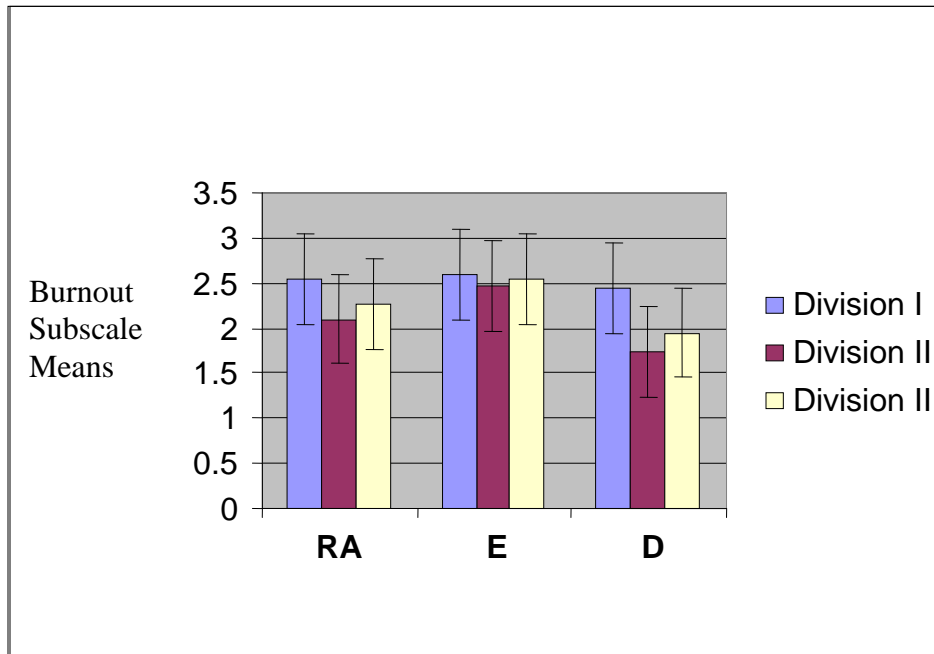
Descriptive statistics on the follow up ANOVA for the effects of NCAA Division on the subscales of Reduced Sense of Accomplishment, Exhaustion, and Devaluation

ABQ Subscale	F	D I		DII		DIII	
		Mean	SD	Mean	SD	Mean	SD
Reduced Sense of Accomplishment	3.91**	2.54	.650	2.10	6.93	2.27	.791
Exhaustion	.285	2.60	.967	2.46	.932	2.55	.768
Devaluation	7.06**	2.45	1.08	1.73	.761	1.95	.812

Note: ** Significance at $p < .01$ level

Figure 2

Differences in NCAA Division in 3 burnout subscales: Reduced Sense of Accomplishment (RA), Emotional/Physical Exhaustion (E), and Devaluation (D).



Significant burnout differences were also seen in athletes who reported their coaches to use an autocratic coaching style (Pillai's Trace (3,115) = 4.21, $p < .05$, $\eta_p^2 = .099$). Follow-up univariate ANOVAs showed significant differences with higher scores for autocratic behavior in the RA ($F(1,117) = 8.81$, $p = .004$; $M = 2.25$, $SD = .726$), E ($F(1,117) = 7.48$, $p = .007$; $M = 2.51$, $SD = .90$), and D ($F(1,117) = 7.63$, $p = .007$; $M = 1.96$, $SD = .90$) subscales. (See table 7 and Figure 3).

Table 7

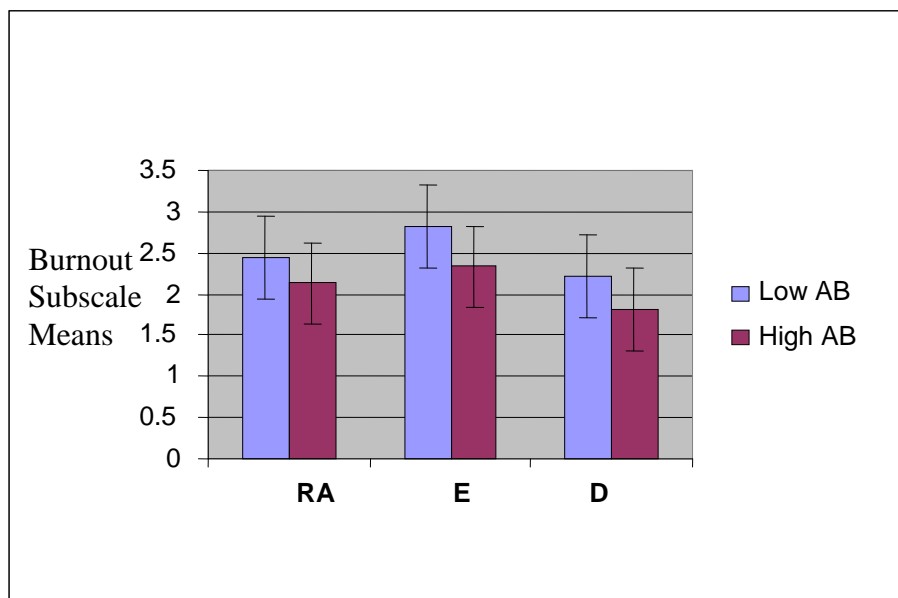
Descriptive statistics on the follow up ANOVA for the effects of autocratic behavior on the subscales of Reduced Sense of Accomplishment, Exhaustion, and Devaluation

ABQ Subscale	F	Low AB Mean	SD	High AB Mean	SD
Reduced Sense Of Accomplishment	8.81**	2.44	.750	2.13	.691
Verbal Aggression	7.50**	2.82	.84	2.33	.88
Devaluation	7.63**	2.22	.921	1.81	.864

Note: ** Significance at $p < .01$ level

Figure 3

Effects of Autocratic Behavior on Subscales 3 burnout subscales: Reduced Sense of Accomplishment (RA), Emotional/Physical Exhaustion (E), and Devaluation (D).¹



CHAPTER FIVE

Discussion

The first purpose of the present study was to determine to what extent athletic aggression predicts athletic burnout in NCAA men's and women's soccer players. The second purpose was to examine if NCAA men's soccer players are more aggressive than NCAA women's soccer players. The third and final purpose was to examine if NCAA female soccer players are more prone to burnout than NCAA male soccer players.

The following subsections will discuss the results in greater detail in the following areas: (a) hypothesis one, (b) hypothesis two, (c) hypothesis three, (d) strengths and limitations, (e) future research, and (f) conclusion.

Hypothesis One

The first hypothesis stated that NCAA athletes who show higher levels of athletic aggression would be more prone to burnout in all three subscales (RA, E, and D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis as none of the RA, E, or D subscales were significantly predicted from aggression.

The present study mentioned the fight or flight response and the involvement it may have in burnout during the introduction. The sympathetic nervous system releases norepinephrine and epinephrine into the blood stream during this response. These hormones are then carried to all the tissues of the body in order to make the organs of the body function as efficiently as possible during the fight or flight response. Such a large volume of these hormones is released at this time that they often stay in the blood stream five to 10 times as long as normal due to the time it takes to remove such vast quantities of them from the blood stream (Cox, 2002). It was theorized in the present study that the amount of these hormones released into the system during the fight or

flight response may make an aggressive athlete more likely to experience burnout. Due to the lack of literature on the prediction of burnout from aggression and that the first hypothesis was not supported by the results more research is needed in this area.

Hypothesis Two

The second hypothesis stated that NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. The avoidance subscale was removed from the present study due to lack of internal consistency. It may be possible that the athletes were confused by questions that dealt with the avoidance of aggression; especially the male athletes who are less likely to engage in relational aggression. There is a likely hood that many athletes would prefer to deal directly with any issue involving aggression face to face and would expect others to present any such issue to them the same way.

The results partially supported the second hypothesis. Specifically, the analysis revealed significant gender differences in aggression. Follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression, physical aggression, and impulsiveness/ impatience. These findings are consistent with past research concerning gender differences in aggression when the aggression in question is physical aggression (Baron & Richardson, 1994; Buss & Perry, 1992; Eagly & Steffen, 1986; Tucker & Parks, 2001; Wann, Haynes, McLean, & Pullen, 2003). Research (Crick, 1996, 1997; Crick & Grotperter, 1995; Grotperter & Crick, 1996; Werner & Crick, 1999) has shown that men and women think differently about aggression and that female athletes are more likely to engage in something known as relational aggression while men are more prone to engage in physical aggression. Storch et al. (2004) focused on relational aggression in athletes and stated that the

body of research mentioned above (Crick, 1996, 1997; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999) extended the definition of aggression to include harmful acts such as social ostracism and spreading malicious rumors. This type of aggression is known as relational aggression and involves attempts to harm others through social isolation and damage to inter-personal relationships. Females engage in acts of relational aggression at rates similar to those that males engage in physical activity.

Hypothesis Three

The third hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. This is contrary to findings of past research (Pastore & Kuga, 1993; Pastore & Judd, 1993; Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor, 1999) on gender differences in burnout which show that females are more prone to burn out. However, it must be pointed out that the participants in the above mentioned body of work were coaches and not athletes. Lai and Wiggins (2003) did conduct a study that examined gender difference in burnout of athletes in which males did report higher levels of burnout than the females. However, gender differences in the reported levels were not statistically significant.

Although the third hypothesis of the present study was not supported results did reveal significant burnout differences in NCAA Division as the highest total means for the RA (2.54), E (2.6), and D (2.45) subscales were scored by NCAA Division I athletes.

Raedeke (1997) defined burnout as “a syndrome of physical/mental exhaustion, sport devaluation, and reduced athletic accomplishment” (Raedeke, Lunney, and Venables 2002, p. 184). Raedeke (1997) also believed that depersonalization manifested itself in the form of sports

devaluation which refers to the athlete no longer caring about their sport and performance in athletic burnout.

According to NCAA. Org. (2007) NCAA Division I schools have a minimum and a maximum amount of financial awards that can be given. They also have stricter attendance requirements than NCAA Division I and II. For example, NCAA Division I football programs must have attendance of 15,000 or higher per game to remain an NCAA Division I school. NCAA Division I schools also must compete against stiffer competition than those in lower NCAA Divisions. Due to the financial opportunity coupled with the higher demands placed on the NCAA Division I athletic programs, these programs are more likely to seek out the top high school athletes to participate for them. The better the athlete that the school recruits the better chance the respective program has to beat the higher level of competition it finds itself pitted against in NCAA Division I. If the NCAA Division I program is successful with this type of athlete playing for them they are more likely to fill stadiums and meet the financial requirement. Garstecki, Latin, and Cuppett (2004) found that the NCAA Division I groups outperformed NCAA Division II groups at a significant level when they compared physical fitness levels of football players from both NCAA Divisions. Since NCAA Division I athletes have greater demands placed upon them they are practically required to be in optimal physical condition and must train year round to do so. This grueling training leaves very little down time for mental and physical recuperation and provides ample reason to believe burnout would be higher in NCAA Division I athletes.

Significant burnout differences were also seen in athletes who reported their coaches to use an autocratic coaching style as opposed to a democratic coaching style. This finding is supported by past research (Amarose & Horn, 2000; Loughhead & Hardy, 2004). Autocratic coaching style is

defined by a coach who insists on being in complete control and determining down to the last detail what transpires on the practice or playing field whereas a democratic coaching style is defined by a coach who is more willing to share the control of the team with his players and assistant coaches (Cox, 2002).

"coaches who exhibit a leadership style characterized by low levels of autocratic behavior, who provide high frequencies of positive, encouraging, and informationally based feedback, and low frequencies of ignoring players successes and failures may create an environment that facilitates the development of intrinsic motivation in their athletes" (Amarose and Horn, 2000, p. 78).

This statement from Amarose and Horn (2000) would seem to indicate that democratic coaches are more likely to instill intrinsic motivation in their athletes where autocratic coaches may be more interested in constant training and improved results. If an athlete is playing a sport because they are enjoying it, they are much more likely to avoid burnout than if they are doing it because they feel they must.

Social learning theory (1973, 1983) may help explain why men and women engage in different kinds of aggression. Men are more likely to engage in physical aggression while women are more likely to engage in relational aggression. Perhaps this is from viewing the manner that other males and females have acted in relation to expressing aggression. It may also explain why a coach is autocratic or democratic in their leadership style. They may have played under a successful coach that used the same style they now use. If it was modeled successfully for them they may be more apt to use it in their own coaching career especially if what was observed returned positive results in the win-loss column.

Social learning theory (1973, 1983) may be able to explain not only the aggressive behaviors that athletes in the present study reported but others as well. The NCAA Division I male soccer players scored highest in burnout and this study speculated that it was due to the rigorous

training they are put through, year round. It could be possible that these athletes have been watching Division I athletes on television and hearing them speak in interviews about all the sacrifice and hard work necessary to get to NCAA Division I. If an athlete who worked hard enough to get to NCAA Division I athletics views others who are training year round and without being told to train, he or she may just fall right in line and do the same. While other factors are certainly involved in reaching burnout the mimicking of this year round training behavior may be partially responsible.

Strengths and Limitations

The present study surveyed athletes on perceptions of their coach's leadership style. While this could be perceived as a limitation it actually strengthened this study in that it provided the researcher with valid (direct) reports. Had the coaches reported their perceptions of their own leadership styles they may have had difficulty remaining objective and given false responses.

The population used in this study can be seen as both strength and a limitation when different aspects are examined. The total N in the present study was 124. This is a strength since Cohen (1992) suggests that power should be set at .80 for research in the behavioral sciences and that automatically setting alpha level at .05 in such research makes a type II error 4 times as likely as type I error. In order to avoid this alpha level should be set at .01. According to Cohen's (1992) sample size planning table an N of 92 combined with an alpha level setting of .01 would have a power of .75. Since the present study has an N of 124 these settings will be more than adequate to raise power to .80. Power of .80 in this case would yield an effect size of just under 0.5 according to Thomas and Nelson (2001).

The population that was surveyed in this study can also be seen as a limitation when it is examined more closely. The original population to be surveyed for this project was to be 60 male

and 60 female NCAA Division II soccer players. However, convincing NCAA Division II soccer teams to participate proved much more difficult than anticipated. The project was opened up to all soccer teams, in all three NCAA Divisions, and as a result the number of participants from each division was unbalanced. For example, 30 NCAA Division I male soccer players were surveyed but no NCAA Division I females. The fact that these 30 NCAA Division I male participants were all from the NCAA Division most likely to push an athlete to burnout may explain why the third hypothesis failed to be supported. That hypothesis stated that NCAA female soccer players would be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, and D) while controlling for coaching style and NCAA division. This finding was also contrary to findings of past research (Pastore & Kuga, 1993; Pastore & Judd, 1993; Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor, 1999) on gender differences in burnout which show that females are more prone to burn out.

The difficulty experienced in collecting data may have been due to the subject matter of the present study. It is a possibility that the coaches that declined to allow their players to participate in the study did so because they did not want their players exposed to questions about aggression levels and burnout. These coaches may have been concerned that thinking about these subjects would interfere with players focus on soccer and as a result negatively impact on field performance.

A final limitation may be related to participants' biases. It is possible the participants may have given responses they think the researcher is looking for instead of what they truly believe. It is also possible the participants could have given responses they believed to be true but were not in accordance with the way they actually behave. Athletes also could have been distracted by upcoming games, practices, fights with boyfriends or girlfriends, etc. This could have potentially

affected the athlete's ability to focus all their attention on the questionnaire and as a result the responses may have not been accurate. This is a limitation of any study relying on self reports and could not be controlled in the study.

Future Research

The present study is the first to examine if aggression is a predictor of burnout and as result information was learned that could help improve future studies in the area. These findings indicated that burnout is not predicted from aggression. A future study could examine if those athletes who show lower levels of aggression are more prone to burnout. This would stand to reason since athletes who experience burnout often no longer care about their sport and performance (Raedeke, Lunney, and Venables, 2002). Perhaps declining levels of aggression would be more of an indicator of a path leading to burnout than increased levels of aggression.

The findings from this study also indicate that it may be beneficial to run a similar study with a sample that is balanced using an equal number of participants from each division and each gender. The findings also indicated that NCAA Division I males experience burnout at higher rates than athletes from lower divisions. Future research should focus on Division I athletes and use qualitative research techniques to examine if some of the reasons given for this by the present study are accurate. It would also be beneficial to have an equal number of male and female participants from each NCAA Division.

Future research in this area may consider using a social desirability questionnaire such as the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960) to determine if coaches who initially agree to allow their teams to participate actually want their teams to do so. This could cut down on instances of coaches giving verbal commitments to participate and then backing out when they examine the content of the questionnaires. Once coach approval is gained

orally and through successful completion of the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960) the instrument should also be administered to all participants. This should be done to examine if responses are being given just to make the participant appear socially desirable to the researcher. Those participants that gave too many socially desirable responses on this instrument would be discarded from the study. The utilization of this instrument in such a manner could reduce wasted time and effort for both researchers and participants as well as to insure that data collected is relevant and useful.

The findings from this study on gender differences in burnout contradicted most of the findings from past research (Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor; 1999; Lai & Wiggins, 2003; Pastore & Judd, 1993; and Pastore & Kuga, 1993; Hart, Hasbrook, & Mathes, 1986; Hasbrook, Hart, Mathes, & True, 1990; Heishman, Bunker, & Tutwiller 1990; Sisley & Capel, 1986; Wilkson & Schneider, 1991) on the subject. The body of work listed above has found that females are more prone to burnout than males. Many of the studies (Hart, Hasbrook, & Mathes, 1986; Hasbrook, Hart, Mathes, & True, 1990; Heishman, Bunker, & Tutwiller 1990; Sisley & Capel, 1986; Wilkson & Schneider) in this body of work were also done with coaches as opposed to athletes. Clearly, there is a need for more research done with athletes as opposed to coaches in the area of burnout.

Many of the studies conducted on aggression have been in the area of physical aggression while only a limited amount of research has (Crick, 1996, 1997; Crick & Grotzpetter, 1995; Grotzpetter & Crick, 1996; Werner & Crick, 1999; Storch et al., 2004) been devoted to examining relational aggression. This type of aggression has been shown to be displayed far more by and between females where as males are more prone to engage in physical aggression. A future

study could examine if relational aggression is a predictor of burnout in athletes. It is possible such a study could better explain why female athletes are more prone to burnout than males.

Finally, a different measure for aggression may be used since the entire avoidance subscale of the AI-R (Glaude, 1991) was removed from the present study because it lacked internal consistency. Furthermore, combining qualitative methods with quantitative may help to gather information on the athlete's thoughts and feelings on aggression, burnout, and coaching style that self report are unable to by themselves.

Conclusion

While aggression was not shown to be a predictor of burnout in the present study, the role that modeling plays in the learning and aggressive behavior is relevant. Male athletes were shown to be more aggressive than females in the present study as displayed in past research (Baron & Richardson, 1994; Buss & Perry, 1992; Eagly & Steffen, 1986; Tucker & Parks, 2001; and Wann, Haynes, McLean, & Pullen, 2003). Athletes learn what constitutes acceptable behavior concerning aggression from many sources, including their teammates and coaches. They learn the limits and boundaries pertaining to aggression from watching others play the game as they grow up. The concept is also known as modeling which refers to learning through observation. Bandura (1978) believed modeling was just as an effective means of teaching behavior as direct experience. This was the basis behind Bandura's classic theory of aggression known as social learning theory (1973, 1983) and was demonstrated in the classic bobo doll experiment by Bandura, Ross, and Ross (1963) in which children mimicked the beating of a bobo doll after witnessing a video of adults doing the same thing with no other instruction.

While aggressive play will always have a place in sports and is usually encouraged by coaching staffs it can result in ugly incidents similar to those referred to earlier. It is up to

coaches and officials to keep athletic aggression in check. Hopefully, the present study and those done in the future will continue to educate coaches on the dangers of athletic aggression and burnout. If future coaches are more aware of the signs of burnout it may become possible that they will be readily able to notice them in their players. If coaches notice psychological distress from their players in the form of aggression or burnout hopefully they will not hesitate to ask a sports psychologist or other professional to intervene on behalf of the troubled athlete.

Appendix A

Running Head: Aggression and Burnout

Differences in aggression and burnout levels in NCAA I and II male and female soccer players.

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ABSTRACT

The purpose of this study was to examine if NCAA men's soccer players are more aggressive than NCAA female soccer players and if NCAA female soccer players are more prone to burnout than NCAA male soccer players. The participants completed three questionnaires: The Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980), The Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001), and The Aggression Inventory Revised (AI-R) (Gladue, 1991b). The first hypothesis stated that NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. A MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). The analysis revealed significant gender differences in aggression while follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression and physical aggression. The second hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. The second MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Results did reveal significant burnout differences in NCAA division as the highest total means for all the burnout subscales were scored by division I athletes. Results from the present study may have been affected by having a large number of NCAA Division I males and no NCAA Division I females in the sample. A similar study with a sample that has a balanced number of participants from each NCAA division may be beneficial and more conclusive.

Aggression in sport has been given several descriptions that all share characteristics of the following widely accepted definition; actions performed with the intent to physically or psychologically harm an opponent. These behaviors include those such as illegally hitting an opponent with a fist or a piece of equipment, or any action directed toward physically or psychologically tormenting opponents (Tucker & Parks, 2001). Salmivalli and Kaukiainen (2004) cite several studies (Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988; Salmivalli et al, 2000) that have argued that males are more prone to this type of aggression during competition than females, and that females are more prone to engaging in a type of aggression known as relational aggression than males. Crick, (1996, 1997), Crick and Grotpeter, (1995), Grotpeter and Crick, (1996), and Werner and Crick, (1999) stated that relational aggression involves behaviors that are focused on harming others through social isolation and damage to inter-personal relationships such as starting rumors about other individuals as cited by Storch, Werner, and Storch (2004). Results from a study by Maxwell (2004) are also consistent with the above mentioned (Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988; Salmivalli et al, 2000) findings about males and aggression. Maxwell (2004) examined the relationship between anger rumination (thinking obsessively over past experiences that have provoked a negative response of anger) and athlete aggression. The results showed a significant effect for gender indicating a higher level of reported physical aggression for male athletes compared with female athletes

Aggressive behavior in sports and what causes an athlete to exhibit such behavior will always be significant topics in the world of sports. When an athlete engages in aggressive behavior some potential explanations for his or her behavior are that he or she is not being coached properly, that the coach lacks proper control over his or her players, or that the player is not responding to

the specific style of coaching used in his or her training. If this explanation is correct it suggests that coaching behavior will have a major impact on aggressive sports behavior. A study conducted by Sherman, Fuller, and Speed, (2000) showed that there is a difference in the preferred coaching behaviors of men and women. In a study of gender comparisons of preferred coaching behaviors among Australian football, netball, and basketball players Sherman, Fuller, and Speed, (2000) found the only notable difference was that female athletes showed a slightly greater preference for democratic behavior and positive feedback from coaches than males. This partially supports similar findings by Chelladuari and Saleh (1978) and Terry (1984) that found that male athletes prefer a more autocratic coach and that female athletes prefer a more democratic coach. While coaching style will not be closely examined in the present study it is important to recognize that a coach's behavior can potentially impact a player's behavior.

Perhaps the gender differences in preferred leader behaviors listed above could explain why males and females are so different in the way they express their aggression. Perhaps it is due to observing this same aggressive behavior they believe is preferable in most of their male and female coaches. Coaching style served as the control variable but a link between coaching style, aggression, and athletic burnout was not be examined in the present study. However, the point that modeling of behaviors (Bandura, 1973, 1978) by coaches has a large impact on future behaviors of their players is important enough that its' mention was warranted.

Maslach (1976) defined burnout as a characteristic where an individual experiences physical fatigue, carelessness, and a lack of desire which is usually a by-product of exposure to excessive stress. The stresses of sport wear an athlete down to the point where they feel that it is more beneficial to quit the sport than to continue to participate in it as cited by Lai and Wiggins, (2003).

Caccese and Mayerberg (1984) found that female coaches tended to feel more frustrated and emotionally drained from their jobs than male coaches. Caccese and Mayerberg (1984) also cited similar findings by Lai and Wiggins (2003) who found that female coaches had a lower sense of personal accomplishment. While studying the effects of emotional exhaustion Pastore and Judd (1993) also found that female coaches have a higher level of emotional exhaustion than male coaches. The female coaches in the Pastore and Judd (1993) study felt that more pressure was placed on them due to the high turnover rate from a social aspect than was placed on the male coaches as cited by Lai and Wiggins (2003). The possibility also exists that such a female athlete may also be engaged in relational aggression with those same opponents or even her own teammates off of the field. This could also be compounded by the possibility that the same female athlete is affected greater mentally than her male counterpart because of all the factors listed above in the studies conducted by Caccese and Mayerberg (1984), Pastore and Judd (1993), and Lai and Wiggins (2003). The result of this could be that female athletes are more prone to burnout than male athletes due to exposure to additional stressors when compared to male athletes.

There has been much attention given to athletic aggression (Bandura, 1973, 1978, Bjorkvst et al., 1992, Crick et al., 1997; Crick & Grotpeter, 1995, Lagerspetz et al., 1988, Salmivalli et al., 2000, Salmivalli & Kaukiainen, 2004, and Maxwell, 2004) and athletic burnout (Maslach, 1976, Lai & Wiggins, 2003, Pastore and Judd, 1993, and Caccese & Mayerberg, 1984) separately. Bjorkvst et al. (1992), Crick et al. (1997), Crick and Grotpeter (1995), Lagerspetz et al. (1988), Salmivalli et al (2000), as cited by Salmivalli and Kaukiainen (2004) have also suggested that females are more prone to burnout as well as to engage in relational aggression than males, and that males are more prone to engage in physical aggression than females.

Therefore the purpose of the study was to further examine the gender differences in aggression and burnout in NCAA athletes. Specifically, the first purpose of this study was to examine gender differences in aggression between NCAA men's and NCAA women's soccer players. The second and final purpose was to examine gender differences in burnout between NCAA men's and NCAA women's soccer players.

It was hypothesized that NCAA men's soccer players will be more aggressive than NCAA female soccer players and that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players

Methods

Participants

Three NCAA women's soccer teams and three NCAA men's soccer teams were participants for this study. For this study, surveys were used to examine if displayed athletic aggression predicts athletic burnout.

The AI-Revised (Gladue, 1991b) which is a modified version of the Olweus Multifaceted Aggression Inventory (Olweus, 1986), The LSS (Chelladurai & Saleh, 1980), and The ABQ (Raedeke & Smith, 2001) were administered to three NCAA men's soccer teams and three NCAA women's soccer teams. All athlete participation in this study was voluntary and will remain confidential. The surveys were used to determine if athletic aggression predicts burnout in NCAA men's and women's soccer players while controlling for coaching style and NCAA Division.

Instruments

The instruments used in this study were the Aggression Inventory-Revised (Gladue, 1991b), The Leadership Scale for Sports (Chelladurai & Saleh, 1980), and The Athlete Burnout

Questionnaire (Raedeke & Smith, 2001). The AI-Revised (Gladue, 1991b) was used to gauge athlete's perceptions about aggression. The LSS (Chelladurai & Saleh, 1980) was used to measure athlete's perceptions about the coaching style of their own head coach. Finally, the ABQ (Raedeke & Smith, 2001) was used to assess the athlete's level of athletic burnout.

Validity and Reliability

In the course of examining the differences in aggressive behavioral characteristics, hormones, and sexual orientation between men and women Gladue (1991b) used and described the measurement tool which he derived by modifying the Olweus Multifaceted Aggression Inventory (Olweus, 1986). "The aggression inventory contained a total of 28 items each scored using a 5-point Likert scale (1 = "does not apply at all to me" to 5 = "applies exactly to me")" (Gladue, 1991a, p. 315). The AI-R (Gladue, 1991b) is made up of five subscales. Physical aggression deals with physical confrontations and consists of statements such as "I get into fights with other people". Verbal aggression deals with verbal responses to criticism or insults and consists of statements such as "when a person is unfair to me I get angry and protest". Impulsive/impatient refers to decision making and frustration-tolerance and consists of statements such as "I become easily impatient and irritable if I have to wait". The last factor Avoid, deals with avoiding confrontation and consists of statements such as "whenever someone is being unpleasant I think it is better to be quiet than make a fuss".

In a separate study (Gladue, 1991b) examining qualitative and quantitative sex differences in self-reported aggressive behavioral characteristics Gladue (1991b) found that the AI-R (Gladue, 1991b) had fair to good internal consistency. The subscales were as follows, for men the alpha coefficients were Physical Aggression (PA) =.82; Verbal Aggression (VA) =.81; Impulsive/Impatient (II) =.80 and .65 for Avoid (A). For women the alpha coefficients were

PA=.70; VA=.76; II=.76, and .70 for Avoid. In the same study Gladue (1991) states that the validity of the AI (Gladue, 1991) subscales has been supported by factor analysis. The AI-Revised (Gladue, 1991b) was the measure used in the present study to assess NCAA male and female soccer player's attitudes on aggression.

While examining the preferred coaching behaviors of Australian athletes Sherman, Fuller and Speed (2000) used the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980) as one of the instruments and also give a description of the LSS (Chelladurai & Saleh, 1980).

The LSS is a 40- item questionnaire developed by Chelladurai and Saleh (1980) to be used as an assessment tool for leadership behavior in sport. It contains five subscales; Training Behavior (TB), Autocratic Behavior (AB), Democratic Behavior (DB), Social Support (SS), and Rewarding Behavior (RB). Responses are given on a five point Likert scale. 1 equals always, 2 equals often, 3 equals occasionally, 4 equals seldom, and 5 equals never. There are three versions of the original questionnaire, the athlete preference, the athlete perception, and the coach perception version. The athlete preference version was used by Sherman, Fuller and Speed (2000), with each item of the questionnaire preceded by the phrase "I prefer my head coach to". The present study used that athlete perception version in which the questions were preceded by the phrase "my head coach".

In regards to validity of the instrument Sherman, Fuller and Speed (2000) point to a large body of work (Chelladurai & Saleh, 1980; Chelladurai, 1986; Chelladurai, Imamura, Yamaguchi, Oinuma, & Miyauchi, 1988, Isberg & Chelladurai) that has shown the LSS (Chelladurai & Saleh, 1980) to be a valid instrument.

While examining the relationship between leadership behaviors and group cohesion Shields, Gardner, Bredemeier, and Bostro (1997) used the LSS (Chelladurai & Saleh, 1980) as one of

their instruments and in doing so examined the internal reliability of the LSS. The results revealed that Cronbach's alpha for each subscale was within acceptable parameters (Nunnally, 1967) except for Autocratic Behavior at .65 which is slightly lower than the desired minimum .70. The Training and Instruction subscale was .88, Democratic Behavior was .83, Social Support was .81, and Positive Feedback was .85. The present study used the athlete perception version of the LSS (Chelladurai & Saleh, 1980) in which the questions were preceded by the phrase "my head coach" to assess NCAA male and female soccer players' perceptions about their coaches' leadership style.

In a study (Cresswell & Ecklund, 2006) examining the validity of measures used to assess burnout the Athletic Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001) was one of the psychometric tests in question. Cresswell and Ecklund (2006) give a description as well as a review of the validity and reliability of the ABQ (Raedeke & Smith, 2001).

"The ABQ (Raedeke & Smith, 2001) was developed by Raedeke and Smith (2001) to assess athlete burnout. The ABQ contains 15 items. Participants respond on a 5-point Likert scale with anchors of: (1) "almost never", (2) "rarely", (3) "sometimes", (4) "frequently" and (5) "most of the time". The instrument contains three subscales designed to measure (a) reduced sense of accomplishment (e.g. "I'm accomplishing many worthwhile things in sport"), (b) devaluation (e.g. "I have negative feelings towards sport") and (c) emotional/physical exhaustion (e.g. "It seems that no matter what I do, I don't perform as well as I should"). Raedeke and Smith (2001) reported acceptable reliability for all subscales (Cronbach's alpha coefficients ranging from 0.71 to 0.87) as well as test - retest reliability and construct validity" (Cresswell and Ecklund, 2006, p. 211).

The ABQ (Raedeke & Smith, 2001) was used in the present study to assess levels of athletic burnout with in NCAA men's and women's soccer players.

Procedures

It was originally planned that coaches of all the NCAA men's soccer team NCAA women's soccer teams which play in a local conference would be contacted to outline the study and ask permission for the teams to fill out questionnaires. However, so few teams from the local area

were willing to participate that the study was expanded to all NCAA men's and women's soccer programs in the U.S. Teams were continually contacted until 64 male and 60 female surveys were obtained by willing participants. Approval was obtained from the coaches, athletes were approached and given a complete description of the project on the cover letter attached to the survey packet. Participants were assured anonymity and confidentiality of their responses. The questionnaires were administered to all teams in various times between April of 2006 and March of 2007.

Design Analysis

Cohen (1992) suggests that power should be set at .80 for research in the behavioral sciences and that automatically setting alpha level at .05 in such research makes a type II error 4 times as likely as type I error. In order to avoid this alpha level should be set at .01. According to Cohen's (1992) sample size planning table an N of 92 combined with an alpha level setting of .01 would have a power of .75. Since the present study has an N of 124 these settings will be more than adequate to raise power to .80. Power of .80 in this case would yield an effect size of just under 0.5 according to Thomas and Nelson (2001).

The independent variable was aggression of NCAA men's and women's soccer players assessed by administering of the AI-Revised (Gladue, 1991b). The dependent variable was athletic burnout of NCAA men's and women's soccer players assessed by administering of the ABQ (Raedeke & Smith, 2001) to the teams.

A MANCOVA was carried out to determine gender differences in burnout while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Coaching style was determined by administering the LSS (Chelladurai & Saleh, 1980) to the teams. The

dependent variables were the three subscales of the ABQ (Raedeke & Smith, 2001) of reduced sense of accomplishment (RA), emotional/physical exhaustion (E), and devaluation (D).

A second MANCOVA was carried out to determine gender differences in aggression while controlling for coaching style (democratic vs. autocratic) and NCAA division (I, II, or III). Coaching style was determined by administering the LSS (Chelladurai & Saleh, 1980) to the teams. The dependant variable was the four subscales of the Aggression Inventory-Revised (AI-Revised) (Gladue, 1991b) of physical aggression (PA), verbal aggression (VA), impulsive/impatient (II), and avoid (A).

Results

The first purpose was to examine if NCAA men's soccer players are more aggressive than NCAA women's soccer players. The second and final purpose was to examine if NCAA female soccer players are more prone to burnout than NCAA male soccer players. The following subsections will discuss in greater detail the following areas: (a) data screening, (b) descriptive statistics and reliability analysis, (c) hypothesis one, (d) hypothesis two, (e) hypothesis three.

Data Screening

Data management procedures showed that there were no outliers and that all variables and all combinations of the variables were normally distributed. Tests of homogeneity (Box M's test) were computed for each MANCOVA and the results were significant, thus violating the assumption of homogeneity of variances-covariances. Therefore Pillai's Trace was used to report the findings for this study.

Descriptive Statistics and Reliability Analysis

Data was collected from a total sample of 124 participants. Participants were NCAA male (N=64) and NCAA female (N=60) soccer players from NCAA Division I, II, and III.

Participants were surveyed on perceptions of aggression, coaching style, and athletic burnout. The measures used to gather this information were the Aggression Inventory Revised (AI_R) (Gladue, 1991b), the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980), and the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001).

Descriptive statistics for NCAA division and gender (see Table 1 and Table 2) were computed (see Table 1 and Table 2). The following sections will discuss in greater detail the results for the two separate MANCOVAS. The subscales of the AI-R (Gladue, 1991b), the LSS (Chelladurai & Saleh, 1980), and the ABQ (Raedeke & Smith, 2001) were all analyzed for internal consistency (See Table 3). During this analysis it was found that Cronbach's alpha coefficient were above .70 and acceptable (Nunnally, 1967) for all subscales except for the avoidance (A) subscale of the AI-R and the reduced sense of accomplishment subscale (RA) from the ABQ.

Table 1

Descriptive Statistics for Converted Means of Aggression Inventory- Revised by Division

Division		Physical Aggression	Verbal Aggression	Impulsive/Impatience
I	Mean	2.50	2.78	2.45
	Std. Deviation	.87	.81	.76
II	Mean	2.07	2.67	2.42
	Std. Deviation	.85	.71	.76
III	Mean	1.90	2.28	2.21
	Std. Deviation	.81	.70	.70

Table 2

Descriptive Statistics for Converted Means of Athlete Burnout Questionnaire by Division

Division		Reduced Sense of Accomplishment	Devaluation	Exhaustion
I	Mean	2.17	2.60	2.50
	Std. Deviation	.65	.96	1.08
II	Mean	2.10	2.46	1.73
	Std. Deviation	.69	.93	.76
III	Mean	2.27	2.55	2.42
	Std. Deviation	.79	.76	.85

The avoidance (A) subscale was not found to be reliable with a Cronbach's alpha of .363.

Thus, this subscale will not be utilized in the present study.

The reduced sense of accomplishment (RA) subscale was found not to be reliable either with a Cronbach's alpha of .659. However, item 7 was deleted and the Cronbach's alpha for the RA subscale was elevated to .691. The RA subscale used in the present study included 4 items. (Items 1, 5, 13 and 14).

Table 3

Reliability of Aggression Inventory-Revises, Leadership Scale for Sports, and Athlete Burnout Questionnaire Subscales

Subscale	Cronbach's Alpha
Physical Aggression	.73
Verbal Aggression	.77
Impatient/Impulsive	.76
Avoidance	.36
Autocratic	.80
Democratic	.86
Exhaustion	.89
Devaluation	.88
Reduced Sense of Accomplishment	.69

Hypothesis One

The first hypothesis stated that NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. Coaching style was measured by using the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980) to determine if athletes perceived their coaches to behave in an autocratic or democratic manner. NCAA Division was determined simply by which NCAA Division the participants NCAA institution belonged too; I, II, or III. The results partially supported this hypothesis. Specifically, the analysis revealed significant gender differences in

aggression (Pillai's Trace (3,115) = 7.13, $p < .05$, $\eta_p^2 = .157$). Follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression ($F(1,117) = 12.14$, $p < .01$; $M = 2.60$, $SD = .75$) and physical aggression ($F(1,117) = 17.03$, $p < .01$; $M = 2.50$, $SD = .85$). There was a marginal significance in the impulsive impatient subscale ($F(1,117) = 3.36$, $p = .06$; $M = 2.51$, $SD = .80$) (See table 5 and Figure 1).

Table 5

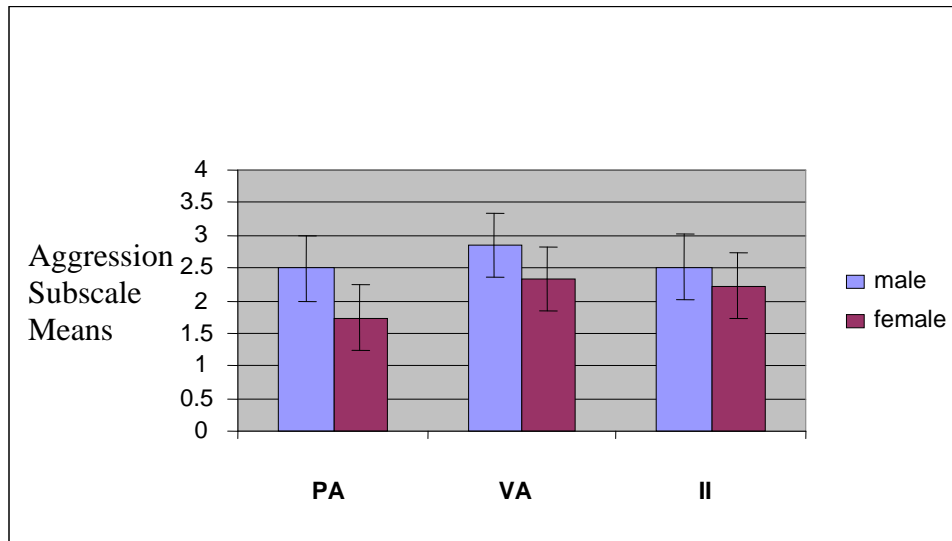
Descriptive statistics on the follow up ANOVA for the effects of gender on the subscales of Physical Aggression, Verbal Aggression, and Impulsive/Impatient

AI-R Subscale	F	Male		Female	
		Mean	SD	Mean	SD
Physical Aggression	12.14**	2.50	.85	1.74	.71
Verbal Aggression	17.03**	2.85	.72	2.33	.70
Impulsive/Impatient	3.36**	2.51	.80	2.22	.80

Note: ** Significance at $p < .01$ level

Figure 1

Gender Differences in the 3 Aggression Subscales: Physical Aggression (PA), Verbal Aggression (VA), and Impulsiveness/Impatience (II).



Hypothesis Two

The second hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. However, results did reveal significant burnout differences in NCAA division as the highest total means for the RA (2.54), E (2.6), and D (2.45) subscales were scored by division I athletes. (Pillai's Trace (6,232) = 3.69, $p < .05$, $\eta_p^2 = .087$). Follow-up univariate ANOVA showed significant differences with higher scores for the RA ($F(2,117) = 4.78$, $p = .01$; $M = 2.54$, $SD = .65$) and D ($F(2,117) = 8.27$, $p = .000$; $M = 2.45$, $SD = 1.08$) subscales for Division I athletes when compared to lower NCAA Divisions. There were no significant differences seen in the E ($F(2,117) = 1.47$, $p = .234$; $M = 2.6$, $SD = .96$) subscale (See table 6 and Figure 2).

Significant differences in burnout between divisions were also shown in post hoc Tukey analysis. In this analysis significant differences were found in the RA subscale when NCAA Division I was compared to NCAA division II and in the D subscale when NCAA Division I was compared to both NCAA Division II and III. There were no significant differences found between NCAA Divisions in the E subscale.

Table 6

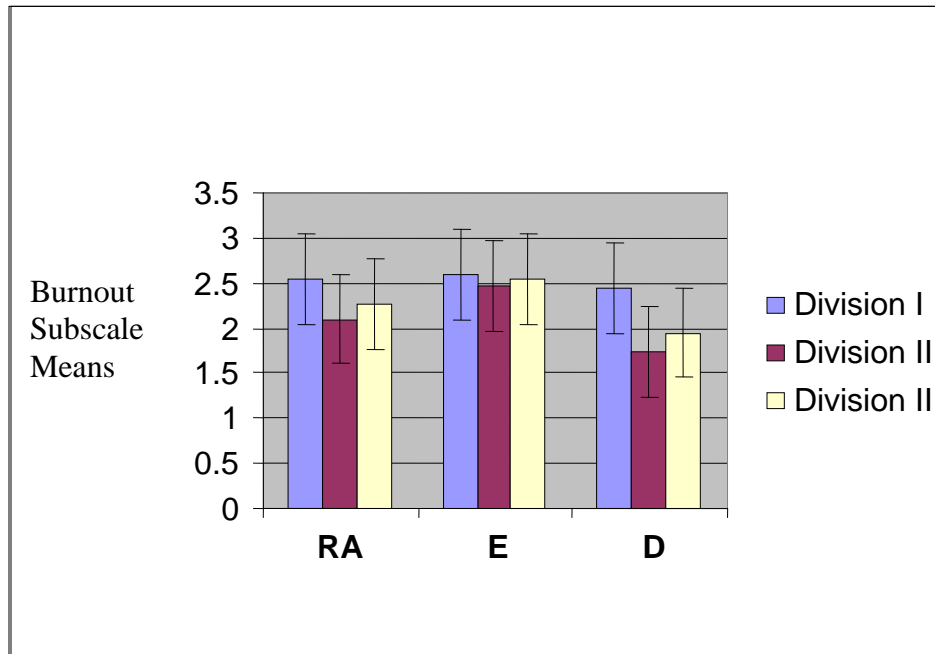
Descriptive statistics on the follow up ANOVA for the effects of NCAA Division on the subscales of Reduced Sense of Accomplishment, Exhaustion, and Devaluation

ABQ Subscale	F	D I		DII		DIII	
		Mean	SD	Mean	SD	Mean	SD
Reduced Sense of Accomplishment	3.91**	2.54	.650	2.10	6.93	2.27	.791
Exhaustion	.285	2.60	.967	2.46	.932	2.55	.768
Devaluation	7.06**	2.45	1.08	1.73	.761	1.95	.812

Note: ** Significance at $p < .01$ level

Figure 2

Differences in NCAA Division in 3 burnout subscales: Reduced Sense of Accomplishment (RA), Emotional/Physical Exhaustion (E), and Devaluation (D).



Significant burnout differences were also seen in athletes who reported their coaches to use an autocratic coaching style (Pillai's Trace (3,115) = 4.21, $p < .05$, $\eta_p^2 = .099$). Follow-up univariate ANOVAs showed significant differences with higher scores for autocratic behavior in the RA ($F(1,117) = 8.81$, $p = .004$; $M = 2.25$, $SD = .726$), E ($F(1,117) = 7.48$, $p = .007$; $M = 2.51$, $SD = .90$), and D ($F(1,117) = 7.63$, $p = .007$; $M = 1.96$, $SD = .90$) subscales. (See table 7 and Figure 3).

Table 7

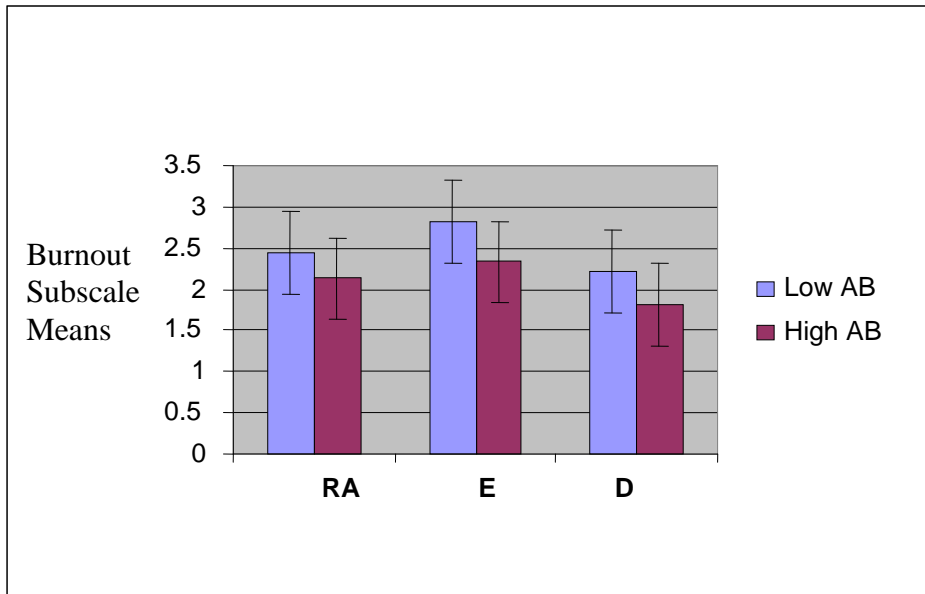
Descriptive statistics on the follow up ANOVA for the effects of autocratic behavior on the subscales of Reduced Sense of Accomplishment, Exhaustion, and Devaluation

ABQ Subscale	F	Low AB		High AB	
		Mean	SD	Mean	SD
Reduced Sense Of Accomplishment	8.81**	2.44	.750	2.13	.691
Verbal Aggression	7.50**	2.82	.84	2.33	.88
Devaluation	7.63**	2.22	.921	1.81	.864

Note: ** Significance at $p < .01$ level

Figure 3

Effects of Autocratic Behavior on Subscales 3 burnout subscales: Reduced Sense of Accomplishment (RA), Emotional/Physical Exhaustion (E), and Devaluation (D).¹



Discussion

The first purpose was to examine if NCAA men's soccer players are more aggressive than NCAA women's soccer players. The second and final purpose was to examine if NCAA female soccer players are more prone to burnout than NCAA male soccer players.

The following subsections will discuss the results in greater detail in the following areas: (a) hypothesis one, (b) hypothesis two, (c) hypothesis three, (d) strengths and limitations, (e) future research, and (f) conclusion.

Hypothesis One

The first hypothesis stated that NCAA men's soccer players will be more aggressive than NCAA female soccer players in all four subscales (PA, VA, II, A) while controlling for coaching style and NCAA division. The avoidance subscale was removed from the present study due to lack of internal consistency. It may be possible that the athletes were confused by questions that dealt with the avoidance of aggression; especially the male athletes who are less likely to engage in relational aggression. There is a likely hood that many athletes would prefer to deal directly with any issue involving aggression face to face and would expect others to present any such issue to them the same way.

The results partially supported the first hypothesis. Specifically, the analysis revealed significant gender differences in aggression. Follow-up univariate ANOVAs showed significant differences with higher scores for males than females in relation to verbal aggression, physical aggression, and impulsiveness/ impatience. These findings are consistent with past research concerning gender differences in aggression when the aggression in question is physical aggression (Baron & Richardson, 1994; Buss & Perry, 1992; Eagly & Steffen, 1986; Tucker & Parks, 2001; Wann, Haynes, McLean, & Pullen, 2003). Research (Crick, 1996, 1997; Crick

&Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999) has shown that men and women think differently about aggression and that female athletes are more likely to engage in something known as relational aggression while men are more prone to engage in physical aggression. Storch et al. (2004) focused on relational aggression in athletes and stated that the body of research mentioned above (Crick, 1996, 1997; Crick &Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999) extended the definition of aggression to include harmful acts such as social ostracism and spreading malicious rumors. This type of aggression is known as relational aggression and involves attempts to harm others through social isolation and damage to inter-personal relationships. Females engage in acts of relational aggression at rates similar to those that males engage in physical activity.

Hypothesis Two

The second hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, D) while controlling for coaching style and NCAA division. The results failed to support this hypothesis. This is contrary to findings of past research (Pastore & Kuga, 1993; Pastore & Judd, 1993; Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor, 1999) on gender differences in burnout which show that females are more prone to burn out. However, it must be pointed out that the participants in the above mentioned body of work were coaches and not athletes. Lai and Wiggins (2003) did conduct a study that examined gender difference in burnout of athletes in which males did report higher levels of burnout than the females. However, gender differences in the reported levels were not statistically significant.

Although the second hypothesis of the present study was not supported results did reveal significant burnout differences in NCAA Division as the highest total means for the RA (2.54), E (2.6), and D (2.45) subscales were scored by NCAA Division I athletes.

Raedeke (1997) defined burnout as “a syndrome of physical/mental exhaustion, sport devaluation, and reduced athletic accomplishment” (Raedeke, Lunney, and Venables 2002, p. 184). Raedeke (1997) also believed that depersonalization manifested itself in the form of sports devaluation which refers to the athlete no longer caring about their sport and performance in athletic burnout.

According to NCAA. Org. (2007) NCAA Division I schools have a minimum and a maximum amount of financial awards that can be given. They also have stricter attendance requirements than NCAA Division I and II. For example, NCAA Division I football programs must have attendance of 15,000 or higher per game to remain an NCAA Division I school. NCAA Division I schools also must compete against stiffer competition than those in lower NCAA Divisions. Due to the financial opportunity coupled with the higher demands placed on the NCAA Division I athletic programs, these programs are more likely to seek out the top high school athletes to participate for them. The better the athlete that the school recruits the better chance the respective program has to beat the higher level of competition it finds itself pitted against in NCAA Division I. If the NCAA Division I program is successful with this type of athlete playing for them they are more likely to fill stadiums and meet the financial requirement. Garstecki, Latin, and Cuppett (2004) found that the NCAA Division I groups outperformed NCAA Division II groups at a significant level when they compared physical fitness levels of football players from both NCAA Divisions. Since NCAA Division I athletes have greater demands placed upon them they are practically required to be in optimal physical condition and

must train year round to do so. This grueling training leaves very little down time for mental and physical recuperation and provides ample reason to believe burnout would be higher in NCAA Division I athletes.

Significant burnout differences were also seen in athletes who reported their coaches to use an autocratic coaching style as opposed to a democratic coaching style. This finding is supported by past research (Amarose & Horn, 2000; Loughhead & Hardy, 2004). Autocratic coaching style is defined by a coach who insists on being in complete control and determining down to the last detail what transpires on the practice or playing field whereas a democratic coaching style is defined by a coach who is more willing to share the control of the team with his players and assistant coaches (Cox, 2002).

"coaches who exhibit a leadership style characterized by low levels of autocratic behavior, who provide high frequencies of positive, encouraging, and informationally based feedback, and low frequencies of ignoring players successes and failures may create an environment that facilitates the development of intrinsic motivation in their athletes" (Amarose and Horn, 2000, p. 78).

This statement from Amarose and Horn (2000) would seem to indicate that democratic coaches are more likely to instill intrinsic motivation in their athletes where autocratic coaches may be more interested in constant training and improved results. If an athlete is playing a sport because they are enjoying it, they are much more likely to avoid burnout than if they are doing it because they feel they must.

Social learning theory (1973, 1983) may help explain why men and women engage in different kinds of aggression. Men are more likely to engage in physical aggression while women are more likely to engage in relational aggression. Perhaps this is from viewing the manner that other males and females have acted in relation to expressing aggression. It may also explain why a coach is autocratic or democratic in their leadership style. They may have played

under a successful coach that used the same style they now use. If it was modeled successfully for them they may be more apt to use it in their own coaching career especially if what was observed returned positive results in the win-loss column.

Social learning theory (1973, 1983) may be able to explain not only the aggressive behaviors that athletes in the present study reported but others as well. The NCAA Division I male soccer players scored highest in burnout and this study speculated that it was due to the rigorous training they are put through, year round. It could be possible that these athletes have been watching Division I athletes on television and hearing them speak in interviews about all the sacrifice and hard work necessary to get to NCAA Division I. If an athlete who worked hard enough to get to NCAA Division I athletics views others who are training year round and without being told to train, he or she may just fall right in line and do the same. While other factors are certainly involved in reaching burnout the mimicking of this year round training behavior may be partially responsible.

Strengths and Limitations

The present study surveyed athletes on perceptions of their coach's leadership style. While this could be perceived as a limitation it actually strengthened this study in that it provided the researcher with valid (direct) reports. Had the coaches reported their perceptions of their own leadership styles they may have had difficulty remaining objective and given false responses.

The population used in this study can be seen as both strength and a limitation when different aspects are examined. The total N in the present study was 124. This is a strength since Cohen (1992) suggests that power should be set at .80 for research in the behavioral sciences and that automatically setting alpha level at .05 in such research makes a type II error 4 times as likely as type I error. In order to avoid this alpha level should be set at .01. According to Cohen's

(1992) sample size planning table an N of 92 combined with an alpha level setting of .01 would have a power of .75. Since the present study has an N of 124 these settings will be more than adequate to raise power to .80. Power of .80 in this case would yield an effect size of just under 0.5 according to Thomas and Nelson (2001).

The population that was surveyed in this study can also be seen as a limitation when it is examined more closely. The original population to be surveyed for this project was to be 60 male and 60 female NCAA Division II soccer players. However, convincing NCAA Division II soccer teams to participate proved much more difficult than anticipated. The project was opened up to all soccer teams, in all three NCAA Divisions, and as a result the number of participants from each division was unbalanced. For example, 30 NCAA Division I male soccer players were surveyed but no NCAA Division I females. The fact that these 30 NCAA Division I male participants were all from the NCAA Division most likely to push an athlete to burnout may explain why the third hypothesis failed to be supported. That hypothesis stated that NCAA female soccer players will be more prone to burnout than NCAA men's soccer players in all three subscales (RA, E, and D) while controlling for coaching style and NCAA division. This finding was also contrary to findings of past research (Pastore & Kuga, 1993; Pastore & Judd, 1993; Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor, 1999) on gender differences in burnout which show that females are more prone to burn out.

The difficulty experienced in collecting data may have been due to the subject matter of the present study. It is a possibility that the coaches that declined to allow their players to participate in the study did so because they did not want their players exposed to questions about aggression levels and burnout. These coaches may have been concerned that thinking about these

subjects would interfere with players focus on soccer and as a result negatively impact on field performance.

A final limitation may be related to participants' biases. It is possible the participants may have given responses they think the researcher is looking for instead of what they truly believe. It is also possible the participants could have given responses they believed to be true but were not in accordance with the way they actually behave. Athletes also could have been distracted by upcoming games, practices, fights with boyfriends or girlfriends, etc. This could have potentially affected the athlete's ability to focus all their attention on the questionnaire and as a result the responses may have not been accurate. This is a limitation of any study relying on self reports and could not be controlled in the study.

Future Research

A future study could examine if those athletes who show lower levels of aggression are more prone to burnout. This would stand to reason since athletes who experience burnout often no longer care about their sport and performance (Raedeke, Lunney, and Venables, 2002). Perhaps declining levels of aggression would be more of an indicator of a path leading to burnout than increased levels of aggression.

The findings from this study also indicate that it may be beneficial to conduct a similar study with a sample that is balanced using an equal number of participants from each division and each gender. The findings also indicated that NCAA Division I males experience burnout at higher rates than athletes from lower divisions. Future research should focus on Division I athletes and use qualitative research techniques to examine if some of the reasons given for this by the present study are accurate. It would also be beneficial to have an equal number of male and female participants from each NCAA Division.

Future research in this area may consider using a social desirability questionnaire such as the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960) to determine if coaches who initially agree to allow their teams to participate actually want their teams to do so. This could cut down on instances of coaches giving verbal commitments to participate and then backing out when they examine the content of the questionnaires. Once coach approval is gained orally and through successful completion of the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960) the instrument should also be administered to all participants. This should be done to examine if responses are being given just to make the participant appear socially desirable to the researcher. Those participants that gave too many socially desirable responses on this instrument would be discarded from the study. The utilization of this instrument in such a manner could reduce wasted time and effort for both researchers and participants as well as to insure that data collected is relevant and useful.

The findings from this study on gender differences in burnout contradicted most of the findings from past research (Caccese & Mayerberg, 1984; Kelley, Eklund, & Ritter-Taylor; 1999; Lai & Wiggins, 2003; Pastore & Judd, 1993; and Pastore & Kuga, 1993; Hart, Hasbrook, & Mathes, 1986; Hasbrook, Hart, Mathes, & True, 1990; Heishman, Bunker, & Tutwiller 1990; Sisley & Capel, 1986; Wilkinson & Schneider, 1991) on the subject. The body of work listed above has found that females are more prone to burnout than males. Many of the studies (Hart, Hasbrook, & Mathes, 1986; Hasbrook, Hart, Mathes, & True, 1990; Heishman, Bunker, & Tutwiller 1990; Sisley & Capel, 1986; Wilkinson & Schneider, 1991) in this body of work were also done with coaches as opposed to athletes. Clearly, there is a need for more research done with athletes as opposed to coaches in the area of burnout.

Many of the studies conducted on aggression have been in the area of physical aggression while only a limited amount of research has (Crick, 1996, 1997; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996; Werner & Crick, 1999; Storch et al., 2004) been devoted to examining relational aggression. This type of aggression has been shown to be displayed far more by and between females where as males are more prone to engage in physical aggression. A future study could examine if relational aggression is a predictor of burnout in athletes. It is possible such a study could better explain why female athletes are more prone to burnout than males.

Finally, a different measure for aggression may be used since the entire avoidance subscale of the AI-R (Glaude, 1991) was removed from the present study due to its lack of internal consistency. Furthermore, combining qualitative methods with quantitative may help to gather information on the athlete's thoughts and feelings on aggression, burnout, and coaching style that self report are unable to by themselves.

Conclusion

The role of modeling in the learning of aggressive behavior was relevant to the findings of the present study. Male athletes were shown to be more aggressive than females in the present study as displayed in past research (Baron & Richardson, 1994; Buss & Perry, 1992; Eagly & Steffen, 1986; Tucker & Parks, 2001; and Wann, Haynes, McLean, & Pullen, 2003). Athletes learn what constitutes acceptable behavior concerning aggression from many sources, including their teammates and coaches. They learn the limits and boundaries pertaining to aggression from watching others play the game as they grow up. The concept is also known as modeling which refers to learning through observation. Bandura (1978) believed modeling was just as an effective means of teaching behavior as direct experience. This was the basis behind Bandura's classic theory of aggression known as social learning theory (1973, 1983) and was demonstrated in the

classic bobo doll experiment by Bandura, Ross, and Ross (1963) in which children mimicked the beating of a bobo doll after witnessing a video of adults doing the same thing with no other instruction.

While aggressive play will always have a place in sports and is usually encouraged by coaching staffs it can result in ugly incidents similar to those referred to earlier. It is up to coaches and officials to keep athletic aggression in check. Hopefully, the present study and those done in the future will continue to educate coaches on the dangers of athletic aggression and burnout. If future coaches are more aware of the signs of burnout it may become possible that they will be readily able to notice them in their players. If coaches notice psychological distress from their players in the form of aggression or burnout hopefully they will not hesitate to ask a sports psychologist or other professional to intervene on behalf of the troubled athlete.

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Appendix B

**Barry University
Cover Letter**

Dear Research Participant:

Your participation in a research project is requested. The title of the study is Aggression as a Predictor of Burnout in Male and Female NCAA Division II Soccer Players. The research is being conducted by Andrew Scopa, a student in the Sports and Exercise Science department at Barry University, and is seeking information that will be useful in the field of sports psychology. The aims of the research are to examine gender differences in aggression, gender differences in athletic burnout, and if aggression is a predictor of athletic burnout. In accordance with these aims, the following procedures will be used. Three separate surveys will be passed out to three NCAA Division II male soccer teams and three NCAA Division II female soccer teams. The number of participants is expected to be 120.

If you decide to participate in this research, you will be asked to sacrifice about thirty to forty five minutes filling out surveys and then return them directly to the researcher.

Your consent to be a research participant is strictly voluntary and should you decline to participate or drop out at anytime during the study, there will be no adverse affects on your status with the team.

There are no known risks to those who participate in this study. The benefits to you for participating in this study are that the findings may be able to determine if there is a connection between aggression and athletic burnout. Although there are no direct benefits to you, your participation in this study may lead to coaches discarding or incorporating certain techniques that could help their team play a more disciplined, controlled, successful game of soccer, and reduce burnout among their players. The findings may enable coaches and teammates to notice behaviors in others that may indicate that burnout is approaching. Coaches and teammates may then be able to intervene early enough to keep athletes from reaching burnout.

As a research participant, information you provide will be kept anonymous, that is no names or other personal identifiers will be collected on any of the instruments used. Data will be kept in a locked file. By completing and returning the surveys you will show your agreement to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Andrew Scopa (954) 943-7122 (Home) or (954) 696-4295 (Cell), my supervisor, Dr. Cremades at 305-899-4846, or the Institutional Review Board point of contact, Mrs. Nildy Polanco at (305) 899-3020.

Thank you for your participation.

Sincerely,

Andrew Scopa

Appendix C

Athlete Burnout Questionnaire - Description

Directions: A number of statements that athletes have used to describe their feelings about sport are given below. By circling a number on the scale below following each item, athletes indicate the degree to which they are experiencing each feeling right now, at this point in time.

	1	2	3	4	5
	almost never	rarely	sometimes	frequently	almost always
RA	1.	I'm accomplishing many worthwhile things in [sport]			
E	2.	I feel so tired from my training that I have trouble finding energy to do other things			
D	3.	The effort I spend in [sport] would be better spent doing other things			
E	4.	I feel overly tired from my [sport] participation			
RA	5.	I am not achieving much in [sport]			
D	6.	I don't care as much about my [sport] performance as I used to			
RA	7.	I am not performing up to my ability in [sport]			
E	8.	I feel "wiped out" from [sport]			
D	9.	I'm not into [sport] like I used to be			
E	10.	I feel physically worn out from [sport]			
D	11.	I feel less concerned about being successful in [sport] than I used to			
E	12.	I am exhausted by the mental and physical demands of [sport]			
RA	13.	It seems that no matter what I do, I don't perform as well as I should			
RA	14.	I feel successful at [sport]			
D	15.	I have negative feelings toward [sport]			

RA = reduced sense of accomplishment

E = emotional/physical exhaustion

D = devaluation

Note: items 1 and 14 are reverse scored

Athletic Questionnaire

Directions: A number of statements that athletes have used to describe their feelings about sport are given below. By circling a number on the scale below following each item, please indicate the degree to which you are experiencing each feeling now, at this point in time.

1	2	3	4	5
almost never	rarely	sometimes	frequently	almost always

- _____ 1. I'm accomplishing many worthwhile things in [sport]
- _____ 2. I feel so tired from my training that I have trouble finding energy to do other things
- _____ 3. The effort I spend in [sport] would be better spent doing other things
- _____ 4. I feel overly tired from my [sport] participation
- _____ 5. I am not achieving much in [sport]
- _____ 6. I don't care as much about my [sport] performance as I used to
- _____ 7. I am not performing up to my ability in [sport]
- _____ 8. I feel "wiped out" from [sport]
- _____ 9. I'm not into [sport] like I used to be
- _____ 10. I feel physically worn out from [sport]
- _____ 11. I feel less concerned about being successful in [sport] than I used to
- _____ 12. I am exhausted by the mental and physical demands of [sport]
- _____ 13. It seems that no matter what I do, I don't perform as well as I should
- _____ 14. I feel successful at [sport]
- _____ 15. I have negative feelings toward [sport]

Thank you for taking the survey.

Appendix D

Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980)

Directions: Before each question please imagine that the phrase “my head coach” is written. For example, when reading question #1 “see to it that every athlete is working to his capacity please imagine that it reads “my head coach sees to it that every athlete is working to his capacity.” Then check the box that you feel is the best response to that question; always, often, occasionally, seldom, or never. Please follow these instructions for all questions in the survey as it is attempting to measure your perceptions about your head coach’s actual behavior.

Thank you for your help and you time.

	Table 1. Items for Training and Instruction	Always	Often	Occasionally	Seldom	Never
1.	See to it that every athlete is working to his capacity					
2.	Explain to each athlete the techniques and tactics of the sport					
3.	Pay special attention to correcting athletes' mistakes					
4.	Make sure that his part in the team is understood by all the athletes					
5.	Instruct every athlete individually in the skills of the sport					
6.	Figure ahead on what should be done					
7.	Explain to every athlete what he should and should not do					
8.	Expect every athlete to carry out his assignment to the last detail					
9.	Point out each athlete's strengths & weaknesses					
10.	Give specific instructions to each athlete as to what he should do in every situation					
11.	See to it that the efforts are coordinated					
12.	Explain how each athlete's contribution fits into the whole picture					

13.	Specify in detail what is expected of each athlete					
	Table 2. Items for Autocratic Behavior	Always	Often	Occasionally	Seldom	Never
1.	Work relatively independent of the athletes					
2.	Not explain his action					
3.	Refuse to compromise a point					
4..	Keep to himself					
5.	Speak in a manner not to be questioned					
	Table 3. Items for Democratic Behavior	Always	Often	Occasionally	Seldom	Never
1.	Ask for the opinion of the athletes on strategies for specific competitions					
2.	Get group approval on important matters before going ahead					
3.	Let his athletes share in decision making					
4.	Encourage athletes to make suggestions for ways of conducting practices					
5.	Let the group set it's own goals					
6.	Let the athletes try their own way even if they make mistakes					
7.	Ask for the opinion of athletes on important coaching matters					
8.	Let athletes work at their own speed					
9.	Let the athletes decide on the plays to be used in the game					
	Table 4. Items for Social Support	Always	Often	Occasionally	Seldom	Never

1.	Help the athletes with their personal problems					
2.	Help members of the group settle their problems					
3.	Look out for the personal welfare of the athletes					
4.	Do personal favors to the athletes					
5.	Express affection he feels for his athletes					
6.	Encourage the athlete to confide in him					
7.	Encourage close and informal relations					
8.	Invite athletes to his home					
Table 5. Items for Positive Feedback (Rewarding Behavior)		Always	Often	Occasionally	Seldom	Never
1.	Compliment an athlete on his performance in front of others					
2.	Tell an athlete when he does a particularly good job					
3.	See that an athlete is rewarded for a good performance					
4.	Express appreciation when an athlete performs well					
5.	Give credit when credit is due					

Appendix E

Aggression Inventory – Revised (Gladue, 1991)

Each statement in this questionnaire asks about you, how you interact with other people or how you typically respond in a variety of situations. For each statement please select the response which applies BEST to YOU. Please record the applicable response for each item on the space next to it. Using the following rating scale to select the response which applies BEST to YOU, and record it in the space next to each item.

- 1 = Does NOT apply AT ALL to me
- 2 = Applies SOMEWHAT to me
- 3 = Applies FAIRLY WELL to me
- 4 = Applies WELL to me
- 5 = Applies EXACTLY to me

1. I enjoy working with my hands doing repetitive tasks.
2. I admire people who can walk away from a fight or argument.
3. When a person is unfair to me I get angry and protest.
4. When a person tries to "cut ahead" of me in a line, I firmly tell him not to do so.
5. Whenever I have trouble understanding a problem, I ask others for advice.
6. When a person criticizes me, I tend to answer back and protest.
7. When a person tries to boss me around, I resist strongly.
8. I think it is OK to make trouble for an annoying person.
9. I get into fights with other people.
10. When a person criticizes or negatively comments on my clothing or hair, I tell him/her it is none of their business.
11. I really admire persons who know how to fight with their fists or body (not using any weapons).
12. When another person hassles or shoves me, I try to give him/her a good shove or punch.
13. When another person picks a fight with me, I fight back.
14. I prefer to listen to rock-and-roll instead of classical music.
15. I become easily impatient and irritable if I have to wait.
16. When another person is mean or nasty to me, I try to get even with him/her.
17. Whenever someone is being unpleasant, I think it is better to be quiet than to make a fuss.
18. Others say that I lose patience easily.
19. I consider myself to be an authority figure for some people.
20. More often than others, I seem to do things that I regret later.
21. If a person insults me, I insult him/her back.
22. I prefer to get out of the way and stay out of trouble whenever somebody is hassling me.
23. When I am on bad terms with a person, it usually ends up in a fight.
24. I become easily impatient if I have to keep doing the same thing for a long time.
25. It often happens that I act too hastily.
26. Whenever I build something new, I read the instruction booklet before doing anything.
27. I really admire persons who know how to fight with weapons.
28. I often act before I have had the time to think.
29. When I am very angry with someone, I yell at them.
30. When I have to make up my mind, I usually do it quickly

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