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Lisa Ciaravella
Lynn University

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**The Impact of Social Stereotypes as they Relate to Training Practices of
Female Athletes Competing in High-Risk Sports**

A Graduate Project

**In Partial Fulfillment of the Requirements for a Master of Science
Degree in Sports and Athletic Administration**

**Lynn University
Graduate School**

**By: Lisa Ciaravella
May 1, 2002**

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TABLE OF CONTENT

Chapter	Page
1. Introduction.....	1
2. Literature Review.....	4
3. Methodology.....	10
4. Results.....	11
5. Conclusion.....	15
Appendix A.....	18
References.....	20

ABSTRACT

The Impact of Social Stereotypes as they Relate to Training Practices of Female Athletes Competing in High-Risk Sports

**by
Lisa Ciaravella**

This study was conducted to investigate if a lack of conditioning and the increased rate of injury among female athletes are due primarily to social stereotypes associated with women's athletics. Ten professional female basketball players and ten high school basketball player were surveyed to determine how strength training is conceptualized and what role strength training had played in injury prevention. The study revealed that the increased rate of injury among female athletes are due to time constraints and/or lack of emphasis on strength and conditioning imposed on the athletes themselves for reasons of not strength training as opposed to social stereotypes associated with women's athletics such as issues in masculinity and as traditionally type casting women as not physically apt. Although young female athletes are being introduced to weight training at a younger age the rate of injury still remains constant among the youth and professional athletes.

Female athletes are starting to train physically and emotionally within the same infrastructure as male athletes, however females are unable to perform to the ability of male athletes with little or no deviations in injury rate.

Chapter One : Introduction

The history of physical conditioning within women's athletics dates back to the 1950's when a few track and field athletes started preparing for the Olympic Games. Previously, female athletes within western culture were inhibited from participating in strength training due to lack of physiological research and social stigmas. With the inception of Education Code Title IX in 1972 referred to as the gender equity bill, athletic departments have had to offer more sports to women and physical preparation has become more of an issue (NCSA, 1998).

Title IX prohibits sex discrimination in federally funded educational programs, including athletics programs. Title IX requires that schools, colleges, and Universities receiving federal funds offer equivalent sports opportunities, equipment, and funding for women and girls sports. Almost all colleges and Universities, and some high schools, are covered by Title IX (United States Labor Department, 1999).

In addition, 12 states have laws prohibiting sex discrimination in education, which would apply to all public education in those states. Sixteen states have constitutional measures (equal rights amendments) prohibiting sex discrimination. Equal rights provisions passed before the 1970's were weak. Less than two dozen states have sex discrimination protection in educational programs. Women have received college athletic scholarships for higher education as a result of Title IX. Many Olympic athletes credit Title IX for their opportunity to participate in sports (United States Labor Department, 2001).

Over the past decade, women's sports has grown in popularity and is now being viewed as a valuable market for coaches of female sports and the athletes that play them. We are presently witnessing the first generation of athletes that grew up with Title IX emerging into the professional sports arena. United States women won more gold metals than men during the last few Olympic games (Feminist, 1999). Athletes such as Venus and Serena Williams, Mia Hamm and Cynthia Cooper have proven women's sports are valuable to marketers. Young female athletes today finally have role models in sports. These athletes are promoting participation by females in sports. High school girls are responding by joining their area high school teams and raising the level of competition. In 1972, only 1 out of 27 girls participated in high school sports and by 1998, 1 out of 3 girls were participating (Feminist, 1999).

An increased number of contact sports (basketball, field hockey, soccer, rugby) are being offered to women. The National Athletic Trainer's Association categorizes high risk sport as those requiring bodily contact as forced means of competition such as basketball, football, lacrosse, soccer, rugby, hockey and field hockey (NCAA, 1996). With the increased number of formalized high risk athletic programs being offered to women, the number of injuries has increased at an alarming rate (NCAA, 1996).

This study takes a different approach to examining athletic injuries. The purpose of this study was to go beyond the physical aspects of injury prevention in women's athletics and to explore the social parameters associated with the increase in athletic injuries. Strength training is the best form of injury prevention for any

athlete regardless of sport or gender. For young female athletes, strength training is the most overlooked aspect of physical preparation. Throughout this study we examined strength training myths such as “women tone, men train”, “weight training will make you huge” and the misconceptions about masculinity that have detoured women from participating in high school strength training (Nelson, 1991).

This study examined how female athletes competing in high-risk sports are conceptualizing physical preparation and what part social stereotypes play in their training practices. Exploration includes the deviations in social stereotypes, such as traditional typecasting and masculinity associated with professional strength and conditioning programs and their effects on female athletics. Women’s athletics has grown considerably throughout the last decade and as a result so have the number of season-ending injuries to female professional athletes.

Hypothesis

This study expected to find that the lack of conditioning and the increased rate of injury among female athletes are due primarily to social stereotypes associated with women’s athletics.

Chapter Two : Literature Review

Research conducted by the National Feminist Organization estimated that in 1972 only 7% of interscholastic high school athletes were females and that by 1992 a surge in participation resulted an 37% increase (Feminist, 1999). The National Feminist Organization estimates that women's athletics will reach parity in 2033, validating the extent of growth that remains for women's athletics (Feminist, 1999).

The President's Council on Fitness and Sports states that prior to 1972 only 300,000 young women participated in interscholastic athletics nationwide. Today that figure has leaped to approximately 2.25 million (President, 2000). The report acknowledges the vast improvement in participation yet lacks research related to issues affecting women's participation. The report documents that girls now make up 37 percent of all high school athletes (President, 2000).

Research performed by Dr. Doreen Greensburg of Farleigh Dickinson University in conjunction with the President's Council on Fitness and Sports states, "adolescence is a time of significant and precipitant biological, cognitive and emotional changes for girls. Changes related to physical development, self-evaluation, peer standing and relationships with family and friends have a powerful influence on their mental health and psychological well-being" (President's, 2000). In addition, Dr. Greensburg states that, "Girls can learn to be strong, resilient and powerful, particularly as a result of physical activity and sports experience (President's, 2000)."

Among some of the researched benefits of physical activity among women, The President's Council Report on Physical Activity and Sport in the Lives of Girls reports improved self-esteem, self concept, and body concept. The report specifically lists improvements in self-concept as a key element found in women's athletics. In addition, the report indicates that the type of activity performed plays a role in the margin of improvement among female participants. A greater margin of improved mental health was noted in activities that involve large muscle group activities such as running, walking, or weightlifting. One of the discussions stated, "Social interactions have been suggested as mediators to the perceptions of improved well-being associated with sport and exercise. Social relationships (e.g., coach/athlete) that function in place of or in addition to parental relationships, as well as peer support, have emerged as significant factors in several studies" (President, 2000). The mental health section of this report did not address as to what degree these social relationships play in initiating or continuing participation.

Researchers at the University of Medicine and Dentistry of New Jersey recently conducted a study on high school and college-aged basketball players and determined that women are five times more likely to have a season ending injury than men (Vargas, 1999). They are especially more prone to lower extremity injuries. One of the possible explanations for the phenomenon included training practices used by athletes during the off-season and preseason training.

Another study published by the National Collegiate Athletic Association showed that female basketball players in the United States are four times more likely than men to suffer anterior cruciate ligament injury (NCAA, 1996). Sports medicine

physicians and orthopedists postulate the main reason for this occurrence is the lack of emphasis on conditioning and strengthening on the hamstring muscle group to take pressure off the ligament and stabilize the joint. The study concludes that women who compete in sports and activities prone to injury need to aggressively follow preventative conditioning and training programs to help avoid injuries (NCAA, 1996).

Both of these studies failed to address why female athletes are not taking the necessary steps to prevent injuries. Are female athletes lazy? Unlike high school men's athletic programs, female athletes are not encouraged to physically prepare themselves for high-risk sport participation. High school weight rooms are filled with male athletes and are often neglected by female athletes. Female sport coaches are not emphasizing strength training as a valuable portion of athletic conditioning programs, resulting in an increased rate of season ending injuries for high school female athletes (NSCA, 1996).

Male athletes are extrinsically motivated by numerous professional athletes that act as role models for physical fitness such as, Shannon Sharpe, Deion Sanders and Michael Johnson. Female athletes have a much more diverse group of role models such as Teresa Witherspoon, Mia Hamm and Steffi Graf. Some of the most successful female professional athletes have suffered social stereotypes, for example, being referred to as masculine. These types of social stereotypes surrounding female athletics could be discouraging young female athletes from participating in strength training and conditioning programs.

Former basketball star Mariah Burton Nelson asked in her book, "Are We Winning yet?" "Female athletes in traditionally masculine sports challenge that social stereotypes dictate proper behavior for females, therefore, the reasoning goes, there must be something wrong with them. Society at large tends to discourage girls and women from pursuing traditionally masculine activities, which include contact sports and team sports for fear of being labeled a homosexual" (Nelson, 1991).

Dr. Margaret Carlisle Duncun of the University of Wisconsin researched how social issues of femininity influence the participation within women's athletics. She found that movement patterns among female athletes are often dictated by what is considered feminine. She explored how gender identity is often established as early as infancy. "Children first identify notions of gender by focusing on a few obvious physical and external cues like the hairstyle, dress and name. By age two, clear sex differences in interest appear. By age three, children know many of the implicit social rules that guide feminine and masculine behavior. They may also start to believe that it is wrong for people to engage in cross-sex activities" (Duncun, 2000). Dr. Duncun states that the re-enforcement received from peers, family, and teachers, often dictates the opportunities and goals to fit what women choose as gender appropriate behavior.

Traditionally when identifying gender roles, women and men are depicted as opposites, which is identifiable in the ways in which women and men physically express themselves. Women are traditionally taught to be delicate and conserve their surroundings, as opposed to men whom are taught brute movements that are

more physically demanding. Traditional roles do not identify pride with women presenting themselves as large, strong, powerful or physical (Duncan, 2000).

Many young females disregard sport participation and choose more gender appropriate activities such as dance and cheerleading in an effort to avoid feminine compromising. Regardless of the social parameters that surround female activities, even for activities such as dance, some degree of strength is needed for healthy participation (Duncan, 2000).

The Miller Lite Report on Women in Sports found that young women who broke the traditional mold stereotypes and played sports with their male counterparts were still active later in life (Miller, 1985).

The National Strength and Conditioning Association Position Paper on Strength Training For Female Athletes (1996) states, "A common barrier many female athletes and coaches must overcome when resistance training are the social norms regarding femininity and participation in sports, particularly strength and power sports." The position paper discussed how female strength and power athletes are not only violating social norms, but that those subject to physical changes due to activity are perceived as violating their feminine body image. As a result, many female athletes discontinue participating in high risk sports that require strength and power or simply never reach their genetic potential when participating.

The position paper does not address how resistance training was presented to the female athletes. The types of exercise that were presented to the athletes and the environment that the athletes were training in may affect the perception (NSCA,

1996). The paper does not address the side effects of competing at high levels with deficits in genetic potential or below peak physical fitness.

Chapter Three : Methodology

Twenty female athletes participating in high-risk sports were surveyed. The test groups consisted of ten athletes from the Bradenton High School Varsity basketball team and ten professional athletes from the Women's Professional Basketball Association. Data was collected anonymously. Head coaches (for high school athletes) and strength and conditioning coaches (for professional athletes), distributed the surveys to the female athletes. The coaches were given explicit instructions on how to distribute and collect the surveys to avoid contamination. The coaches were advised as to the nature of the study and were informed not to disclose any information about the study until after each survey had been collected. The survey questions were multiple choice and short answer (see Appendix A). Sharing the results of the study with the coaches and athletes was offered as an incentive for participation. Findings from the surveys were tallied into percentages for each question. Each survey were assigned a tracking number. Comparative analysis was conducted on the data collected.

Chapter Four : Results

This study was conducted to find that the lack of conditioning and the increased rate of injury among female athletes were due primarily to social stereotypes associated with women's athletics. The survey results revealed that thirty percent of the ten professional athletes surveyed were between the ages of 21-25 years of age, sixty percent were between the ages of 26-30 years of age and ten percent were over 30 years old. Of the ten high school athletes surveyed fifty percent of the athletes were between the ages of 10-15 years old and the remaining fifty percent were between the ages of 16-20 years old.

Among the twenty athletes surveyed seventy percent of the professional and forty percent of the high school athletes estimated that they spent 15-20 hours per week participating in athletics. Thirty percent of the high school athletes stated that they participated between 10-14 hours per week in athletics. Twenty percent of the professional and high school athletes spent more than 21 hours per week participating in athletics, and ten percent of the professional and high school athletes spent between 1-4 hours per week participating in athletics.

All ten of the professional athletes surveyed stated that they were motivated to participate because of the love of the sport. Ninety percent of the high school athletes stated that they were motivated to participate because of the love of the sport and ten percent of the high school athletes stated that they were motivated by either the coach, college, money, or scholarship.

Twenty percent of the professional athletes surveyed stated 21 or more of their current friends and/or teammates weight train as opposed to only ten percent of the high school athletes. Twenty percent of the professional athletes had 16-20 current friends and/or teammates that weight train. Thirty percent of the professional athletes and ten percent of the high school athletes had 11-15 current friends and/or teammates that weight train. Ten percent of the professional athletes had 6-10 current friends and/or teammates that weight train, and ten percent of professional athletes and seventy percent of the high school athletes had 1-5 current friends and/or teammates that weight train.

All of the professional athletes surveyed weight trained and eighty percent of the professional athletes weight trained four times per week and twenty percent of the professional athletes weight trained two times per week. Only sixty percent of the high school athletes weight trained; the remaining forty percent did not weight train. Of the high school athletes that did weight train, ten percent trained four times per week, forty percent trained twice per week, ten percent trained once per week, and ten percent trained three times per week.

All of the professional athletes surveyed were introduced to weight training by coaches and had a certified weight training instructor. Of the high school athletes that did weight train, twenty percent were introduced to weight training by coaches, twenty percent by personal trainers, twenty percent by parents and ten percent by a friend. Seventy-five percent of the high school athletes that did weight train had been instructed by a certified weight training instructor. The most common reason for not weight training was that the athletes did not have the time.

All of the professional athletes had suffered a sports injury at one point in their athletic career. Ninety percent of the high school athletes that did weight train had suffered a sports injury at one point in their athletic career. Fifty percent of the athletes that did not weight train had suffered a sports injury.

Eighty percent of the professional athletes suffered ankle sprains, three of the professional athletes suffered a knee injury that resulted in surgical repair. Ten percent of the professional athletes suffered multiple concussions. Ten percent of the professional athletes stated they suffered a heel, foot and lower leg injuries such as stress fractures and tendonous injuries.

Fifty percent of the high school athletes that did weight train and all of the injured, non-weight training athletes suffered some form of ankle injury such as an ankle sprain. Ten percent of the athletes that did not weight train suffered knee injuries such as ligament sprains. Ten percent of the athletes that did weight train had suffered muscular injuries.

Of the professional athletes surveyed thirty percent were introduced to weight training as a part of sports participation between the ages of 13-14, and twenty percent were introduced between the ages of 15-16 old. The remaining seventy percent of the professional athletes were not made aware of weight training as a part of sports participation until they were at least 17 or older. Of the ten high school athletes surveyed, thirty percent were introduced to weight training as part of sports participation before the age of 10, thirty percent between the ages of 10-12, thirty percent between 13-14 and ten percent between the ages of 15-16.

In addition, seventy percent of the ten professional athletes did not make weight training part of their training until they were at least 17, and the remaining thirty percent did not make weight training a part of their training until they were 13-14. Of the high school athletes, sixty percent stated that they were currently weight training, thirty percent said they made weight training a part of their regular training between the age of 10-12, twenty percent between the ages of 13-14 and ten percent of the athletes between the ages of 15-16. Eighty percent of the high school athletes stated that they had a weight training facility available to them by their athletic team. All of the professional athletes said they had a weight training facility available to them.

Chapter Five: Conclusion

This study was conducted to find whether the lack of conditioning and the increased rate of injury among female athletes is due primarily to social stereotypes associated with women's athletics. Based on the findings of this study, the following conclusions can be made:

1. The lack of conditioning and the increased rate of injury among female athletes is not due primarily to social stereotypes associated with women's athletics such as issues in masculinity and as traditionally type casting women as not physically apt.
2. The lack of conditioning and the increased rate of injury among female athletes is due primarily to time constraints and/or lack of emphasis on strength and conditioning imposed on the athletes themselves.
3. High school athletes are beginning to weight train at a significantly younger age than the older, professional athletes.
4. Young female athletes are being introduced to weight training by a variety of sources as opposed to the current professional athletes of today; however, the rate of injury still remains constant among the youth and professional athletes.
5. Female athletes are starting to train physically and emotionally within the same infrastructure as male athletes, however females are unable to perform to the ability of male athletes with little or no deviations in injury rate.

Further research is needed to determine if female specific training programs mimicking female biomechanics may result in reducing the rate of injury.

In comparison to the National Strength and Conditioning report published in 1996, this study yielded similar results in that limited research exists today on how young athletes are being introduced to weight training and what emphasis is being placed on weight training.

Unlike Dr. Margaret Carlisle Duncun (2000) of the University of Wisconsin who researched how social issues of femininity influence the participation within women's athletics, it was not found that the female athletes surveyed were influenced by issues of femininity. Social issues were not stated in any of the responses, as reasons for not participating in athletics. There was a contrast between Duncun's (2000) finding of females disregarding sports participation and choosing more gender appropriate activities such as dance or cheerleading. Although the surveyed athletes were not participating in dance or cheerleading they are continuing to participate in more gender specific activities.

This studies results resembled the findings of the University of Medicine and Dentistry of New Jersey research that stated women are five times more likely to have a season ending injury than men (Vargas, 1999). This study revealed a high number of injuries among both the professional and high school athletes. In contrast, the University of Medicine and Dentistry of New Jersey study discussed how a lack of off-season conditioning may play a role in the increased injury rate. This study showed that female athletes are physically conditioning as a whole and are beginning to train at a much younger age.

The level of competition is increasing. Young female athletes are starting to physically condition their bodies at a younger age. Within the professional sport

medium there is an increased profitability for female athletes but the supply of athletes is not physically adapting and this effect is trickling down into youth sports. This leads to the need for explorations relating to how these athletes are training and the specificity of training practices.

Based on the findings of this study, it is recommended that the social infrastructure of women's athletics be changed to adjust to the expanding demands placed upon female athletes physically. Underlying issues are continuing to effect the progression of female athletes.

The practical implications of this study are to educate coaches and young athletes to take a closer look at the time invested in strength and conditioning and the training techniques used in women's athletics and to aid in the development of formalized training structures for coaches of female sports. Future research may focus on specific strategies used in how strength and conditioning is being emphasized by coaches and parents in regards to young athletes. The results of this study may also encourage coaches and parents to take a closer look on how to further emphasize physical conditioning to their young athletes.

This study was limited by the specificity of the sample groups. Future studies should sample coaches, parents, and male athletes in comparison with the female athletes.

a. before age 10 b. 10-12 c. 13-14 d. 15-16 e. 17 or older

14. Is a weight training facility offered to you by your team? No Yes

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