DISSERTATION

FEMALE HIGH SCHOOL ATHLETES AND ISSUES OF DISORDERED EATING, AGGRESSION, AND FEMININITY

Submitted by

Nicole M. Eberle, M.S.

Department of Psychology

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Summer 2009

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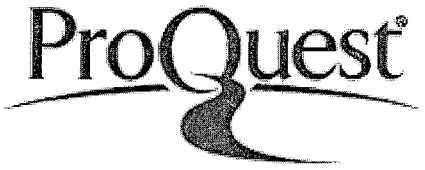

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY NICOLE M. EBERLE ENTITLED FEMALE HIGH SCHOOL ATHLETES AND ISSUES OF DISORDERED EATING, AGGRESSION, AND FEMININITY BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

Committee on Graduate Work

Larry Bloom, Ph.D.

Stefanie Johnson, Ph.D.

Shelley Haddock, Ph.D.

Adviser: Lee A. Rosén, Ph.D.

Department Head: Ernest Chavez, Ph.D.

ABSTRACT OF DISSERTATION

FEMALE HIGH SCHOOL ATHLETES AND

ISSUES OF DISORDERED EATING, AGGRESSION, AND FEMININITY

The current study sought to determine the rates of eating behaviors, aggression, and femininity in female high school athletes. Two hundred twenty-four high school girls enrolled in two different high schools in a city in Northern Colorado participated in this study. The study examined five levels of sports participation including participation in any sport, in feminine sports (e.g., Cheerleading, Dance, Gymnastics, Volleyball, and Swimming), masculine sports (e.g., Basketball, Hockey, Softball, Soccer, and Lacrosse), neutral sports (e.g., Cross Country, Golf, Track, and Tennis), and participation in multiple sports. Eating behaviors, aggression (e.g., physical and relational), and attitudes towards femininity were then compared across all levels of participation. In terms of eating behaviors, the current study found that contrary to past research, girls involved in sports and girls not involved in sports reported similar levels of behaviors. In terms of physical and relational aggression, the study found that girls were not more likely to engage in these behaviors based on sports participation. Regarding attitudes towards femininity, girls did not significantly vary on their attitudes toward traditional feminine values based on level of sport participation. The study overall contributes information regarding the population of high school female athletes. Compared to elite athletes, it is clear, that we need to continue to examine the unique needs and issues at the high school level, especially in relation to eating habits, aggression, and attitudes towards femininity.

Nicole M. Eberle
Department of Psychology
Colorado State University
Fort Collins, CO 80523
Summer 2009

Acknowledgements

I would like to take this opportunity to thank all the people that collaborated and supported me in the completion of this project. I would like to first and foremost thank my advisor, Dr. Lee A. Rosén for his limitless patience, dedication, and belief in my ability to reach further than I ever imagined. I would also like to acknowledge my committee members, Dr. Larry Bloom and Dr. Shelly Haddock for their wise words of advice in designing the project. I also would like to acknowledge Dr. Stefanie Johnson for her support with the statistical analyses. Additionally, I need to acknowledge my research team, and particular Britney Brinkman, for her creativity and grounded thinking which saw me through the design, implementation, and interpretation of the data. I would also like to thank the Poudre School District and James Dugan for his approval of the project. Special thank you to Tom Lopez at Rocky Mountain High School and Brad Beauprez at Poudre High School, without their belief in the project and their commitment to understanding their students, this project would not have been possible. Finally, thank you to the Colorado State University and the Internal Review Board, especially Janell Barker, for their guidance and watchful eye.

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Sports have traditionally been based on masculine ideals and have, historically, been a male domain that plays an integral role in socializing men and boys into traditional gender roles (McKinney, & McAndrew, 2000). There has been, however, a dramatic increase in the rates of females involved in sports at all levels (National Federation of State High School Associations (NFSHSA), 2007). This increase has been largely facilitated by the enactment of Title IX in 1972 (National Coalition for Women and Girls in Education, 2007). Title IX has opened the door to female athletes in a way that no other single event could have. Despite the advancement of girls and women in sports, female athletes still face many gender-based barriers. Even at the elite level of competition, studies find that media portrayals of women often reflect widespread beliefs about gender and tend to characterize women by non-task relevant descriptions about the athlete such as her physical beauty, passivity, or subservience to her male coach (Jones, Murrell, & Jackson, 1999). Overall, the stereotypes of female athletes perpetuate traditional beliefs about gender and sport participation (Jones, Murrell, & Jackson, 1999).

In addition, several of the most popular sports for girls and women have been associated with particular behavior patterns. Although research has shown that some of the characteristics associated with particular sports are based on actual behavioral evidence from the athletes in that sport, there are stereotypes that over generalize the rate of these behaviors among the athletes in that sport. For example, sports that emphasize thinness, judge the athletes on performance, have an appearance aspect, use revealing sport attire, or involve weight classes have been associated with increased rate of disordered eating (Sherman & Thompson, 2004). These stereotypes regarding disordered eating often pertain to traditionally feminine sports such as gymnastics, ballet, dance, and swimming.

Although there are many stereotypes associated with the female athlete and the "female" sports; the question becomes whether these stereotypes match the reality of female athletes. Given this issue it seems particularly important to address girls' high school sports due the increased number of girls' participation in sports at this level. High school is a very important time developmentally in the life of young girls (Sugar, 1993). Young girls in high school are at increased risk for several problematic behaviors including disordered eating, relational aggression, and stereotyped feminine roles. High school is traditionally a time for exploration of self and the early creation of a self identity (Erikson, 1963, 1968; Kidwell et al., 1995). Since high school girls are participating at an increased rate in high school athletics, it appears that for many girls, athletics are one venue to facilitate this personal development (Eccles et al., 2003). High school is the time period where women have the most sport involvement and also undergo important developmental changes. Young women may play out stereotypes of female sports by trying to conform to what they believe it means to be a cheerleader or a basketball star. Young women may be drawn to the sports where they think they will fit in the best. It is hard to say how girls select which sport to participate in or what impact the sport has on the functioning of the young girl especially in the realm of disordered eating, aggression, and attitudes towards

feminism. Therefore it is important to understand the characteristics of female athletes to begin to understand the impact that sports have on development.

Examining the characteristics of high school female athletes is particularly relevant because of the dramatic increase in sport participation in this demographic. Understanding how sport participation is related to common themes of female adolescent development including disordered eating, relational problems, and attitudes towards traditional feminine values is an integral part of assessing the need of girls involved in sports. If some stereotypes minimize differences among female athletes, it is necessary to assess the actual level of these behaviors to help guide professionals working within this population. This dissertation proposes to assess the incidence of characteristics that have historically been associated with female athletic participation. Given the extensively studied nature of disordered eating, aggression, and gender values in relationship to female athletes in general, these three variables will be addressed in a high school sample of young women to examine these behaviors in female high school athletes.

Girls in Sports

Female sports stereotypes in the media and in popular culture appear to be widespread and portrayed relatively consistent messages regarding characteristics of athletes. These stereotypes are social stereotypes, which generalize about the typical or modal characteristics of members of social groups (Brigham, 1971). We know that the stereotypicality of groups, particularly groups to which you are not a member, is often grossly overestimated (Brigham, 1971). Research has found that members of a group perceive their own group as highly variable, while they perceive members of the out-group as having much lower variability (Judd et al., 1991). This overestimation and overgeneralization of out-group variability is at the basis of stereotypes (Judd et al., 1991).

Although stereotypes are a common and sometimes adaptive way to organize information, stereotypes can often provide misinformation regarding a particular group because

they are based on exaggerations of group members. Stereotypes tend to be based on two factors: impressions about the central tendencies of that group and the extent to which the group members are perceived as similar to one another (Judd & Park, 1988). The more distant from the group that a person is, the more likely they are to judge the group based on the exaggerated image. As people become more familiar with a group and its members then the discrepancy between their stereotypes and the reality of its members decreases (Judd et al., 1991). Overall, stereotypes are more common when group members are tightly bunched around a central group tendency (Judd & Park, 1988). This may be the case on sports teams when the athletes often strive to appear uniform and cohesive, which may increase the likelihood of stereotyping of the sport. Groups are also perceived more stereotypically when a large percentage of the group is seen as possessing stereotypic attributes and small percentage of the group is seen as possessing counter stereotypic attributes (Judd & Park, 1988). This is relevant to sports teams because, due to the demands of the sports, many athletes strive to emulate a model athlete. By conforming to an ideal image, the athletes may inadvertently be perpetuating a stereotype about the group. Although it seems that the measurement of perception of sport is dependent on group involvement and knowledge, group stereotypes often match that of the dominant society's (Matteo, 1986, Csizma et al., 1988). Society in general appears to have several stereotypes of sport, and in particular high school athletes.

It is important to understand the rate of behaviors among female athletes instead of relying on stereotypes of the individuals or the sports, especially in a time when female athlete participation is at an all time high (Whisenant, 2003). Girls' participation in sports has increased dramatically since 1972 (National Federation of State High School Associations (NFSHSA), 2007) and the approval of Title IX which states:

> "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education

program or activity receiving Federal financial assistance." (National Coalition for Women and Girls in Education {NCWGE}, 2007)

Although female participation in sports has increased among all levels of competition, the highest percentage of female athletes is at the high school level. Eccles and Barber (1999) found that the percentage of boys and girls participating in school team sports was significantly higher than any other high school activity. Specifically, 45.6% of high school girls reported playing on school sports teams (Eccles & Barber, 1999). Following the dramatic increase of female participation in sports on all levels, there has been an increased focus on girls in athletics. Research and popular media has focused on the representation of women in these sports and the characteristics associated with sports involvement for girls. Characteristics that have been of particular focus are associated with common societal pressures for appropriate feminine behavior based on appearance and relationship status. As such, research has focused on level of disordered eating, aggressive behaviors, as well as manifestations of traditional feminine values (Krane et al., 2004).

Although women's participation in sport has risen overall, there are some sports that are more popular among women. Examples of common sports for adolescent girls include: soccer, swimming, basketball, volleyball, softball, track, cross country, lacrosse, field hockey, tennis, cheerleading, dance, and gymnastics (Eccles & Barber, 1999). In a study done in 1999 by Eccles and Barber, the sports that had the highest percentage of girl participation were volleyball (17.1%), softball (16.5%), track/cross-country (12.0%), swimming/diving (11.8%), and basketball (10.7%).

Many of these sports have been sex typed as female appropriate due to the demands of the sports (e.g., emphasis on aesthetics) and the characteristics of the competition (e.g., discourage physicality; Mateo, 1986). Patel et al. (2003) developed a sport typology that classifies several popular high school sports based on demands of the sport and characteristics of the athletes. The classifications include: Aesthetic Sport (e.g., figure skating, diving, dance,

gymnastics, body building, ballet, synchronized swimming, and cheerleading), Weight Class Sport (e.g., wrestling, weightlifting, martial arts, and horse racing), Endurance/Lean Sport (e.g., running, swimming, and cycling), Technical Sports (e.g., alpine skiing or golf), Ball Games (e.g., basketball, soccer, tennis, volleyball), Contact Sports (e.g., ice hockey, rugby, football, lacrosse), and Power sports (e.g., power lifting and discuss) (Cobb, 2006, Davison et al., 2002, Patel et al., 2003). Other authors classify sports based on gender appropriateness. Mateo (1986) created a sport typology based on traditional female, traditional male, and gender-neutral sports. Sports such as ballet and gymnastics are traditionally female sports, while basketball and soccer are traditional male sports. Stereotypes of these sports are often consistent with these classifications.

Sports and Disordered Eating

In the last 20 years, there has been a growing interest in the eating behaviors and the attitudes of athletes (Fulkerson, Keel, Leon, & Dorr, 1999). Although the majority of the research has focused on the incidence of disordered eating in elite athletes, increasingly, some research has shifted focus to younger athletes. Although athletics has been linked to several positive outcomes including; reduced risk of overweight, increased fitness and bone density, higher self-esteem, lower anxiety, and lower stress (Davison, Earnest, & Birch, 2002), sport participation has also been linked to more detrimental behaviors such as disordered eating. Compared to the general population, research has shown that athletes are at an increased risk for eating disorders (Cobb, 2006) and that disordered eating is more prevalent in athletes than in the general population (Patal et al., 2003). Overall, studies have reported a range of 15%-62% of disordered eating in athletes (Cobb, 2006).

There appears to be clear connections between sport participation and disordered eating in athletes especially in elite athletes. In a review of literature, Cobb (2006) attempted to examine the relationship between sports and disordered eating at all age levels. Interestingly, research with high school athletes have shown a reduced risk of eating problems, even in sports such as

running, gymnastics, and swimming which traditionally have had a high incidence of disordered eating (Cobb, 2006). This summary is consistent with prior research that compared eating disorders in elite athletes to those in young, non-elite athletes. This research found that non-elite athletes may have a reduced risk of eating disorders due to the increased self-esteem and body satisfaction that many feel with sport participation at a young age (Calfas & Taylor, 1994). Although the research on non-elite athletes tends to point to the protective factors of sport on adolescent girls, the inherent risks for disordered eating during adolescence continues to make the topic of disordered eating in high school athletes particularly relevant. Given that adolescence is a time where girls are particularly vulnerable to developing disordered eating behaviors, it is important to understand what are the risk and/or protective factors involved for female high school athletes.

In general, risk for eating disorders in athletes is based on two variables. Variables that may have an impact on the rate of eating disorders may either be sport-dependent or sport-independent. Examples of sport-dependent risk factors include; the culture of the sport, the incidence of chronic dieting, the weight loss rate, and commonality of weight cycling. Examples of sport-independent factors that are know to have an impact of disordered eating include; self-selection (i.e., some individuals may be attracted to the sport to lose weight), to justify emerging eating problems, or to hide eating disorder, personality factors, and body type (Cobb, 2006). Although sport–dependent and sport-independent factors can be difficult to separate, it is clear that there are certain types of sports that are at the highest risk for rates of eating disorders. These sports emphasize thinness, judge the athletes, have an appearance aspect, use revealing sport attire, or involve weight classes (Sherman & Thompson, 2004).

Sport-Independent factors, such as personality, appear to have a strong impact on the rates of several types of behaviors that may or may not be related to the sport itself. Personality traits that are commonly associated with strong athletes such as high achievement orientation, competitiveness, perfectionism, and discipline are also traits that seem to be related to eating

disorders. These individual factors can be advantageous as well as detrimental to the overall well-being of individuals that play sports. Patal et al. (2003) also found that common characteristics that are often present in athletes with self-reported disorder eating behaviors include; inhibition of anger, high self expectations, tolerance for physical discomfort, denial of potential serious debility and a tendency toward depression. Personality factors have an obvious impact on the behaviors of athletes. It is difficult to determine if the sport is the root of the negative behaviors or if the individual was at risk of problematic behavior prior to the sport involvement.

Although high school appears to be a time of risk for developing eating disorders, there have been several studies that have specifically focused on athletes and women in particular beyond high school to understand the rates of disordered eating. Among these studies it is difficult to find consistent, conclusive evidence (Patal et al., 2003) for disordered eating in female athletes. Researchers have coined the term "Anorexia Athletica" to describe the unique symptoms related to disordered eating in athletes. Given that problematic eating in athletes is often subclinical, research in the field has focused on more "disordered eating" versus "eating disorders" (Sherman & Thompson, 2004). Because eating disorders are sometimes difficult to define depending on the demands of the sports (i.e., ballet) it has been important for researchers to identify unique criteria. In certain appearance based sports like ballet or gymnastics, it is sometimes easy for athletes to hide their disordered eating in the "background noise" of the sport to justify their condition (Cobb, 2006).

One problem in the athlete population is that eating disorders are often underreported (Cobb, 2006). Generally, the research has agreed that athletes have a higher frequency of disordered eating that non-athletes, eating disorders are more prevalent in sports emphasizing leanness or low body weight, and female athletes have more disordered eating than male athletes (Byrne and McLean, 2001, Smolak, Murnen, and Ruble, 2000). Anorexia Athletica appears to be more common in leanness-dependent and weight-dependent sports (Sundgot-Borgen & Torstveit,

2004). In terms of the Aesthetic sports, research has found a higher incidence of eating disorders, especially among female athletes. Sports such as ballet and gymnastics have been particularly associated with eating problems because of the high demand of thinness and the "beauty of line" (Alley & Hicks, 2005). Endurance sports are another type of sport that has been associated with disordered eating among athletes among both male and female athletes (Mateo, 1986). Similar to the general population, unhealthy eating behaviors are higher among female athletes compared to male athletes (Brownell, Rodin, & Wilmore, 1992, Milligan & Pritchard, 2007).

In a study by Johnson, Powers, and Dick (1999), 13% of female athletes had clinically significant symptoms of eating disorders and 34.5% risk for Anorexia and 38% were at risk for Bulimia (Johnson, Powers, & Dick, 1999). The increased risk for Bulimia Nervosa appears to be consistent in literature regarding female athletes. In another study by Bosi and Plaha de Oliveira (2006), 35.3% of athletes were at-risk for Bulimia and 29.4% reported tendencies towards bulimic behavior. One possible explanation for the elevated risk of eating disorders in female athletes may be due to the close relationship between physical image and performance (Bosi & Plaha de Oliveira, 2006). Other studies however, have found that women in non-lean sports (e.g., basketball, tennis, golf, soccer, and skiing) are at the highest risk for eating problems (Milligan & Pritchard, 2007). In either scenario, the importance of appearance in all women's sports, even though not traditionally thought of as "appearance sports," may be one explanation for the increased rate of disorder eating in female athletes (Thompson & Sherman, 2005).

Women in sports are particularly at risk for developing maladaptive eating behaviors in order to achieve the ideal body image. Davison et al. (2002) found that even in girls as young as seven years old, those that participated in aesthetic sports have significantly higher weight concerns compared to girls in nonaesthetic and no sport groups. While appearance based sports add increased pressure for young girls to achieve an ideal body type, research suggests that participation in sports that are not appearance based (e.g., soccer and basketball) may promote positive physical and psychological health of female athletes (e.g., self-esteem, lower anxiety,

lower stress) without increasing the risk of weight concerns (Davison et al., 2002). Other research, however, has shown that even female college athletes in sports not requiring leanness have shown symptoms of disordered eating behaviors (Berry & Howe, 2000). Given the contradictory findings of research across the development of young women, it is important to determine the current rates of disordered eating among high school students that participate or do not participate in sports.

Sport and Aggression

Another problematic behavior that is often associated with sport participation is aggression. Although there are some theorists that have argued that participation in a prosocial activity such as athletics can actually serve as a deterrent from delinquent behavior (Schafer, 1969), research has demonstrated a positive correlation between sport participation and delinquent behaviors (Seagrave, 1980, Watkins, 1999). Results have been mixed regarding the incidence of aggressive behaviors among female athletes. Melnick et al. (1988) found that adolescent girls' participation in sports related to slight increases in delinquent behavior when controlling for SES.

The controversy regarding the relationship between sports and delinquent behavior has been a hot topic among psychologists. Some studies have found a negative relationship between sports and delinquency regardless of gender (Watson, 1999). In general, athletes involved in contact sports, popular sports and team sports are more delinquent than those involved in non-contact sports, unpopular sports, and individual sports (Watson, 1999). Sports that show high levels of delinquency are traditional masculine sports such as hockey, football, and soccer (Seagrave, 1980).

Given that sports were originally seen as a deterrent to deviant and aggressive behaviors, researchers have sought to explain the high incidence of these negative behaviors among males and females as a function of behavioral and social reinforcement. Some authors have noted that

physical aggression is rewarded and reinforced among athletes both on and off the playing field (Heyman, 1986). Young athletes may learn to act in aggressive ways in order to achieve an ideal image of what it means to be a "tough" athlete. Athletes are effectively taught that aggression is an acceptable manner to settle a conflict (Caron, Halteman, & Stacy, 1997). Aggression in the sport setting may then severely loosen the behavioral control the athlete has in their lives outside of sport (Heyman, 1986). This finding may account for some of the rates of aggressive acts among athletes outside of their sports. In terms of physical aggression, research has consistently demonstrated that some athletes are more involved in violent behavior than are their peers because they are physical people who are expected by others to be physically aggressive (Nixon, 2001).

Physical aggression among female athletes has also been noted in the literature, although in a much lower rate. Nixon explained the rate of female physical aggressive behaviors as a function of social stereotypes of sport and behavioral reinforcement. He stated that it is "possible that males and females become more aggressive as a result of sport involvement [which] suggests that sport socialization reinforces stereotypical gender role learning for males and teaches females to act in nonstereotypical ways" (Nixon, 2001). While there is limited evidence that demonstrates whether female athletic participation is related to physical aggression outside of sport (Nixon, 2001), aggression in female athletes does exist. Some have argued that this is due to the fact that there is no clear stereotype for women to be tough and aggressive in their socialization (Nixon, 2001). Although that may be true, some females do exhibit more aggressive behaviors than others. Nixon (2001) found that females in team sports were more likely than their counterparts in individual sports to have engaged in physically aggressive acts in everyday life. This seemingly contradictory finding of female aggression in a society that values aggression as a masculine characteristic, may be explained by the fact that more aggressive females maybe attracted to aggressive sports. Contact sports where recurrent contact is part of

the game, may lead to internalization of aggressive patterns of behaviors (Nixon, 2001) regardless of the gender.

In addition to the research that has focused on the rate of physical aggression among athletes, there has been some research on relational aggression among athletes (Werner & Crick, 1999). Relational aggression may be a particularly important variable in female athletes because of the tendency for women to engage in more social forms of aggression instead of physical aggression. Crick and Grotpeter (1996) extended the definition of aggression to include forms that are more commonplace among females such as harmful acts of social ostracism and spreading malicious rumors. Behavioral attempts to harm others through social isolation and damage to interpersonal relationships (Werner & Crick, 1999) are common forms of relational aggression. It seems that girls' aggressive behaviors are more focused on interpersonal issues, with the emphasis being on popularity and security within their social groups (Moretti et al., 2001). Relational aggression has been associated with emotional and interpersonal difficulties including peer rejection, depression, and maladaptive personality features (Werner & Crick, 1999, Storch et al., 2003). It is also much more salient among females' social and psychological adjustment compared to males (Werner & Crick, 1999). While aggressive behaviors are seen as the opposite of femininity (Krane et al., 2004), relationally aggressive behaviors appear to have become a female stereotype.

The focus of athletes and aggression has historically been on physical and sexual aggression. Until recently, the topic of relational aggression has been relatively understudied. Although the topic of relational aggression among athletes has only recently become a topic of interest, some research has demonstrated that intercollegiate female athletes report more relational aggression than their male counterparts. (Storch, Werner, & Storch, 2003). Consistent with research on the deleterious effects of relational aggression in a non-athlete population, relational aggression was significantly associated with maladjustment among male and female intercollegiate athletes (Storch, Werner, & Storch, 2003). The rate of relational aggression in the

specific realm of adolescent female athletes is relatively unknown, although one would expect given past research with adolescent females in general, that the rate of relational aggression is higher for girls when compared to boys. However, no research has compared rates of relational aggression among different female high school athletes.

Sport and Femininity

Sports have traditionally been based on masculine ideals and have historically been a male domain that plays an integral role in socializing men and boys into traditional gender roles (McKinney, & McAndrew, 2000). For men it seems as though athletics is an endorsement of traditional values, an affirmation that one is a "real man," while for women, sport goes against the grain of the traditional female sex role and may leave the woman's identification with traditional feminine qualities very much open to question (McKinney & McAndrews, 2000). Overall, researchers agree that sexist ideology still pervades sport (Eitzen & Sage, 1993) in modern day society. Sports, particularly team sports, often reflect male hegemony, and have been implicated as grounds for debasing and objectifying women (Benedict, 1997).

Griffin (1998) argued that there remains a pressure for female athletes to conform to traditional heterosexual images of what it means to be female, even in a male dominated realm. Sport achievement values characteristics that have traditionally been associated with masculinity such as power, strength, aggression, and assertiveness, while femininity is a socially constructed standard for women's appearance, demeanor, and values (Bordo, 1993). Research has focused on the perception of types of sports in terms of masculinity and femininity. Among the different types of sports, Aesthetic sports are the few that have been perceived as highly feminine, particularly figure skating and ballet (Mateo, 1986). Sports such as baseball, softball, soccer and basketball are often perceived as male sports (Alley & Hicks, 2005, Mateo, 1986), while tennis and volleyball are perceived as more feminine (Alley & Hicks, 2005). Some research has also

demonstrated the neutrality of perception of certain sports such as tennis (Mateo, 1986). Contact sports are often associated with perceptions of male dominance (Alley & Hicks, 2005).

In terms of perception of femininity and masculinity of sports, individual sports have been demonstrated to be perceived as more appropriate for females (DeBacy, Spaeth, & Busch, 1970; Harris & Hall, 1978). Sports such as swimming, tennis, gymnastics, and figure skating are consistently viewed as more "acceptable for women" (McKinney & McAndrew, 2000). One study conducted by McPherson and McAndrew (2000) found that college men perceived figure skating, gymnastics and swimming as the most feminine male sports and basketball and football were the most "male sports." While the college women surveyed reported that figure skating and gymnastics were the most feminine sports, rugby, basketball, and other traditional male team sports were perceived as more masculine (McPherson & McAndrew, 2000). Clearly, stereotypes of sports are common and relatively consistent.

Research has also focused on the athletes' attitudes regarding both men and women. In a study conducted by Del Ray (1977) and colleagues using the Attitude Towards Women Scale, they found that female tennis and swimmers expresses more liberal and less traditional attitudes about the role of women than female softball and basketball players-who were more likely to endorse stereotypically traditional views of women. At first this finding might seem contradictory to what one might expect given the high rating of femininity among female tennis and swimmer when compared to softball and basketball players. Del Ray, however, interpreted this finding to mean that women playing traditional male sports were more defensive and apologetic as a consequence of their choice of sport (Del Ray, 1977). In addition to women being defensive about their choice of sport participation and feminine ideals, men more than women are more likely to stereotype sports as masculine or feminine (Koivula, 1995). Men most involved with sports also seem to have the most traditional attitudes about the relation between gender and athletics (McPherson & McAndrews, 2000). It seems that female athletes may not only have

negative self-perceptions given their sport affiliations, but also these negative perceptions might be matched by the male athletes as well.

Sportswomen live in two cultures: a sport culture which in inherently masculine and the larger social culture where femininity is celebrated for women (Krane et al., 2002). Female athletes are commonly marginalized and perceived as different from "normal" women as they must develop characteristics associated with masculinity (e.g., strength, assertiveness, independence, and competitiveness) to succeed in their sport. (Krane et al., 2002).

The paradox for female athletes of two competing messages (e.g., acting like a lady and being tough to function in the masculine world of sport) has been found to have a impact on body image, eating behaviors, self-presentation, and self-esteem (Krane et. al., 2004). Russel (2002) postulated that young female athletes have to develop two different "selves" to deal with the pressure. Girls often develop a "sporting body" and "social body" (Russel, 2002). The sport body is one of strength and power, while the social body tries to adhere to the hegemonic definition of femininity. Heterosexual, white, hegemonic femininity is constantly reinforced and reproduced in society and there are social retributions for not performing one's gender "correctly." This is something that female athletes must confront on a daily basis where being feminine is contrasted with being athletic. A qualitative study conducted by Krane et. al., 2004) surveyed 21 female college athletes participating in focus group interviews about body image. Consistent themes emerged from these focus groups that demonstrate the struggle that female athletes feel. There was the recognition that femininity is based on a white, heterosexual, and class-based structure where the dominant ideal female body is thin and toned (Ussher, 1997). Also the young women, from several different sports agreed that female athletes are often seen as "other" that "regular" women due to their necessity to maneuver in a male-dominated field such as sport. One, somewhat surprising theme that the authors noted, was that all women, including women in gymnastic and distance running (e.g., traditionally aesthetic sports) were just as concerned about being too muscular as the athletes more commonly expected to be large and

muscular (e.g., basketball, softball, and soccer) (Krane et al., 2004). This was surprising because although from one perspective sports that adhere most closely to feminine values (e.g., lean sports and aesthetic sports) appear to have young women that seem to fit the societal definition of femininity, they continue to feel the pressure to perform and to look a certain way.

Present Study

With the rising numbers of women participating in sports at all levels and the nearly 50% rate of high school women participating in sports on a high school level, factors associated with adolescent females involvement in sports have become increasingly relevant. Sports involvement in general has been linked to several factors such as eating disorders, aggression, and attitudes towards feminine and masculine values. While some of these factors have been studied in an adolescent population, most of the work has focused on elite athletes.

Stereotypes of women in sports appear to be widespread and somewhat commonplace. This creates a situation where it is difficult to assess if the perception of the sport is accurate in describing the presence of these characteristics among the high school athletes. In the current study, there are three variables of interest in relation to female athletics in high school. These variables were chosen due to their high interest and extensive research on the topic among athletes in general, as well as because of their potential relationships to one another. The three areas of interest are disordered eating behaviors, aggression (including physical aggression and relational aggression), and attitudes towards feminine and masculine values. It is important to conduct testing with this age group because of the risk factors involved for young females to develop poor eating habits early. In terms of aggression, female high school group relationships are often turbulent and volatile. Given that sports have been related to aggression, it is important to address both physical and relational aggression among girls and women and how that may be related to sport participation. Finally, since many sports have been found to embody traditional masculine values, women participating in sports may already feel a need to conform to societal

prescribed norms of behavior, especially stereotypes for women participating in different kinds of sports.

As there is limited research in the area of high school female athletes, there are several research questions in the current study. This study will seek to determine the rates of disordered eating, aggression, and conformity to feminine norms among the athletes. More specifically, the first research question will be to determine what, if any, the relationship is between female high school athletes and issues of disordered eating. Based on previous literature (Cobb, 2006; Patal et al, 2003; Johnson, Pwers, & Dick, 1999; Bosi & Plaha de Oliveira, 2006; Davison et al, 2002), we expect that there will be a higher incidence of disordered eating among athletes. Secondly, regarding the variable of aggression, both physical and relational, the study examined if girls participating in traditionally masculine, feminine, or neutral sports vary on the levels of reported aggressive behaviors. We expected, based on past literature, that girls in team sports (often masculine sports) will be more physically aggressive than girls involved in other sports (Nixon; 2001). Regarding relational aggression, it is expected based on past literature that girls involved in feminine sports (which promote more stereotypically feminine values), will demonstrate more relationally aggressive behaviors (Krane et al, 2004). Finally, in relation to the variable of attitudes towards traditional Feminine values, the present research examined levels of reported feminine values for girls involved in traditionally masculine, feminine, or neutral sports. Here we expect that girls involved in sports in general will endorse the same level of feminine values (Griffin, 1998; Del Ray, 1977), however, girls involved in traditionally feminine sports will endorse the most traditionally feminine values (Krane et al., 2004). In summary, the following research questions will be addressed in the present study:

Research Question 1: What is the nature of the relationship between female high school athletes and issues of disordered eating?

Research Question 2: What is the nature of the relationship between female high school athletes and aggression, both physical and relational type?

Research Question 3: What is the nature of the relationship between female high school athletes and femininity?

CHAPTER II

METHOD

Participants

224 high school girls enrolled in two different high schools in the Poudre School District in Fort Collins, Colorado volunteered to participate. During the recruitment phase of the project, the researcher contacted the principals of several local high schools. Two high school principals chose to participate and connected the researcher with the athletic director of the school. The athletic directors then randomly selected several classes across grade levels, gender participation, and number of athletes in the classes (e.g., physical education classes). After proposing the project to the randomly selected teachers, some teachers chose to participate, while others declined the process. Therefore the final population is a combination of randomly selected classrooms, teachers that chose to participate, and outside coaches that heard about the project volunteered their athletes for the survey.

Participants ranged in ages from 13 to 18 years old, with 78% of the participants being 16 to 18 years old. The majority of the participants described themselves as White (n=197, 87.9%). In addition there were also some Hispanic (n=22, 9.8%), Native American (n=9, 4.0%), African American (n=4, 1.8%), Asian American (n=4, 1.8%) students. Two students identified themselves as "Other" ethnicity. Several students marked more than one category of ethnic identity, these multiracial women were counted in as many categories as they marked. Participants were also asked to choose between four levels of family income: The majority of

participants indicated that their families made $40,000-$80,000 a year (*n*=76, 33.9%). A high percentage of students also indicated that their families made Over $80,000 (*n*=58, 25.9%) or that their families made $20,000-$40,000 (*n*=46, 20.5%). 22 students indicated that their families made less than $20,000 (9.8%). In addition, some students chose not to respond to this item (*n*=22, 9.8%).

In addition, the participants were asked to indicate their level of sport participation. The majority of the participants indicated that they do participate in sports (*n*=148, 67.6%). There were also a number that did not participate in sports (*n*=59, 26.3%) or did not respond to the item (*n*=14, 6.2%). The following table demonstrates the number of students that indicated that they played a particular sport during high school.

Table 1
Sports Participation: Level of Participation

	High school team		**Club Team**		**Played for Varsity**	
Sport	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Basketball	17	7.6	15	6.7	9	4
Cheerleading	13	5.8	11	4.9	8	3.6
Cross Country	13	5.8	1	.4	10	4.5
Dance	7	3.1	18	8.0	9	4.0
Golf	-	-	1	.4	-	-
Gymnastics	2	.9	8	3.6	3	1.3
Hockey	3	1.3	2	.9	2	.9
Lacrosse	2	.9	2	.9	-	-
Soccer	29	12.9	48	21.4	19	8.5
Softball	13	5.8	14	6.2	7	3.1
Swimming	17	7.6	9	4.0	9	4.0
Tennis	10	4.5	2	.9	9	4.0
Track	36	16.1	10	4.5	24	10.7
Volleyball	27	12.1	22	9.8	9	4.0

Subgroup Classification of Sports

Sports participation was also divided into five levels based including participation in sport, participation in feminine sport, neutral sport, masculine sport, and multiple sports. The sports were divided into these groups according to past research standards (Alley & Hicks, 2005;

Mateo, 1986). In the present study, girls were counted as participating in sports if they played for their high school, on varsity, or for a club team. Therefore, there may be some girls in the "no sport participation" category that did indicate that they were involved in sports but "just for fun." The Feminine sports included several Aesthetic and Appearance based sports including; Cheerleading, Dance, Gymnastics, Volleyball, and Swimming. Of the girls that indicated that they were involved in sports, there were a total of 35 girls (23.6%) that participated in feminine sports. The masculine sports included several ball and contact sports including; Basketball, Hockey, Softball, Soccer, and Lacrosse. There were a total of 32 girls (21.6%) that participated in this type of sport. The neutral sports included; Cross Country, Golf, Track, and Tennis. There were a total of 19 girls (12.8%) that participated in neutral sports. The majority of girls surveyed reported that they participated in multiple sports (n=62, 41.9%). Table 2 provides a listing of numbers and percentiles of students that participated in the five levels of sports involvement.

Table 2
Sports Participation: Categories of Participation

	Total	Percentage
Participation in Sport	148	67.6
Feminine	35	23.6
Masculine	32	21.6
Neutral	19	12.8
Multiple	62	41.9
Masculine & Neutral	12	19.4
Feminine & Neutral	15	24.2
Feminine & Masculine	22	35.5
All Three	13	20.9

The student questionnaire packet also contained a measure for perceived masculinity/femininity of the sports surveyed. Each sport was categorized as a scale and four questions were asked to determine the perceived femininity/masculinity of the sport and the players. Participants ranked each items "Not at all" to "Very Much." Each sport was ranked in order from most feminine to least feminine according to the participants' responses. See

Appendix A for a complete listing of the items. The following table provides the reliability of the scales. The sports are presented in rank order of femininity with cheerleading being the most feminine sport identified by the participants and hockey being the least feminine of the sports.

Table 3
Reliability of Sports Scale

Femininity	**Sport**	**Reliability (α)**
1	Cheerleading	.73
2	Dance	.71
3	Volleyball	.72
4	Tennis	.59
5	Gymnastics	.63
6	Swimming	.46
7	Cross Country	.42
8	Softball	.73
9 = 10	Soccer = Track	.52 / .37
11	Golf	.59
12	Basketball	.65
13	Lacrosse	.74
14	Hockey	.76

Students participated on a completely voluntary basis. The classes were asked to participate at random, there were several different classes across a wide number of subject matter and class levels that did choose to participate. All participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2001).

Measures

The student questionnaire packet consisted of surveys designed to measure the self-report behaviors of high school students. The three main components of the student packets were self-report behavior questionnaires including; The Eating Attitudes Test, (EAT-26), The Aggression Questionnaire (AQ), The Children's Peer Relational Scale (CPRS), and the Conformity to

Feminine Norms Inventory (CFNI). Each of the instruments were self-report questionnaires available in the public domain.

Disordered Eating Behaviors in Sport

Disordered eating was assessed using the Eating Attitudes Test (EAT-26, Garner, 1993; 1997). This measure is a self-report measure that consists of 26 forced-choice items measure on a 6-point scale, where items marked "never", "rarely", or "sometimes" are scored 0, "often" is scored 1, "usually" is score 2, and always is scored 3. All item scores are then summed to determine if they reach the cutoff score for a clinical eating disorder of 20. EAT-26 has been shown to be reliable and valid in athlete populations (Kirk et al., 2001; Picard, 1999), although some have questioned validity in use with athletes (Brownell et al., 1992) due to the difference in etiology of the eating problems. In the current study, the EAT-26 demonstrated a high overall reliability α=.87. See the Appendix B for a complete listing of the items. In the current sample, 7% of girls scores' elevated to levels that would meet criteria for formal diagnosis of an eating disorder. This rate is slightly higher that the national average (1%-5%) of adolescents that are said to meet the criteria for an eating disorder (Eating Disorders, Journal of Treatment and Prevention).

Aggression Outside of Sport

Two measures to address aggression outside of sport were used. The first is the Aggression Questionnaire (AQ; Buss & Perry, 1992), which is a self, report measure designed to measure more physical forms of aggression in daily life. Each item asks raters to score the statement on a 5-point scale, "least" to "most characteristic" and the scores were summed. There were 29 items with a high overall reliability α= .92. There were four subscales on the Aggression Questionnaire that have been determined by previous research. The first factor consisted of 9 items and measured Physical Aggression with a high reliability, α=.85. The second factor

consisted of 5 items and measures Verbal Aggression and also had a moderate reliability α=.73. The third factor consisted of 7 items and measured anger also demonstrated a high reliability α=.83. The final factor, Hostility, consisted of 8 items and also had a moderately high reliability α=.78. See Appendix C for a complete listing of the items.

In order to specifically measure relational aggression, the Children's Peer Relational Scale (CPRS) was used (Crick & Grotpeter, 1995). Although this measure was originally developed for use in younger children, it has also been used in adolescent populations and demonstrates acceptable levels of validity and reliability (Moretti, M. M., Holland, R., & McKay, S., 2001). The measure is a self-report measure with scales that assess Overt Aggression, Relational Aggression, Prosocial behavior, and Isolation. Participants are asked to respond to each item on a 5-point scale from "never" to "all the time." There were 15 items with a moderate overall reliability α= .66. The scale with the highest overall reliability was the 3 item Overt Aggression scale (α=.83). The 3 item Isolation scale (α=.74) and the 5 item Prosocial/Happy scale (α=.73) also demonstrated moderate reliabilities. Finally, the 4 item Relational Aggression scale demonstrated the lowest reliability (α=.61). See Appendix D for a complete list of items.

Given that there were several subscales that overlap between the two measures; correlations between these subscales are listed below. Among the subscales on the AQ, Physical Aggression and Verbal Aggression were significantly, positively correlated with Anger and Hostility. Among the CPRS scales, the Overt Aggression scale was significantly correlated with Relational Aggression and Isolation. The Prosocial scale was significantly, negatively correlated with the Isolation subscale. There were also several significant correlations among the subscales between the two measures. The Physical Aggression and Verbal Aggression subscales on the AQ were significantly, positively correlated with the Overt Aggression, Relational Aggression, and Isolation subscales on the CPRS. In addition, the Anger and Hostility subscales were also significantly, positively correlated with Overt Aggression, Relational Aggression, and Isolation.

In addition, the Anger and Hostility scales were significantly, negatively correlated with the Prosocial Scale on the CPRS.

Table 4
AQ and CPRS: Subscale Correlations

		Aggression Questionnaire				**Children's Peer Relational Scale**			
		PA	VA	Anger	Hostility	OA	RA	Prosocial	Isolation
AQ	Physical Aggression	1.00	.56	.70**	.50**	.64**	.41**	-.12	.28**
	Verbal Aggression		1.00	.60**	.50**	.40**	.54**	-.01	.24**
	Anger			1.00	.61**	.55**	.51**	-.16*	.44**
	Hostility				1.00	.42**	.49**	-.24**	.52**
CPRS	Overt Aggression					1.00	.55**	-.10	.36**
	Relational Aggression						1.00	-.12	.27**
	Prosocial							1.00	-.32**
	Isolation								1.00

Femininity/Masculinity of Sport

In order to assess the self-reported conformity to feminine values, the Mahalik et al. (2003) survey for Conformity to Feminine Norms Inventory (CFNI) was used. This self-report questionnaire is designed to measure attitudes, behaviors, and cognitions reflecting both conformity to and non-conformity to several feminine norms found in the dominant culture in the United States. Each item asks raters to score the statement on a 4-point scale, strongly disagree to strongly agree. There were 84 items with a high overall reliability α= .87.There are eight subscales on the CFNI. The first scale, Nice in Relationships, consists of 18 items and had a high overall reliability α= .81. The second scale, Involvement with Children, consisted of 12 items and had the highest reliability α= .93. The third scale, Thinness, consisted of 11 items and had a high reliability α= .86. The fourth scale, Sexual Fidelity, consisted of 10 items and had the lowest reliability α= .58. The fifth scale, Modesty, consisted of 9 items and also had a moderate

reliability α= .78. The sixth scale, Romantic Relationships, consisted of 9 items and had a high reliability α= .81. The seventh scale, Domestic, consisted of 8 items and had a high reliability α= .85. The eighth scale, Investment in Appearance, consisted of 7 items and had a moderate reliability α= .78. See Appendix E for a complete list of items.

Procedure

After approval (See Appendix E for completed form) was received from the Institutional Review Board, the high school administrators, teachers, participants' parents (if under the age of 18), and written consent/assent from all participant, participants were asked to complete the surveys during class time.

Prior to administration of the consent form and the survey packet, the teacher read a verbal script explaining to the participants about the research project. They were told that they would be participating in research that seeks to understand high school students' perception of sports. The participants were assured of the complete anonymity of their answers and confidentiality of their results. The students were reminded not to include any identifying information (e.g., name) along with their questionnaire. The questionnaire was ordered with the demographic information first followed by the EAT-26, AQ, CPRS, and CFNI. The questionnaire regarding the masculinity/femininity of the sports was at the end of the survey packet. After completing the packet, participants were given a debriefing (See Appendix G for a copy of the form) form that included general information as well as contact information for any future questions.

CHAPTER III

RESULTS

Sports and Disorder Eating

The first research question sought to determine the nature of the relationship between female high school sports and issues of disordered eating. Both Pearson Product Moment correlations as well as a one-way ANOVA were conducted to explore the nature of this relationship. Sports participation was divided into five levels using previous literature (Mateo, 1986; Alley & Hicks, 2005; McKinney & McAndrew, 2000) which included feminine, masculine, and neutral sports as well as no sport participation and multiple sport involvement. There is only one score elicited from the EAT-26 which is the overall level of disordered eating.

Correlation analyses revealed that there were no significant relationships between the EAT-26 and level of sport participation. The following table provides a summary of this data.

Table 5
Sports Involvement and Eating Attitudes Test

	EAT-26
No sport	.028
Participate Feminine	.061
Participate Masculine	.053
Participate Neutral	-.081
Participation in Multiple	-.072

A one-way ANOVA was also conducted to compare scores on the EAT-26 between the five levels of sports participation. There were no significant difference between girls that did not play sports and girls that played feminine, masculine, neutral, or multiple sports (($F(1, 222)=.88$, $p>.05$, $\eta 2= .02$).

Sports and Aggression

The second research question sought to address the nature of the relationship between female high school sports and aggression, both physical and relational. Both Pearson Product Moment correlations as well as a one-way ANOVA were conducted to explore the nature of this relationship. Sports participation was divided into five levels using previous literature (Mateo, 1986; Alley & Hicks, 2005; McKinney & McAndrew, 2000) which included feminine, masculine, and neutral sports as well as no sport participation and multiple sport involvement. Two questionnaires measured aggression. The Aggression Questionnaire (AQ) measured physical aggression and resulted in four subscales including Physical Aggression, Verbal Aggression, Anger, and Hostility. The Children's Peer Relational Scale (CPRS) measured relational aggression and resulted in four subscales including Overt Aggression, Relational Aggression, Prosocial, and Isolation

Correlation analyses revealed a significant negative correlation between participation in neutral sports and physical aggression ($r(222)=-.13$, $p<.05$). The following table offers a summary of all these results. In terms of relational aggression, there was a significant positive correlation between no involvement in sport and relational aggression ($r(222)=.15$, $p<.05$) and isolation ($r(222)=.14$, $p<.05$). In addition, there was a significant, positive correlation between participation in feminine sports and prosocial behaviors ($r(222)=.19$, $p<.05$). There was also a significant negative correlation between participation in masculine sports and prosocial behaviors ($r(222)=-.20$, $p<.05$).

Table 6

Sport Involvement, Physical Aggression (AQ), Relational Aggression (CPRS)

	Aggression Questionnaire				**Children's Peer Relational Scale**			
	PA	VA	Anger	Hostility	OA	RA	Prosocial	Isolation
No sport	.089	.025	.098	.130	.073	.145*	-.091	.136*
Participate Feminine	-.011	.027	-.088	-.088	.068	-.070	.188*	-.056
Participate Masculine	.033	-.010	.024	-.008	-.036	-.005	-.204*	-.036
Participate Neutral	-.132*	-.071	-.102	-.128	-.052	-.112	-.025	.003
Multiple Sport	-.029	.004	.013	.019	-.071	-.023	.119	-.072

A one-way ANOVA was also conducted to compare scores the five levels of sports participation with the four subtests of the Aggression Questionnaire and the four subtests of the Children's Peer Relational Scale. The independent variable had five levels including no sports participation, participation in feminine, masculine, neutral, and multiple sports. The dependent variables were the subscale scores for the AQ including physical aggression, verbal aggression, anger, and hostility and the four subscales scores on the CPRS including overt aggression, relational aggression, prosocial, and isolation. Results revealed that participation in different sports is not significantly related to aggression, either physical or relational ($F(4,221)=1.28$, $p>.05$, $\eta^2= .05$).

Sports and Femininity

The final research question sought to explore the nature of the relationship between female high school athletes and traditional feminine values. Both Pearson Product Moment correlations as well as a one-way ANOVA were conducted to explore the nature of this relationship. Sports participation was divided into five levels using previous literature (Mateo, 1986; Alley & Hicks, 2005; McKinney & McAndrew, 2000) which included feminine, masculine, and neutral sports as well as no sport participation and multiple sport involvement.

Attitudes towards feminism was measured using the Conformity to Feminine Norms Inventory (CFNI) and the eight subscales including Nice Relationships, Children, Thinness, Fidelity, Modesty, Romantic Relationships, Domestic, and Appearance.

Correlation analyses revealed some significant correlations between variables. There was a significant, negative correlation between girls that did not participate in sports and orientation towards children ($r(222) = .15, p < .05$). Additionally, there was a significant positive correlation between participation in feminine sport and appearance ($r(222) = .14, p < .05$). Participation in neutral sports had a significant positive correlation with modesty ($r(222) = .13, p < .05$) and a significant negative correlation with romantic relationships ($r(222) = -.14, p < .05$). In addition, there was a significant, positive correlation between participation in multiple sports and fidelity ($r(222) = .15, p < .05$). The following table offers a summary of these results.

Table 7
Sport Involvement and Conformity to Feminine Norms (CFNI)

	NR	C	T	F	M	RR	D	A
No Sport	-.089	-.147*	.047	-.061	-.040	-.037	-.008	-.056
Feminine	.031	.074	-.003	-.121	-.012	.102	.019	.143*
Masculine	-.014	.025	-.014	.021	-.006	.099	-.030	-.015
Neutral	.065	-.031	-.016	-.012	.134*	-.138*	.068	.018
Multiple Sport	.040	.095	-.026	.153*	-.028	-.036	-.027	-.057

A one-way ANOVA was also conducted to compare scores the five levels of sports participation with the eight subtests of the Conformity to Feminine Norms Inventory. The independent variable had five levels including no sports participation, participation in feminine, masculine, neutral, and multiple sports. The dependent variables were the subscale scores for the CFNI including Nice Relationships, Children, Thinness, Fidelity, Modesty, Romantic

Relationships, Domestic, and Appearance. Results revealed that participation in different sports is not significantly related to traditional feminine values.

CHAPTER IV

DISCUSSION

The aim of the present study was to learn more about female high school athletes. This study sought specifically to examine the relationship with sports involvement and eating behaviors, physically and relationally aggression actions, and attitudes towards feminism. Past research has suggested that female high school athlete's incidences of these activities varied depending on the nature of the sport in which they participated. For that reason, the present study examined several levels of sport participation including no participation in sport, participation in feminine sports, masculine sports, neutral sports, and participation in multiple sports. A detailed analysis, including both correlation analyses and one way ANOVA's were conducted to explore the nature of the relationship between sports participation and the identified target variable including eating behaviors, physical aggression and relational aggression, as well as attitudes towards traditional feminine values. Following a critical analysis of each of these specific relationships, limitations to the current research will be addressed. The final section will provide a commentary on the importance of the current research findings, including possible implications for the larger issues present in the relationship between athletics, behaviors, and attitudes for female high school athletes.

Sports and Disordered Eating

In past research there is some degree of contradictory evidence for the rate of eating disorders in female high school athletes. Although past research tended to focus on elite athletes, evidence for these types of behaviors is not clear for high school athletes. While athletics has been linked to several positive outcomes including; reduced risk of overweight, increased fitness and bone density, higher self-esteem, lower anxiety, and lower stress (Davison, Earnest, & Birch, 2002), when compared to the general population; research has also shown that athletes are at an increased risk for eating disorders (Cobb, 2006) and that disordered eating is more prevalent in athletes than in the general population (Patal et al., 2003). Interestingly, research with high school athletes has shown a reduced risk of eating problems, even in sports such as running, gymnastics, and swimming which traditionally have had a high incidence of disordered eating (Cobb, 2006) and seems to be more of a protective factor for girls at this younger age. Although the conflicting research findings may be difficult to reconcile, some argue that it is clear that traditionally Feminine sports are at the highest risk for rates of eating disorders (e.g., sports emphasize thinness, judge the athletes, have an appearance aspect, use revealing sport attire) (Sherman & Thompson, 2004; Alley & Hicks, 2005; Bosi & Plaha de Oliveira, 2006; Davison et al., 2002). Other studies have found that women in non-lean sports (e.g., basketball, tennis, golf, soccer, and skiing), are at the highest risk for eating problems (Milligan & Pritchard, 2007). Determining the rate of disordered eating among athletes present a particular challenge for researchers, as problematic eating in athletes is often sub clinical (Sherman & Thompson, 2004). Another problem in the athlete population is that eating disorders are often underreported (Cobb, 2006).

The current study does not offer support for the hypothesis that there is a higher rate of disordered eating behaviors for females that participated in sports compared to those that did not. Instead, the current study suggests that for girls in high school, there is no significant difference for girls on disordered eating when comparing participation in feminine, masculine, neutral or

multiple sports. Overall, the incidence of maladaptive eating behaviors is relatively low for most girls surveyed, regardless of sports participation.

Sport and Aggression

The relationship between sports participation and physical aggression is not a new area of study. The literature has mainly focused on male athletes, only recently shifting focus to female athletes with mixed results. Melnick et al. (1988) found that adolescent girls' participation in sports related to slight increases in delinquent behavior when controlling for SES. Some studies have found a negative relationship between sports and delinquency regardless of gender (Watson, 1999). In general, athletes involved in traditionally Masculine sports have the most delinquent beahviors (Watson, 1999). Some researchers have noted that physical aggression is rewarded and reinforced among athletes both on and off the playing field (Heyman, 1986). Young athletes may learn to act in aggressive ways in order to achieve an ideal image of what it means to be a "tough" athlete which may account for aggressive behaviors outside of the sport. Physical aggression among female athletes has also been noted in the literature, although in a much lower rate. Nixon (2001) explained the rate of female physical aggressive behaviors as a function of social stereotypes of sport and behavioral reinforcement. He stated that it is "possible that males and females become more aggressive as a result of sport involvement [which] suggests that sport socialization reinforces stereotypical gender role learning for males and teaches females to act in nonstereotypical ways" (Nixon, 2001). While there is limited evidence that demonstrates whether female athletic participation is related to physical aggression outside of sport (Nixon, 2001), aggression in female athletes does exist.

In addition to the research that has focused on the rate of physical aggression among athletes, there has been some research on relational aggression (e.g., behavioral attempts to harm others through interpersonal relationships) among athletes (Werner & Crick, 1999). Relational aggression may be a particularly important variable in female athletes because of the tendency for

women to engage in more social forms of aggression instead of physical aggression. Until recently, the topic of relational aggression has been relatively understudied. Although the topic of relational aggression among athletes has only recently become a topic of interest, some research has demonstrated that intercollegiate female athletes report more relational aggression than their male counterparts (Storch, Werner, & Storch, 2003). The rate of relational aggression in the specific realm of adolescent female athletes is relatively unknown, although one would expect given past research with adolescent females in general, that the rate of relational aggression is higher for girls when compared to boys.

The current study did not find support for the past research suggesting that physical aggression would be positively correlated with participation in masculine sport. For the girls surveyed in this study, participation in sports was not significantly related to physical regardless of type of sport. Additionally, the current study did not find support for the past research suggesting that relational aggression would be correlated with traditionally feminine sports. Current findings suggest that girls' participation in feminine sports was not associated with higher levels of relational aggression.

Sport and Femininity

The relationship between sports and feminine values for female athletes is a relatively new area of interest for several researchers. Sports have traditionally been a male dominated domain (McKinney, & McAndrew, 2000), and for female athletes, sports in some ways go against the grain of the traditional female sex (McKinney & McAndrews, 2000). Some argue that there remains a pressure for female athletes to conform to traditional heterosexual images of what it means to be female, even in a male dominated realm (Griffin, 1998). Sport achievement values characteristics that have traditionally been associated with masculinity such as power, strength, aggression, and assertiveness, while femininity is a socially constructed standard for women's appearance, demeanor, and values (Bordo, 1993). Research has also focused on the athletes'

attitudes regarding both men and women attitudes toward feminine ideals, found that women tend to be more defensive about their choice of sport participation (Koivula, 1995). The paradox for female athletes of two competing messages (e.g., acting like a lady and being tough to function in the masculine world of sport) has been found to have an impact on body image, eating behaviors, self-presentation, and self-esteem (Krane et. al., 2004).

Results for the present research did not offer support to the hypothesis that girls would endorse varying levels of traditional feminine values based on their type of sport participation. Instead, the present study found that girls involved in sports were more likely to endorse the same levels of the traditionally feminine values regardless of level of participation. Feminine sports were not more likely to be associated with higher levels of traditional feminine values. On the other hand, girls that participated in masculine sports were not more likely to be associated with lower level of traditional feminine values.

Limitations

One potential limitation to the study relates to the measurement procedure of self-report behaviors. Participants' response styles may have varied between participants and there is no way to tell the accuracy or the reliability of their responses. Other studies have tried to overcome the difficulty with reliability and validity by using multiple reporters to verify response sets. Given that the current study was exploratory, the participants were asked to respond to items anonymously in the hope they would disclose their behaviors in full. Although there is some question about validity of responses, the measures indicated that there was a high reliability for most of the measures. However, specifically for the EAT-26, self-report data may have been particularly vulnerable to falsifications. As many young women likely do not see themselves as different from their peers, it is possible that their comparison group may not have been representative of a "normal" population. Therefore their scores are underestimates of the true level of eating disordered behaviors.

In addition, the measure for sports participation was somewhat different in the current studies when compared to past studies. The objective measure of sport participation was classified as a categorical variable (e.g., participate or not) and categories were placed on the type of sport. In past studies, athletic participation has been measured many different ways. Some studies measured several other variables (e.g., number of years played, the type of sport played, and the level of competition) which were not used in the current study (Segrave, 1981, Watson, 1999). Fewer variables may not provide an accurate account of the relationship between participation and eating behaviors, aggression, or femininity. In future research, more specific measures may target individual sports.

In addition to measurement limitations, there were also some methodological limitations inherent in a research project with minors. Informed consent was multi-level in this study with not only the school administration, teachers, and students' agreements, but also students under the age of 18 also needed a parental consent form. Parental consent forms were provided to the students who were then given a variable amount (determined by the teacher ranging from 1 day to 1 week) of time to take the form home and bring it back signed by the parent. Due high demands of the task, it is possible that the students that returned the consent form and were therefore able to participate were high achievers. These students may already be at lower risk for participation in several of the maladaptive behaviors being studied. This methodological issue may have impacted the type of student surveyed and therefore affected the results in a way that is not representative of the entire population.

The homogeneity of the sample was an additional major limitation to this study. The majority of the participants were middle-class, self-identified White, non-Hispanic, girls. The limited range of ethnicity and socioeconomic status may explain the narrow range of behaviors. In future studies, it will be as important to sample a larger, more diverse group of girls, coming from many different ethnic backgrounds and socioeconomic status since both of these factors have been related to athletic participation, eating habits, and aggression. Perhaps the relationship

between these variables varies depending on environmental factors such as ethnicity and socioeconomic status. Given the homogeneity of the sample, there is a restriction of range in the current study. This restriction of range has important implications for the statistical analysis of the data. When the sample only represents a small portion of the total population it is increasingly difficult to identify overall trends. Therefore, although the correlation between the variables were not statistically large, it is possible that this may be a reflection of the limited sample and not that the relationship does not exist. In a larger, more diverse population, the relationship between athletics, eating behaviors, aggression, and attitudes towards feminism might be more statistically significant.

Although there was a restriction of range, this study did find a significant difference for girls involved in Neutral sports to be less physically aggressive, report higher levels of Fidelity, and lower levels of Romantic relationships. There is also a significant difference for girls involved in Masculine sports to be less socially isolated. Girls in Feminine sports reported statistically significant more prosocial behaviors. Given the small correlation between these variables and the significant difference determined in the analyses even in a restricted sample, it is possible that the relationships would be stronger in a larger, more representative sample.

Finally, another limitation of the current sample surveyed is that there is unequal number of participants in each group. Given that only about two thirds of the girls participated in the sports, with the number of girls that participated in multiple sports much greater than those participating in neutral sports, the power of the statistical analyses was greatly reduced.

Implications

Research in the area of sport participation and female athletes is a complex and wide spread field. Especially with the growing number of women in sports (NFSHSA, 2007), researchers from a variety of backgrounds have sought to explain the impact that sport participation has had on women. There is a large body of literature in the area of sport and

disordered eating for women, especially at the elite athlete level (Fulkerson, Keel, Leon, & Door, 1999). The current study sought to expand the existing literature by addressing the relationship between sport participation and disordered eating for the young, high school athletes. Results from this study suggest that for young women, sport involvement was not strongly related to issues of disordered eating. Instead, it appears that issues of disordered eating are equally distributed among young women, regardless of sport participation. Instead findings suggest that even young women that participate in the highest risk group of "Feminine" sports are not significantly more likely to engage in maladaptive eating behaviors. This information is useful for practitioners, coaches, and parents working with young women in terms of interventions. Girls' participation in sports is at its highest level in high school (Whisenant, 2003), and targeting interventions at this age might be most effective as habits may not have fully formed.

Past research has also focused on the impact that sports participation has on aggressive behaviors (Seagrave, 1980; Watkins, 1999). In terms of aggressive behaviors, the focus has traditionally been on male athletes (Nixon, 2001). However, with the rising numbers of women in sports, research has once again shifted focus. Research trends now also include the area of relational aggression, a type of aggression found to be more prevalent for women (Crick & Grotpeter, 1996). The current findings on physical aggression were mixed in light of past research. Past research would suggest that involvement in "Masculine" sports would be associated with higher levels of physical aggression (Seagrave, 1981). The present study did not find that to be true, however, participation in "Neutral" sports was associated with lower level of aggression. Past research has focused on more popular sports such as the Masculine and Feminine sports, but it is important to recognize, and perhaps shift research focus, to understanding the young female athletes involved in sports like Cross County, Golf, Track, and Tennis.

In terms of relational aggression, the current study did not find what past research would suggest (e.g., higher prevalence of relational aggression in Feminine sports (Werner & Crick,

1999)). Instead results were inconclusive about the measure of relational aggression. One limitation of this study was the lack of research and evidence based support for the measure of relational aggression. Therefore, theories about relational aggression should continue to be developed, especially in populations with high numbers of women in groups, including organized sports. The present study did find small, but significant relationships between participation in Masculine sports and lower levels of social isolation and participation in Feminine sports and higher levels of prosocial behaviors. It is important for practical purposes to recognize that sports participation is related to a number of factors outside the sports themselves. Given the significant amount of time that young female athletes spend in a large group of other female peers, it will be important to continue to assess the impact of this socialization on their adjustment to outside social lives.

Finally, there has been a research push to understand how young women conceptualize their own femininity (Mahalik et al, 2005). Especially for females that are involved in activities that were originally designed to socialize young men into having positive morals and behaviors (McKinney & McAndrew, 2000), it is important to assess how these same activities affect young women. Given the relative newness of the focus on femininity, there is limited evidence for understanding how different sports and athletes are related to traditional, United States, feminine values. In the current study, two traditional feminine values were found to have small, but significant relationships with sport participation; sexual fidelity and romantic relationships. These findings are somewhat difficult to interpret given that the sexual fidelity measure had the lowest reliability on the femininity measure. It included items such as: I feel extremely ashamed if I had many sexual partners, if I was single, I would want to date a lot of people, I prefer long-term relationships to casual sexual ones, and I frequently change sexual partners. Results from the present study found that girls that participate in sports, compared to girls that did not, scored slightly higher on the fidelity scale. This finding may suggest that girls involved in sports, which are traditionally sanctioned by society, may also have other traditional values such as Fidelity.

Interestingly, participation in Neutral sports also had a small, significant positive relationship with sexual fidelity and negative relationship with romantic relationships. The Romantic Relationship scale consisted of 9 items and had a high reliability on the femininity scale. The scale measured items such as: when I am in a romantic relationship, I give it all my energy, whether I'm in one or not, romantic relationships are often on my mind, I pity people who are single, having a romantic relationship is essential in life, and being in a romantic relationship is important. The lower emphasis on romantic relationships may be an indication that women involved in sports tend to have additional priorities aside from the traditional feminine value of the importance of a romantic relationship. Although it is difficult to understand the underlying association between participation in neutral sports and lower levels of romantic relationships and higher values of sexual fidelity, it is important to note that again sports such as Cross County, Golf, Track, and Tennis are going to be important to address in future research.

In conclusion, the relationship between athletic participation and eating behaviors, aggression, and femininity for girls in high school may not be the same as the previous research for female athletes at the elite level. This could be a positive finding in terms of the possibility for prevention strategies. Although adolescent girls in general may be particularly susceptible to group, cultural, or societal influences to behave or think in a certain way. Future research studies should continue to focus on young, female athletes, especially athletes that have not traditionally been the focus, specifically Cross County, Golf, Track, and Tennis. New areas of research should be continued to be developed, particularly in the area of relational aggression and traditional feminine values. Additionally, it will be important to address how each of these variables may be related to each other. In conclusion the relationship between the variables of disordered eating, physical and relational aggression, and femininity for high school athletes is an important field to continue to explore. Each variable may have specific implications for how to more effectively target interventions for young women at this age. Future research should expand on the current findings by including larger populations of young women from more diverse backgrounds. The

exploratory nature of the present study has contributed by focusing specifically on female high school athletes and addressing the relationship between three important factors in their overall adjustment.

References

Alley, R. R. & Hicks, C. M. (2005). *Peer attitudes towards adolescent participants in male- and female-oriented sports.* Adolescence, 40 (158), 273-280.

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders , 4th*E. Text Revision. Washington: American Psychiatric Association; 2000.

Baum, A. (2006). Eating disorders in the male athlete. *Sports Medicine,* 36(1), 1-6.

Benedict, J. R. (1997). *Public heroes private felons: Athlete and crimes against women.* Boston: Northeastern University Press.

Berry, T. R., & Howe, B. L. (2000). Risk factors for disordered eating in female university athletes. *Journal of Sport Behavior,* 23(3), 207-219.

Bringham, J. (1971). Ethnic stereotypes. *Psychological Bulletin,* 76, 15-38.

Bordo, S. (1993). *Unbearable weight: Feminism, Western culture, and the body.* Berkeley: University of California Press.

Bosi, M. L. & Palha de Oliveira, F. (2006). Bulimic Behavior in Adolescent Athletes. In: New Developments in Eating Disorders Research (Ed. Swain, P.I.). pp. 123-133.

Bredemeier, B. J. L. (1994). Children's moral reasoning and their assertive, aggressive, and submissive tendencies in sport and daily life. *Journal of sport & exercise psychology,* 16 (1), 1-14.

Browell, K. D., Rodin, J., & Wilmore, J. H. (1992). *Eating, body weight and performance in athletes: Disorders of modern society.* Philadelphia, PA: Lea and Febiger.

Buss, A.H., & Perry, M. (1992). Aggression questionnaire. *Journal of Personality and Social Psychology,* 63(3), 452-459.

Byrne, S., & McLean (2001). Eating disorders in athletes: a review of the literature. *Journal Science Med Sport,* 4, 145-159.

Calfas, K.J., & Taylor, W.C. (1994). Effects of physical activity on psychological variables in adolescents. *Pediatric Exercise Science,* 6, 406-423.

Caron, S. L., Halteman, W. A., & Stacy, C. (1997). Athletes and rape: Is there a connection? *Perceptual and Motor Skills,* 85, 1379-1393.

Csizma, K. A., Wittig, A. F., & Schurr, K. T. (1988). Sports stereotypes and gender. *Journal of Sport and Exercise Psychology,* 10, 62-74.

Cobb, K (2006). Eating disorders in athletes; A review of the literature. *Eating Disorders: New Research,* 65-98.

Cohen, G. L. (1993). Media portrayal of the female athlete. In G. L. Cohen (Ed.), *Women in sport: Issues and controversies* (pp. 171-184). London: Sage.

Crick, N. R. (1997). Engagement in gender normative versus non-normative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology,* 33, 610-617.

Crick, N. R. & Grotpeter, J. K., (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology,* 8, 367-380.

Crick, N. R. & Grotpeter, J.K., (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development,* 66, 710-722.

Davison, K. K., Earnest, M. B., & Birch, L. (2002). Participation in aesthetic sports and girls' weight concerns at ages 5 and 7 years. *International Journal of Eating Disorders.* 312-317.

Del Ray, P. (1977). In support of apologetics for women in sport. *International Journal of Sport Psychology,* 8, 218-224.

DeBacy, D. L., Spaeth, R., & Busch, R. (1970). What do men really think about athletic competition for women? *Journal of Health, Physical Education and Recreation,* 41, 28-29.

Eccles, J. S., & Barber, B. L. (1999). Student Council, Volunteering, Basketball, or Marching Band: What Kind of Extracurricular activity really matters? *Journal of Adolescent Research,* 14, 10-43.

Eccles, J. S., Barber, B. L., & Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development, *Journal of Social Issues,* 59 (4), 865-889.

Eitzen, D. S., & Sage, G. H. (1993). *Sociology of North American Sport (*5th ed.). Dubuque, IA: W. C. Brown.

Erikson, E, H, (1963). *Childhood and society.* New York: Norton.

Erikson, E. H. (1968). *Identity: Youth and crisis.* New York, Norton.

Fulkerson, J. A., Keel, P. K., Leon, G. R., & Dorr, T. (1999). Eating-disordered behaviors and personality characteristics of high school athletes and non-athletes. *International Journal of Eating Disorders,* 26, 73-79.

Garner, D. M. (1993). Self-report measures for eating disorders. *Current Contents, Social & Behavioral Sciences,* 25 (8), 8.

Garner, D. M. (1997). Psychoeducational principles in treatment. In: D. M. Garner & P. E. Garfinkel (Eds.) *Handbook of Treatment for Eating Disorders.* New York: Guilford Press.

Griffen, P. (1998). *Strong women, deep closets: Lesbians and homophobia in sport.* Champaign, IL: Human Kinetics.

Harris, M. B. & Hall, C. (1978). Sex stereotypes and rating of athletes. *Journal of Social Psychology,* 105, 151-152.

Harry, J. (1995). Sports ideology, attitudes towards women, and anti-homosexual attitudes. *Sex Roles,* 32, 109-116.

Heyman, S. (1986). Psychological problem patterns found with athletes. *The Clinical Psychologist,* 39(3), 68-71.

Johnson, C., Powers, P. S., & Dick, R. (1999). Athletes and eating disorders: The national collegiate athletic association study. *International Journal of Eating Disorder,* 26, 179-188.

Jones, R., Murrell, A. J., & Jackson, J. (1999). Pretty versus powerful in the sports pages: Print media coverage of U.S. women's Olympic gold medal winning teams, *Journal of Sport and Social Issues,* 23 (2), 183-192.

Judd, C. M., & Park, B. (1988). Outgroup homogeneity: Judgments of variability at the individual and group levels. *Journal of Personality and Social Psychology,* 54, 778-788.

Judd, C. M., Ryan, C. S., & Park, B. (1991). Accuracy of the Judgment of In-Group and Out-Group Variability. *Journal of Personality and Social Psychology,* 61 (3),366-379.

Kidwell, Jeannie S., Dunham, Richard, M. (1995). Adolescent identity exploration: A test of Erickson's theory of transitional crisis, *Adolescence,* 30, 785.

Kirk, G., Singh, K., & Getz, H. (2001). Risk of eating disorders among female college athletes and non-athletes. *Journal of College Counseling,* 4 (2), 122-133.

Koivula, N. (1995). Ratings of Gender Appropriateness of Sports Participation: Effects of Gender-Based Schematic Processing, *Sex Roles,* 33, 543-557.

Krane, M. J., & Greendorfer, S. L. (1994). The media's role in accommodating and resisting stereotyped images of women in sport. In P.J. Creedon (Ed.), *Women, media and sport: Challenging gender values* (pp. 28-44). Thousand Oaks, CA: Sage.

Krane, V., Choi, P. Y. L., Baird, S. M., Aimar, C. M., & Kauer, K. J. (2004). Living the paradox: Female athletes negotiate femininity and muscularity. *Sex Roles,* 50(5/6), 315-329.

Mahalik, J.R., Morray, E.B., Coonerty-Femiano, A., Ludlow, L.H., Slattery, S.M., & Smiler, A. (2005). Development of the conformity to feminine norms inventory. *Sex Roles,* 52 (7/8), 417-435.

Matteo, S. (1986). The effect of sex and gender-schematic processing on sport participation. *Sex Roles,* 15, 417-432.

McKinney, B. A. & McAndrew, F. T. (2000). Sexuality, gender, and sport: Does playing have a price? *Psi Chi Journal of Undergraduate Research,* 5 (4) 152-158.

McPherson, D. G. (2002). Sport, youth, violence, and the media: An activist athlete's point of view. In M. Gatz, M. A. Messner, & S. J. Ball Rokeach (Eds.), *Paradoxes of youth and sport* (pp. 241-247). Albany: State University of New York Press.

Milligan, B. & Pritchard, M. (2007). The relationship between gender, type of sport, body dissatisfaction, self esteem and disordered eating behaviors in division I athletes. *Athletic Insight: The Online Journal of Sport Psychology.* Retrieved September 12, 2007.

Moretti, M.M., Holland, R., & McKay, S. (2001). Self-other representation and relational and overt aggression in adolescent girls and boys, *Behavioral Sciences and the Law,* 19, 109-126.

National Coalition for Women and Girls in Education (2007).

National Federation of State High School Associations (NFSHSA) 2007

Nixon, H. (2001). Gender, sport, and aggressive behavior outside of sport. *Contemporary issues in sociology of sport,* 387-394.

Patel, D. R., Greydanus, D. E., Pratt, H. D., & Phillips, E. L. (2003). Eating disorders in adolescent athletes. *Journal of Adolescent Reearch,* 18(3), 280-296.

Picard, C. L. (1999). The level of competitions as a factor for the development of eating disorders in female collegiate athletes. *Journal of Youth and Adolescence,* 28 (5), 583-594.

Ross L., Greene, D., House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology* 13, 279-301.

Russell, G. W., & Arms, R. L. (1995). False consensus effect, physical aggression, anger, and a willingness to escalate a disturbance. *Aggressive Behavior,* 21, 381-386.

Russell, K. (2002). *Women participation motivation in rugby, cricket, and netball: Body satisfaction and self identity.* Unpublished doctoral dissertation, Coventry University, Coventry, UK.

Schafer, Walter E. (1969). Participation in interscholastic athletics and delinquency: A preliminary study. *Social Problems, 17(1),* 40-47.

Segrave, Jeffrey O. (1980). Delinquency and athletics: Review and reformulation. *Journal of sport psychology, 2(2),* 82-89.

Sherman, R. T. & Thompson, R. A. (2004). The Female Athlete Triad. *The Journal of School Nursing,* 20, 197-202.

Smolak, L., Murnen, S. K., & Ruble, A. E. (2000). Female athletes and eating problems: a meta-analysis. *International Journal of Eating Disorders,* 27, 371-380.

Sugar, M. (Ed.) (1993). *Female Adolescent Development.* New York: Brunner/Mazel.

Underwood, M. (2003). *Social aggression among girls.* New York: Guilford Press.

Storch, E. A., Werner, N. E., & Storch, J. B. (2003). Relational aggression and psychosocial adjustment in intercollegiate athletes. *Journal of Sport Behavior,* 26(2), 155-167.

Sundgot-Borgen, J., & Torstveit, M. K. (2004). Prevalence of eating disorders in elite athletes is higher than in general populations. *Clinical Journal of Sports Medicine,* 14, 25-32. Retrieved September 29, 2007.

Sungot-Borgen, J. (1994). Eating disorders in female athletes. *Sports Medicine,* 17(1), 176-188.

Thompson, R. A., & Sherman, R. T. (2005). The last word: Athletes, eating disorders, and the four-minute mile. *Eating Disorders,* (13), 321-324.

Ussher, J. M. (1997). *Fantasies of femininity: Reframing the boundaries of sex.* New Brunswick, NJ: Rutgers University Press.

Watkins, R. E. (1999). A social psychological examination of the relationship between athletic participation and delinquent behavior (Doctoral dissertation, Carleton University (Canada), 1999). *Dissertation abstracts international,*

Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology,* 108, 615-623.

Appendix A

Sports

Directions: After reading the following definitions of femininity and masculinity, please respond to the following questions regarding girls high school sports *with these definitions in mind.*

Femininity: Refers to qualities and behaviors judged by a particular culture to be ideally associated with or especially appropriate to women and girls and principally refers to socially acquired traits. In Western culture femininity has traditionally included features such as gentleness, patience and kindness.

Masculinity: Refers to qualities and behaviors judged by a particular culture to be ideally associated with or especially appropriate to men and boys and principally refers to socially acquired traits. In Western culture masculinity has traditionally included features such as courage, strength, and assertiveness.

	Not at all (1)	A little (2)	Somewhat (3)	Mostly (4)	Very Much (5)
Basketball					
To what extent are female Basketball players feminine?	1	2	3	4	5
To what extent are female Basketball players masculine?	1	2	3	4	5
To what extent is female basketball a feminine sport?	1	2	3	4	5
To what extent is female basketball a masculine sport?	1	2	3	4	5
Cheerleading					
To what extent are female Cheerleaders feminine?	1	2	3	4	5
To what extent are female Cheerleaders masculine?	1	2	3	4	5
To what extent is female Cheerleading a feminine sport?	1	2	3	4	5
To what extent is female Cheerleading a masculine sport?	1	2	3	4	5
Cross Country					
To what extent are female Cross Country runners feminine?	1	2	3	4	5
To what extent are female Cross Country runners masculine?	1	2	3	4	5
To what extent is female Cross Country a feminine sport?	1	2	3	4	5
To what extent is female Cross Country a masculine sport?	1	2	3	4	5
Dance Team					
To what extent are female dancers feminine?	1	2	3	4	5
To what extent are female dancers masculine?	1	2	3	4	5
To what extent is Dance team a feminine sport?	1	2	3	4	5
To what extent is Dance team a masculine sport?	1	2	3	4	5
Golf					
To what extent are female Golfers feminine?	1	2	3	4	5
To what extent are female Golfers masculine?	1	2	3	4	5
To what extent is female Golf a feminine sport?	1	2	3	4	5
To what extent is female Golf a masculine sport?	1	2	3	4	5

	Not at all (1)	A little (2)	Somewhat (3)	Mostly (4)	Very Much (5)
Gymnastics					
To what extent are female Gymnasts feminine?	1	2	3	4	5
To what extent are female Gymnasts masculine?	1	2	3	4	5
To what extent is female Gymnastics a feminine sport?	1	2	3	4	5
To what extent is female Gymnastics a masculine sport?	1	2	3	4	5
Hockey					
To what extent are female Hockey players feminine?	1	2	3	4	5
To what extent are female Hockey players masculine?	1	2	3	4	5
To what extent is female Hockey a feminine sport?	1	2	3	4	5
To what extent is female Hockey a masculine sport?	1	2	3	4	5
Lacrosse					
To what extent are female Lacrosse players feminine?	1	2	3	4	5
To what extent are female Lacrosse players masculine?	1	2	3	4	5
To what extent is female Lacrosse a feminine sport?	1	2	3	4	5
To what extent is female Lacrosse a masculine sport?	1	2	3	4	5
Soccer					
To what extent are female Soccer players feminine?	1	2	3	4	5
To what extent are female Soccer players masculine?	1	2	3	4	5
To what extent is female Soccer a feminine sport?	1	2	3	4	5
To what extent is female Soccer a masculine sport?	1	2	3	4	5
Softball					
To what extent are female Softball players feminine?	1	2	3	4	5
To what extent are female Softball players masculine?	1	2	3	4	5
To what extent is female Softball a feminine sport?	1	2	3	4	5
To what extent is female Softball a masculine sport?	1	2	3	4	5
Swimming					
To what extent are female Swimmers feminine?	1	2	3	4	5
To what extent are female Swimmers masculine?	1	2	3	4	5
To what extent is female Swimming a feminine sport?	1	2	3	4	5
To what extent is female Swimming a masculine sport?	1	2	3	4	5
Tennis					
To what extent are female Tennis players feminine?	1	2	3	4	5
To what extent are female Tennis players masculine?	1	2	3	4	5
To what extent is female Tennis a feminine sport?	1	2	3	4	5
To what extent is female Tennis a masculine sport?	1	2	3	4	5
Track and Field					
To what extent are female Track and Field athletes feminine?	1	2	3	4	5
To what extent are female Track and Field athletes masculine?	1	2	3	4	5
To what extent is female Track and Field a feminine sport?	1	2	3	4	5
To what extent is female Track and Field a masculine sport?	1	2	3	4	5

	Not at all (1)	A little (2)	Somewhat (3)	Mostly (4)	Very Much (5)
Volleyball					
To what extent are female Volleyball players feminine?	1	2	3	4	5
To what extent are female Volleyball players masculine?	1	2	3	4	5
To what extent is female Volleyball a feminine sport?	1	2	3	4	5
To what extent is female Volleyball a masculine sport?	1	2	3	4	5

Appendix B

EAT-26

Directions: Please respond to the following items as they pertain to ***your*, personal experience. <u>Thinking about your own actions, feelings and beliefs</u>,** please indicate how much **<u>the item describes you</u>** by circling 1 for "Never", 2 for "Rarely", 3 for "Sometimes", 4 for "Often," 5 for "Usually," or 6 for "Always" to the right of the statement.

		Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Usually (5)	Always (6)
1.	Am terrified about being overweight	1	2	3	4	5	6
2.	Avoid eating when I am hungry	1	2	3	4	5	6
3.	Find myself preoccupied with food	1	2	3	4	5	6
4.	Have gone on eating binges where I feel that I may not be able to stop	1	2	3	4	5	6
5.	Cut my food into small pieces	1	2	3	4	5	6
6.	Am aware of calorie content of foods that I eat	1	2	3	4	5	6
7.	Particularly avoid foods with a high carbohydrate content (i.e., bread, rice, potatoes, etc.)	1	2	3	4	5	6
8.	Feel that others would prefer if I ate more	1	2	3	4	5	6
9.	Vomit after I have eaten	1	2	3	4	5	6
10.	Am preoccupied with a desire to be thinner	1	2	3	4	5	6
11.	Think about burning up calories when I exercise	1	2	3	4	5	6
12.	Other people think that I am too thin	1	2	3	4	5	6
13.	Am preoccupied with the thought of having fat on my body	1	2	3	4	5	6
14.	Take longer than others to eat my meals	1	2	3	4	5	6
15.	Avoid foods with sugar in them	1	2	3	4	5	6
16.	Eat diet foods	1	2	3	4	5	6
17.	Feel that food controls my life	1	2	3	4	5	6
18.	Display self-control around food	1	2	3	4	5	6
19.	Feel that others pressure me to eat	1	2	3	4	5	6
20.	Give too much time and thought to food	1	2	3	4	5	6
21.	Feel uncomfortable after eating sweets	1	2	3	4	5	6
22.	Engage in dieting behavior	1	2	3	4	5	6
24.	Like my stomach to be empty	1	2	3	4	5	6
25.	Enjoy trying new rich foods	1	2	3	4	5	6
26.	Have the impulse to vomit after meals	1	2	3	4	5	6

Appendix C

AQ

Directions: Using the 5-point scale shown below, indicate how **uncharacteristic** (Extremely Unlike Me) or **characteristic** (Extremely Like Me) each of the following statements is in *describing you.* **Thinking about your own actions, feelings and beliefs,** please indicate how much **the item describes you** by circling 1 for "Extremely Unlike Me", 2 for "Somewhat unlike me", 3 for "Neither Like me or Unlike Me", 4 for "Somewhat Like Me," or 5 for "Extremely Like Me" to the right of the statement.

		Extremely unlike me (1)	Somewhat unlike me (2)	Neither like or unlike me (3)	Somewhat like me (4)	Extremely like me (5)
1.	Some of my friends think I am a hothead	1	2	3	4	5
2.	If I have to resort to violence to protect my rights, I will	1	2	3	4	5
3.	When people are especially nice to me, I wonder what they want	1	2	3	4	5
4.	I tell my friends openly when I disagree with them	1	2	3	4	5
5.	I have become so mad that I have broken things	1	2	3	4	5
6.	I can't help getting into arguments when people disagree with me.	1	2	3	4	5
7.	I wonder why sometimes I feel so bitter about things.	1	2	3	4	5
8.	Once in a while, I can't control the urge to strike another person.	1	2	3	4	5
9.	I am an even-tempered person.	1	2	3	4	5
10.	I am suspicious of overly friendly strangers.	1	2	3	4	5
11.	I have threatened people I know.	1	2	3	4	5
12.	I flare up quickly but get over it quickly.	1	2	3	4	5
13.	Given enough provocation, I may hit another person.	1	2	3	4	5
14.	When people annoy me, I may tell them what I think of them.	1	2	3	4	5
15.	I am sometimes eaten up with jealousy.	1	2	3	4	5
16.	I can think of no good reason for ever hitting a person.	1	2	3	4	5
17.	At times I feel I have gotten a raw deal out of life.	1	2	3	4	5
18.	I have trouble controlling my temper.	1	2	3	4	5
19.	When frustrated, I let my irritation show.	1	2	3	4	5
20.	I sometimes feel that people are laughing at me behind my back.	1	2	3	4	5

		Extremely unlike me (1)	Somewhat unlike me (2)	Neither like or unlike me (3)	Somewhat like me (4)	Extremely like me (5)
21.	I often find myself disagreeing with people.	1	2	3	4	5
22.	If somebody hits me, I hit back.	1	2	3	4	5
23.	I sometimes feel like a powder keg ready to explode.	1	2	3	4	5
24.	Other people always seem to get the breaks.	1	2	3	4	5
25.	There are people who pushed me so far that we came to blows.	1	2	3	4	5
26.	I know that "friends" talk about me behind my back.	1	2	3	4	5
27.	My friends say that I'm somewhat argumentative.	1	2	3	4	5
28.	Sometimes I fly off the handle for no good reason.	1	2	3	4	5
29.	I get into fights a little more than the average person.	1	2	3	4	5

Appendix D

CPRS

Directions: Using the 5-point scale shown below, indicate how **uncharacteristic** (Extremely Unlike Me) or **characteristic** (Extremely Like Me) each of the following statements is in *describing you.* **Thinking about your own actions, feelings and beliefs,** please indicate how much **the item describes you** by circling 1 for "Extremely Unlike Me", 2 for "Somewhat unlike me", 3 for "Neither Like me or Unlike Me", 4 for "Somewhat Like Me," or 5 for "Extremely Like Me" to the right of the statement.

		Extremely unlike me (1)	Somewhat unlike me (2)	Neither like or unlike me (3)	Somewhat like me (4)	Extremely like me (5)
1.	I am a good leader	1	2	3	4	5
2.	I do nice things for others	1	2	3	4	5
3.	I help others	1	2	3	4	5
4.	I cheer up others	1	2	3	4	5
5.	I am happy at school	1	2	3	4	5
6.	I hit, or push others	1	2	3	4	5
7.	I yell, or call others names	1	2	3	4	5
8.	I start fights	1	2	3	4	5
9.	When I am mad, I get even by keeping the person from being in their group of friends	1	2	3	4	5
10.	I tell friends I will stop liking them unless they do what I say	1	2	3	4	5
11.	When I am mad at a person, I ignore them or stop talking to them	1	2	3	4	5
12.	I try to keep certain people from being in their group during free time	1	2	3	4	5
13.	I spend time alone a lot	1	2	3	4	5
14.	I am sad at school	1	2	3	4	5
15.	I am lonely at school	1	2	3	4	5

Appendix E

CFNI Instructions

The following pages contain a series of statements about how people might think, feel or behave. For example, the statements are about issues such as appearance, taking care of others, sexuality, and relationships.

Thinking about your own actions, feelings and beliefs, please indicate how much **you personally agree or disagree with each statement** by circling SD for "Strongly Disagree", D for "Disagree", A for "Agree", or SA for "Strongly agree" to the right of the statement.

There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering.

1.	It is important to let people know they are special	SD D A SA
2.	I would baby-sit for fun	SD D A SA
3.	I would be happier if I was thinner	SD D A SA
4.	I would feel extremely ashamed if I had many sexual partners	SD D A SA
5.	I feel uncomfortable being singled out for praise	SD D A SA
6.	When I am in a romantic relationship, I give it all my energy	SD D A SA
7.	It is important to keep your living space clean	SD D A SA
8.	I spend more than 30 minutes a day doing my hair and make-up	SD D A SA
9.	Putting energy into friendships is a waste of time	SD D A SA
10.	I participate in activities that include kids	SD D A SA
11.	I don't tend to worry about gaining weight	SD D A SA
12.	If I was single, I would want to date a lot of people	SD D A SA
13.	Being mean gets you ahead in life	SD D A SA
14.	I tell everyone about my accomplishments	SD D A SA
15.	Whether I'm in one or not, romantic relationships are often on my mind	SD D A SA
16.	I clean my home on a regular basis	SD D A SA
17.	I feel attractive without makeup	SD D A SA
18.	I believe that my friendships should be maintained at all costs	SD D A SA
19.	I find children annoying	SD D A SA

20.	Being thin is important	SD D A SA
21.	I prefer long-term relationships to casual sexual ones	SD D A SA
22.	There is nothing wrong with bragging	SD D A SA
23.	I pity people who are single	SD D A SA
24.	I am comfortable when my living space is a little cluttered	SD D A SA
25.	I'd feel superficial if I wore make-up	SD D A SA
26.	I feel good about myself when others know that I care about them	SD D A SA
27.	Taking care of kids is just not for me	SD D A SA
28.	I would only diet if a doctor ordered me to do so	SD D A SA
29.	I would feel guilty if I had a one-night stand	SD D A SA
30.	When I succeed, I tell my friends about it	SD D A SA
31.	Having a romantic relationship is essential in life	SD D A SA
32.	I enjoy spending time making my living space look nice	SD D A SA
33.	Being nice to others is extremely important	SD D A SA
34.	I regularly wear makeup	SD D A SA
35.	I don't go out of my way to keep in touch with friends	SD D A SA
36.	Most people enjoy children more than I do	SD D A SA
37.	I would like to lose a few pounds	SD D A SA
38.	It is impossible to always be nice to others	SD D A SA
39.	It is not necessary to be in a committed relationship to have sex	SD D A SA
40.	I hate telling people about my accomplishments	SD D A SA
41.	I can be happy without being in a romantic relationship	SD D A SA
42.	I haven't cleaned my living space in the past week	SD D A SA
43.	I get ready in the morning without looking in the mirror very much	SD D A SA
44.	I would feel burdened if I had to maintain a lot of friendships	SD D A SA
45.	When I want to relax, I don't want to be around kids	SD D A SA
46.	I tend to watch what I eat in order to stay thin	SD D A SA
47.	I would feel uncomfortable having casual sex	SD D A SA
48.	I make it a point to get together with my friends regularly	SD D A SA

49.	I always downplay my achievements	SD D A SA
50.	Being in a romantic relationship is important	SD D A SA
51.	I don't care if my living space looks messy	SD D A SA
52.	I never wear make-up	SD D A SA
53.	I always try to make people feel special	SD D A SA
54.	Caring for children adds meaning to one's life	SD D A SA
55.	I'd look better if I put on a few pounds	SD D A SA
56.	I frequently change sexual partners	SD D A SA
57.	I am not afraid to tell people about my achievements	SD D A SA
58.	My life plans do not rely on my having a romantic relationship	SD D A SA
59.	I do all the cleaning, cooking, and decorating where I live	SD D A SA
60.	It is important to look physically attractive in public	SD D A SA
61.	If a friendship isn't working, I'll end it	SD D A SA
62.	I would feel empty if my life did not involve children	SD D A SA
63.	I try to be sweet and nice	SD D A SA
64.	I am always trying to lose weight	SD D A SA
65.	I would only have sex with the person I love	SD D A SA
66.	I don't seek recognition for my efforts	SD D A SA
67.	When I have a romantic relationship, I enjoy focusing my energies on it	SD D A SA
68.	There is no point to cleaning because things will get dirty again	SD D A SA
69.	I am not afraid to hurt people's feelings to get what I want	SD D A SA
70.	Taking care of children is extremely fulfilling	SD D A SA
71.	I would be perfectly happy with myself even if I gained weight	SD D A SA
72.	It would be enjoyable to date more than one person at a time	SD D A SA
73.	I enjoy being in the spotlight	SD D A SA
74.	If I were single, my life would be complete without a partner	SD D A SA
75.	I rarely go out of my way to act nice	SD D A SA
76.	I actively avoid children	SD D A SA
77.	I am terrified of gaining weight	SD D A SA

78.	I would only have sex if I was in a committed relationship like marriage	SD D A SA
79.	I am only nice to people I like	SD D A SA
80.	I like being around children	SD D A SA
81.	I tend to eat whatever I want	SD D A SA
82.	I don't feel guilty if I lose contact with friends	SD D A SA
83.	I feel uneasy around children	SD D A SA
84.	I would be ashamed if someone thought I was mean	SD D A SA

Appendix F

Copy of Approval from Institutional Review Board

COPY

Colorado State University

Research Integrity & Compliance Review Office
Office of Vice President for Research
Fort Collins, CO 80523-2011
(970) 491-1553
FAX: (970) 491-2293

Notice of Approval for Human Research

Principal Investigator: Lee Rosen, Psychology, 1876
Co-Principal Investigator: Nicole Eberle, Psychology, 1876
Title: Female High School Sports: Self Reported Behaviors of High School Students
Protocol #: 08-024H **Funding Source:** n/a
Number approved: 800 participants
Committee Action: **Approval Date:** February 20, 2008 **Expires:** February 4, 2009
IRB Administrator: Janell Barker Janell Barker

Consent Process:
The above-referenced project was approved by the Institutional Review Board with the condition that the attached consent form is signed by the subjects and each subject is given a copy of the form. *NO changes may be made to this document without first obtaining the approval of the Committee.* Subjects under the age of 18 years old must obtain parental permission. The approved recruitment & debriefing scripts must also be used.

Condition:
Poudre School District & Denver School District letters of cooperation must be obtained prior to recruitment and submitted to the IRB.

Investigator Responsibilities:

- It is the PI's responsibility to obtain consent from all subjects.
- It is the responsibility of the PI to immediately inform the Committee of any serious complications, unexpected risks, or injuries resulting from this research.
- It is also the PI's responsibility to notify the Committee of any changes in experimental design, participant population, consent procedures or documents. This can be done with a memo describing the changes and submitting any altered documents.
- Students serving as Co-Principal Investigators must obtain PI approval for any changes prior to submitting the proposed changes to the IRB for review and approval.
- The PI is ultimately responsible for the conduct of the project.
- A status report of this project will be required within a 12-month period from the date of review. Renewal is the PI's responsibility, but as a courtesy, a reminder will be sent approximately two months before the protocol expires. The PI will be asked to report on the numbers of subjects who have participated this year and project-to-date, problems encountered, and provide a verifying copy of the consent form or cover letter used. The necessary continuation form (H-101) is available from the RICRO web page http://ricro.research.colostate.edu.
- Upon completion of the project, an H-101 should be submitted as a close-out report.
- If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.
- **Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.**

Please direct any questions about the Committee's action on this project to me for routing to the Committee.

attachment Date of Correspondence: 2/26/08

Consent to Participate in a Research Study
Colorado State University

TITLE OF STUDY: High School Sports: Self- Reported Behaviors of High School Students

PRINCIPAL INVESTIGATOR: Dr. Lee Rosen, Department of Psychology
491-5925
leerosen@lamar.colostate.edu

CO-PRINCIPAL INVESTIGATOR: Nicole Eberle, Department of Psychology
491-1614
neberle@holly.colostate.edu

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? You are being asked to participate because I am studying adolescent females involved in sports and I am surveying males and females on their thoughts of female athletes.

WHO IS DOING THE STUDY? The study is being conducted by Nicole Eberle to complete the requirements for her Dissertation. Nicole Eberle is being assisted by a research assistant team. The project is being overseen by Dr. Rosen.

WHAT IS THE PURPOSE OF THIS STUDY? The purpose of this study is to examine the rate of behaviors among high school students. I am particularly interested in the behaviors of female high school athletes and how they might be similar or different to the rates of females not involved in sports or their male counterparts. This study is examining how sports participation relates to eating behaviors, aggressive behaviors, and values.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? The study will take place in your classroom and will take approximately 30-45 minutes to complete.

WHAT WILL I BE ASKED TO DO? You will be asked to complete a survey packet that consists of information about you including age, sex, height, weight, ethnicity, and family income. You will also be asked to answer some questions about your level of involvement with organized sports. Then there are four questionnaires that will ask you questions about your eating behaviors, level of aggressive behaviors, and finally a measure designed to assess your values.

ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY?
Participation is completely voluntary, but there is no reason that you should not participate in this study.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?
- The only potential risk is some psychological discomfort in answering questions about some of your behaviors. However, you may rest assured that your answers will never be connected with your name. Hopefully, you will feel free then to answer questions honestly without fear of getting into trouble.
- It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.
- Should you experience any discomfort in responding to the questionnaire, you may contact the Psychological Services Center (491-5212) to discuss your feelings with a counselor.

ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY? There are no know direct benefits for participation in this study, however, your answers will help clarify the experience of high school students.

DO I HAVE TO TAKE PART IN THE STUDY? Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

WHAT WILL IT COST ME TO PARTICIPATE? There are no costs for you to participate.

WHO WILL SEE THE INFORMATION THAT I GIVE?
Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep you name and other identifying information private.

This study is anonymous. That means that no one, not even members of the research team, will know that the information you give comes from you. We will keep private all research records that identify you, to the extent allowed by law.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY? There is no compensation for taking part in this study.

WHAT HAPPENS IF I AM INJURED BECAUSE OF THE RESEARCH? The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

WHAT IF I HAVE QUESTIONS?
Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, **Nicole Eberle** at **neberle@holly.colostate.edu**. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator at 970-491-1655. We will give you a copy of this consent form to take with you.

PACKET COLLECTION: Please do not write your name on your survey. When you are finished, hand in your packet to the teacher.

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing __2__ pages.

_____ _____
Signature of person agreeing to take part in the study Date

_____
Printed name of person agreeing to take part in the study

PARENTAL SIGNATURE FOR MINOR

As parent or guardian I authorize _____ (print name) to become a participant for the described research. The nature and general purpose of the project have been satisfactorily explained to me by _____ and I am satisfied that proper precautions will be observed.

_____
Minor's date of birth

_____
Parent/Guardian name (printed)

_____ _____
Parent/Guardian signature Date

Appendix G

Debriefing Form

Debriefing

Thank you for your participation in the study! I would like to explain a little about this study, as well as tell you where you can find more information about the topic, and when you can get a copy of the results.

Sports in the past have been dominated by boys and men as a way to teach them how to "be a man." However, more and more girls and women are playing sports at all levels. Even though more females are playing sports, they still have to deal with many assumptions that sports are for boys. Even at the highest level of competition, women are often associated with many features, such as their beauty, that have nothing to do with the sport. Also, some of the most popular female sports have been associated with certain behaviors. The purpose of the research is to see how sport participation is related to disordered eating, aggression, and feminine values.

If you would like to study this topic, there is a lot of information available to you. You can find some information on the PsychInfo database at the library. Look up athletes, eating disorders, relational aggression, and feminism. There is information about both female and male athletes available. If you have any questions you may ask Nicole Eberle at neberle@holly.colostate.edu. If you would like a copy of the results from this study, you can request them from Nicole after the summer of 2008.

If you would like to talk about your feelings after finishing the packet, please ask someone to talk. Counseling services can be found locally at the Psychological Services Center (491-5212). Please contact them to make an appointment to discuss your feelings.

Sincerely,
Nicole Eberle

APPENDIX H

Correlation Matrix

	EAT	AQ1	AQ2	AQ3	AQ4	CPRS1	CPRS2	CPRS3	CPRS4	CFNI1	CFNI2	CFNI3	CFNI4	CFNI5	CFNI6	CFNI7	CFNI8
E	-	0.13	0.7	.16*	0.25	0.05	0.84	0.03	0.18	0.05	0.05	.59*	-0.11	0.08	.14*	0.9	0.15
A1		-	.56*	.70*	.50*	.64*	.41*	-0.12	.28*	-.26*	-0.09	0.1	-.17*	-0.09	0.18	0.09	0.06
A2			-	.60*	.50*	.40*	.35*	-0.01	.24*	-0.21	-0.11	0.02	.19*	.17*	0.11	0.01	0.03
A3				-	.61*	.55*	.51*	-.16*	.44*	-.32*	-.16*	0.1	-0.19	0.02	.21*	-0.04	0.08
A4					-	.42*	.49*	-.24*	.52*	-.36*	-.18*	.29*	-.16*	0.07	.19*	-0.07	0.05
C1						-	.55*	-0.1	.36*	-.31*	-0.12	0	-0.09	-0.1	0.21	0	0.09
C2							-	-0.12	.27*	-.40*	-.18*	0.07	-.17*	-0.12	.24*	-0.11	0.09
C3								-	-.32*	0.46	.23*	0.05	0.07	-.27*	0.03	.17*	0.09
C4									-	-.34*	-.26*	.23*	-0.08	0.17	0.02	-0.1	-0.01
CF1										-	.35*	0.07	.23*	0.01	0.04	.20*	0.09
CF2											-	-0.03	.31*	0.08	0.12	.17*	0.1
CF3												-	-0.6	0.12	.20*	0.06	.22*
CF4													-	.06*	-0.02	.17*	-0.16
CF5														-	-0.05	-0.03	-0.09
CF6															-	0.11	.29*
CF7																-	.16*
CF8																	-
N	0.03	0.09	0.03	0.1	0.13	0.07	.15*	-0.09	.14*	-0.09	-.15*	0.05	-0.06	-0.04	-0.04	-0.01	-0.06
F	0.06	-0.01	0.03	-0.09	-0.09	0.07	-0.07	.19*	-0.06	0.03	0.07	0	-0.12	-0.01	0.1	0.02	.14*
M	0.05	0.03	-0.01	0.02	-0.01	-0.04	-0.01	-.20*	-0.03	-0.01	0.03	-0.01	0.02	0	0.1	-0.03	-0.02
N	-0.08	-.13*	-0.07	-0.1	-0.13	-0.05	-0.11	-0.03	0	0.07	-0.03	-0.01	-0.01	.13*	-.13*	0.07	0.02
Mu	-0.07	-0.03	0	0.01	0.02	-0.07	-0.02	0.12	-0.07	0.04	0.1	-0.02	.15*	-0.03	-0.04	-0.03	-0.06