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## A qualitative study of long-term injury and body image

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A QUALITATIVE STUDY OF LONG-TERM INJURY  
AND BODY IMAGE

A Thesis

Presented to

The Faculty of the Department of Human Performance

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Masters of Arts

By

Lisa Lawrence

August 2003

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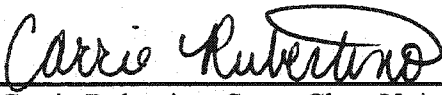
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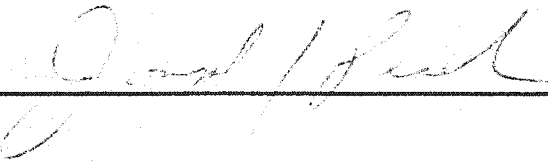
  
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## ABSTRACT

### A QUALITATIVE STUDY OF LONG-TERM INJURY AND BODY IMAGE

By Lisa Lawrence

The purpose of this study was to qualitatively examine the effects of long-term injury on the body image of elite female collegiate athletes. This study examined how a cease in physical activity as a result of injury can contribute to body image concerns. Eight NCAA Division I female athletes participated in this study.

Research revealed that after the onset of a long-term injury, the athletes experienced a reduction in self-confidence, self-esteem, and self-worth. These changes led to a disturbed perception of their body image.

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## **Chapter 1**

### **Introduction**

Since the passage of Title IX legislation, there have been great strides to increase the number of female athletic programs in US colleges and universities. Female athletes now have the opportunity to participate in numerous types of sports and exercise activities. A number of organizations, including the National Association for Girls and Women in Sport and the Women's Sports Foundation, have identified and publicized the benefits that physical activity brings to women. The advantages of physical activity include an improvement in mood, an increase in physical condition, and an increase in over-all body esteem (DiNucci, Finkenberg, McCune, McCune & Mayo, 1994; Wiggins & Moore, 2000). Regular exercise is also associated with psychological benefits, including a reduced negative affect (e.g., anxiety and depression) and an increased positive affect (e.g., self-efficacy, vigor and well being) (Cox, 2002).

Women often engage in exercise to acquire what is thought of as the ideal American female body, suggesting that concerns over self-presentation serve as a motive for exercise (Leary, 1992). Markula (1995) describes this ideal body as "firm but shapely, fit but sexy, strong but thin" (p.424). As the media and other social institutions reinforce the desirability of a very thin female body, many women feel that is the standard for how they will be evaluated (Bordo, 1993). Furthermore, this cultural standard of being thin has influenced the way many women perceive their bodies. As an example, a recent advertisement for Kellogg's Special K cereal depicts an 18 month-old girl wearing nothing but a diaper, sitting with a worried look on her face. The cartoon-

like caption that projects from her lips asks the question, "Do I look fat"? This ad reflects the common concern with weight and the fear of fat with which many in contemporary American culture have struggled with for decades (Brumberg, 1998).

One environment where the pressure to conform to a certain body shape is readily apparent is in the competitive sport setting. This athletic environment provides a setting that allows women to demonstrate strength, power, coordination, and assertiveness with their bodies (Guthrie & Castelnovo, 1994). At the same time however, their bodies are often still objectified. An example of this comes from the attention that Ashley Harkleroad, a 16 year-old tennis player at the 2001 U.S. Open, received for her revealing tennis outfit. In a Sports Illustrated article, Harkleroad said, "I tried on all the clothes, and Nike liked me in that outfit best" (Price, 2001, p.47). She added, "It was a little revealing but I like that sometimes. And Nike liked me wearing it" (p.47). This is a prime example of how women's bodies are subject to objectification. Nike's focus, in this case, was not on the comfort of the uniform or how the uniform may improve performance, but rather on how her body looked in the uniform. The message being sent to young female athletes tells them to be more concerned about their appearance than anything else, thus emphasizing how important it is to look thin. Constant exposure to such messages is what can lead females to be so critical of their bodies.

In addition to emphasizing aesthetics, many female athletes also recognize the important relationship between weight and optimal performance. In all sports, weight greater than a healthy minimum limits speed, endurance, and agility, while also contributing to increases in fatigue (Smith, 1980). Due to these pressures, it is not

surprising that female collegiate athletes have been found to be excessively pre-occupied with weight when compared to the college norm (Davis, 1992; Garner, Olmsted, Polivy, & Garfinkel, 1984). Furthermore, Davis states that of all athletes, high performance female athletes experience the most intense pressures to conform to the ideal standards for body size.

A negative impact of these performance concerns is demonstrated in studies revealing a disturbing incidence of disordered eating patterns in competitive athletes (Burkes-Miller & Black, 1988; O'Conner, Lewis, & Kirchner, 1995; Petrie 1993; Rucinski, 1989; Sundogot-Borgen, 1994). A study by Rosen, McKeag, Hough, and Curley (1986), examined 182 female collegiate athletes from a variety of sports and found 32% practiced at least one pathogenic weight-control behavior. Black and Burckes-Miller (1988) found similar results. In their study, one third of female college athletes, sampled from eight different sports, reported the use of pathogenic methods to reduce weight. In a related study, Dummer, Rosen, Heuser, Roberts, and Cousilman (1987) tested a large group of competitive swimmers, and found that a significant number of female athletes used potentially harmful weight-loss techniques despite the fact that 17.9% of them were classified as underweight and 60.5% were of average weight. Their reasoning behind wanting to lose weight correlated more to perceptions about their weight than their actual weight.

The risk of injury is another harsh reality female athlete's encounter. A serious injury can be both physically and emotionally traumatic for any sport participant. For athletes who devote a tremendous amount of time, energy and emotion to their sport, and

whose identity and self-worth are closely related to their ability to perform and achieve in athletics, an injury can be emotionally crippling (Russel, 2000). This may be especially true in a culture that glorifies heroism, strength, speed, and courage, while also emphasizing such adages as “no pain, no gain,” “hurt is temporary, pride is forever,” and “you can’t make the club while sitting in the tub” (Shuer & Dietrich, 1997).

With such attitudes concerning injury, there are many psychological effects that an injured athlete may experience. Some of the numerous psychological ramifications of injury include the disruption of social support networks, a compromised relationship with coaches, and a change in playing position and team hierarchy, all of which can all weigh heavily on the minds of injured athletes (Leedy, Lambert, & Ogles, 1994). An athlete’s sense of well being is intimately tied to their physical condition and ability to perform. After an injury this is threatened, and much of what he or she has worked for, including the progress made through conditioning, is taken away. This impact can be devastating because, for many athletes, physical condition and athletic ability are the major components of self-worth (McGowen, Pierce & Williams, 1994). In their world, many of the criteria for being a worthwhile human being suddenly become unattainable (Faris, 1985). Therefore, given the aforementioned research on female athletes and body image, it is possible that females may be affected by injury in ways that, in general, male athletes might not be.

### **Purpose of study**

The purpose of this study was to qualitatively examine the effects of long-term injury on the body image of elite female collegiate athletes. Female athletes receive

numerous psychological as well as physical benefits from physical activity but when a long-term injury occurs these benefits can be lost. As female athletes lose these benefits, they must also cope with the psychological effects of injury. These changes in their lifestyle and thought patterns can lead to devastating effects on their body image. It is important to identify the issues surrounding and affecting the female athlete's body image because it influences so many factors. For example, it directs behavior, guides activities, influences diet and health, and is strongly related to ego identity (Di Nucci et al., 1994). To maintain the health of female athletes and respond to the growth of physical activity and sport in their lives, we must address these issues and make the necessary changes to ensure the psychological and physical health of female athletes. Finally, with respect to the profession of athletic training, it is important for athletic trainers to understand that some injured female athletes may be dealing with issues far more potent than simply the physical effects of a sprained ankle or a strained muscle.

#### **Definition of terms**

1. Body esteem: How satisfied a person is with the diverse qualities of their body and body image (Moode & Wiggins, 1999).
2. Body image: The image or picture that a person has about their body (Cox, 2002).
3. Coping: Constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taking or exceeding the resources of the person (Lazarus & Folkman, 1984).
4. Elite athlete: An athlete who has competed at the NCAA Division 1 level.

5. Exercise addiction: Psychophysiological dependence on a regimen of exercise (Cox, 2002).
6. Long-term injury: For this study long-term was defined as an injury that did not allow the athlete to participate in any team practice or competition for a period of 2 months or longer
7. Pathogenic weight-control behaviors: Ways in which one suffering from a sub-clinical eating disorder attempts to lose weight and become thin, they include the following: fasting/starvation, diet pills, diuretics, laxatives/enemas, vomiting, fat-free diets, saunas, and excessive exercise (Cox, 2002).
8. Red-shirt: A college athlete who is kept out of varsity competition for a year in order to extend eligibility.
9. Social physique anxiety: Anxiety that people experience when they perceive that other people evaluate their physiques negatively (Cox, 2002).
10. Subclinical Eating Disorders: Eating disorders that fail to meet the clinical standards required to be classified as anorexic or bulimic (also referred to as disordered eating) (Cox, 2002).

#### **Assumptions of study**

The following assumptions were made in reference to this study on the effects of long-term injury on body image in elite female collegiate athletes.

1. In-depth interview analysis will allow us to accurately understand the effects that long-term injury had on each of the female athlete's body image.
2. The female athletes in this study will be as truthful as possible when discussing their

body image.

### **Limitations**

The limitations of the present study were:

1. The athlete's may be embarrassed with their concern about their body image and not want to give a full accurate account of their experience.
2. Possible fears concerning the fact they may be associated with an eating disorder may limit how open and honest they are.

### **Significance of study**

The significance of this study is to provide rich, description data on what female athletes experience when they become injured, and specifically what effects that injury has on their perception of their own body. With eating disorders and exercise compulsion disorders on the rise in the female athletic population, it is crucial to understand any issue that could alter body image, and potentially make female athletes more susceptible to these dangerous behaviors. Many studies have examined body image, and how coaches, uniform style, and social networks can each influence it, but there is a lack of information on the effect of injury has on body image. Athletes get hurt everyday, and if there is a correlation between long-term injury, negative body image, and disordered eating then sport psychology consultants, athletic trainers, and most importantly, female athletes, would benefit from a better understanding of the relationship among these factors.

## **Chapter 2**

### **Review of Literature**

This review of literature will be presented in three sections. The first section will examine studies that focus on body image issues surrounding female athletics, the effect of sport participation on this image and the relationship between a distorted body image and disordered eating patterns in female athletes. The second section will examine the psychological effects of injury. The third and final section will examine the coping methods used by athletes after sustaining such injuries.

#### **Body image in female athletics**

In recent years body image has received increased attention in women's studies. Many studies have examined the effect of sport participation on body image. Research has revealed that physically active people have a better perception of their body when compared to physically inactive people (Loland, 1998). However this may not always be the case with competitive athletes. A number of studies have found the competitive sport environment to positively influence body image while other studies have found it to influence a negative body image. Both positions will be reviewed.

#### **Positive effect**

DiBartolo and Shaffer (2002) examined eating attitudes, body satisfaction, reasons for exercise, and general psychological well being in female non-athletes and Division III college athletes. A total of 115 non-athletes and 94 athletes with a mean age of 19 completed the Eating Attitudes Test-26, Eating Disorder Inventory-Body



Dissatisfaction Subscale, Body Image Survey, Reason-for-Exercise Scale, Positive and Negative Affect Schedule-Trait Version, Self-Perception Profile for College Students and a Health Habits Survey. The dependent variables were analyzed in four separate MANOVAs: measures of disordered eating and body image, reasons for exercise, measures of self-competence, and measures of trait affect. The results revealed the non-athletes held significantly more pathological attitudes about eating and more disturbed body image than did the athletes. Athletes reported significantly higher Health and Enjoyment RFES subscale scores and higher appearance competence, athletic competence and global self-worth. Athletes also revealed significantly higher positive PANAS scores. This study found that female athletes who competed at a non-elite level had a more positive perception of their own body. This study would have been more complete if they included Division I athletes.

Finkenberg, DiNucci, and McCune (1998) compared the commitment to physical activity and anxiety about physique among college female athletes ( $n=108$ ), kinesiology majors ( $n=87$ ), and a control group ( $n=63$ ). The participants mean age was 19.6. The Commitment to Physical Activity Scale, Commitment to Running, The Social Physique Anxiety Scale was administered to each participant. The Student-Newman test indicated the mean commitment to physical activity for the control group was significantly lower than the means of the other groups. The Student-Newman test also indicated the mean anxiety about physique for the athletes was significantly lower than those for the other two groups. The results of this study indicate that the group with the highest commitment to activity (the athletes) had the lowest anxiety about physique, suggesting that athletics

influence a positive body image.

Wilkins, Boland, and Anderson (1991) compared male and female athlete and non-athlete measures of eating disorders, self-esteem, body image, and depression. For this review only female statistics will be discussed. Seventy-eight female athletes (intercollegiate level or higher) and 79 female non-athletes were administered The Binge Scale, The Eating Disorder Inventory, The Restraint Scale, The Negative Self-Image Scale, The Rosenberg Self-Esteem Scale, and The Body Scale. The results revealed athletes were less likely to perceive themselves as overweight, relied less on dieting, and exhibited higher self-esteem and a more positive body image than the non-athlete control. These results suggest that participation in sports has a positive influence on body image.

#### **Negative effect**

Davis (1992) investigated the role of personality factors and body image in a study of weight preoccupation among high-performance female athletes compared to a control group of non-athletes. The athletic group consisted of 99 high-performance female athletes with a mean age of 19 representing the sports of basketball, diving, field hockey, figure skating, gymnastics, downhill skiers, swimming, sprinting and volleyball. The control group consisted of 111 university women with a mean age of 22.72. Both groups completed a Self-Report Survey comprised of psychometric inventories, The Body Image Scale, The Eating Disorder Inventory, The Eysenck Personality Inventory and questions relating to dieting behavior. The mean, standard deviations, minima and maxima, and t-test compared the two groups. Davis found that measures of subjective body size, but not actual body size, was strongly related to weight and diet concerns. In

addition, neuroticism defined as emotional reactivity, was an independent and significant predictor. When compared with non-athlete female university students a greater number of athletes, who were underweight by objective standards, wanted to lose weight and were frequently dieting. Seventy-one percent of the female athletes reported that they wanted to lose weight. Twenty-seven percent of the female athletes indicated they constantly dieted. The percentage of athletes classified, as excessively weight preoccupied was also significantly greater and comparable to other groups considered high-risk for developing eating disorders. Davis concluded that there are considerable professional demands and pressures within women's sports for athletes to minimize body fat, and in many instances, to aspire to an unrealistically slender form in order to achieve aesthetic as well as performance advantages.

Taub and Blinde (1992) compared 100 high school female athletes and 112 high school female non-athletes in terms of behavioral and psychological traits associated with eating disorders and the use of pathogenic weight control (laxatives, vomiting, fasting, and diet aids). Sport-by-sport comparison was also investigated to determine if athletes in specific sports were at higher risk. The participants were given questionnaires assessing four areas, the behavioral and psychological traits associated with eating disorders, frequency of pathogenic weight control behaviors, dieting behavior, and gender-role orientation. Results indicated that athletes were more likely than non-athletes to possess certain behavioral and psychological traits associated with eating disorders. There were few differences among the various sport teams and gender-role orientation was generally not a critical variable. These results suggest that athletes in this study had

more traits associated with eating disorders and unhealthy weight control techniques when compared to non-athletes.

Krane, Waldron, Styles-Shipley and Michalenok (2001) examined the role of uniform style in body dissatisfaction, eating behaviors, social physique anxiety and drive for thinness in female exercisers and athletes. The Eating Disorders Inventory and The Social Physique Anxiety Scale was administered to 198 female aerobic exercisers and 204 female college athletes. The exercisers and athletes were divided into three groups depending on the type of uniform they wore. The groups were, revealing, baggy and mixed, mixed meaning baggy tops with tight or brief shorts or skirt. There were no significant findings that supported the idea that exercisers and athletes differed in body dissatisfaction, eating disorders, social physique anxiety, and drive for thinness depending on the type of uniform worn. However, the authors did note that, although the large majority of the women reported healthy eating behaviors and body satisfaction, a number of these women may be considered excessive exercisers. In this study, 13% of the exercisers self-reported over 450 minutes of exercise per week, that is equivalent to 90-minute workouts five times a week or 60 minutes seven times a week. Seven percent of the women reported over 600 minutes of exercise a week. Also, 44.6% of the athletes reported engaging in exercise outside of their regular team practices. This is important because we need to understand if body image concerns play a role in the athletes engaging in excessive exercise.

Picard (1999) examined the relationship between female collegiate athletes' level of competition and their eating attitudes and behaviors. The sample included 38 Division

I female athletes, 40 Division III female athletes, and 31 non-athlete controls.

Participants completed the Eating Attitudes Test, the Eating Disorder Inventory-2, and a demographic health questionnaire. Results indicated that the Division I female athletes of both lean and non-lean sports scored significantly higher on both the EAT and EDI scales, indicating a higher prevalence of disordered eating, preoccupation with thinness, and fear of gaining weight (Garner, Olmsted, Bohr, & Polivy, 1982). Division I female athletes were also more likely to display the characteristics typically defining eating disorder patients, the most important of which was the drive for thinness, indicating a preoccupation with weight and diet as well as a morbid fear of fat (Garner, 1991).

Female athletes who engaged in sports where leanness is favored or in which weight restrictions are a factor showed higher scores on tests of eating behaviors and the tendency toward eating disorders than either non-athletes or athletes of sports without such restrictions. This study indicates female athletes at higher levels of competition may be more at risk for disordered eating than lower level athletes.

Berry and Howe (2000) examined social pressures, self-esteem, body image, and competition anxiety as risk factors for disordered eating in female university athletes from a variety of sports. Forty-six female varsity athletes completed a series of questionnaires. Self-esteem was measured by Rosenberg's Self-Esteem Scale. Competition anxiety was tested using Martens' Sport Competition Anxiety Test. Body image was assessed using the Body Shape Questionnaire. Eating disorder symptoms were tested using the Dutch Eating Behavior Questionnaire and lastly a demographic questionnaire was administered with questions regarding social and peer influence on

dieting behavior. Canonical correlation showed significant relationships between restrained eating and all the risk factors, as well as a significant relationship between high body mass index and restrained eating. Individual regression analysis showed that restrained eating was significantly predicted by body image and social pressure. Emotional eating was significantly predicted by body image as well. Berry and Howe concluded that all female athletes, regardless of sport, could be considered at risk if predisposing factors identified in this research are present.

### **Body image**

One of the only recent, qualitative, studies concerning female athlete's body image was done by Greenleaf (2002). This study examined athletic body image and social body image among former competitive female athletes. In-depth interviews were conducted with 6 former competitive collegiate athletes, ranging in age from 23 to 31. The results of this study indicated that there are many unique factors within athletic contexts that influence how female athletes feel and what they think about their bodies. Factors such as uniforms, coaches, and level of fitness influenced the former competitive athletes in this study. Participant's feelings about their bodies in social situations seemed to be moderated by the degree of athletic identity. Their competitive sport experiences and their athletic body image have also influenced participant's current body image.

Barber (2001) examined the relation between experimental mood alteration and body image. Eighty-four (49 women, 35 men) college students took part in this study. Participant information regarding age, gender, height, weight, GPA and ACT were collected. Mood was then manipulated using Velten statements. This is a list of 60

statements that begin with a neutral statement and either continues in the same vein (neutral condition) or progress to one of two extremes, an elated extreme or a depressed extreme. Participants were randomly assigned to a condition. When all the statements were read, a 3-minute incubation period was used to intensify the mood. Following mood-induction, participants responded to seven, 7-point bipolar adjective scales measuring mood. Participants then evaluated themselves on three body image measures that had illustrative silhouettes of the participant's own gender ranging from very thin to very heavy (Fallon & Rozin, 1985). Regression analysis controlling for individual differences in mood score and body build (ponderal index), found that as induced mood decreased, participants said they felt heavier and as mood was increased, participants felt more slender. Women with low-mood scores wanted to be lighter and men with low-mood scores wanted to be heavier, suggesting that unhappiness invokes comparison with a gender stereotype of physical attractiveness.

### **Psychological effects of injury**

Weiss and Troxel (1986) were the first to attempt to qualitatively document the emotional responses of athletes to injury. They interviewed 10 collegiate or elite injured athletes and asked them to express their most common difficulties in dealing with their injuries. The three female and seven male athletes experienced disbelief, fear, rage, depression, tension, fatigue, upset stomach, insomnia, and a loss of appetite. Several also expressed an inability to cope with injury, activity restriction, a long rehabilitation and the sense of being controlled by the injury.

Chan and Grossman (1988) examined the psychological and emotional effects of

running loss on consistent runners, who were prevented from running by an injury. A group of 30 “prevented runners” (unable to run for 2 weeks) were compared with a group of 30 “continuing runners” on the Profile of Mood States and the Rosenberg Self-Esteem Inventory. Sixteen women and 14 men participated in this study. Their findings concluded that the prevented runners had significantly more depression, tension, and confusion compared to the continuing runners. It was suggested that the running loss observed after running related injuries could result in psychological distress for runners during their deprivation of this activity.

Smith, Scott, O’Fallon, and Young (1990) attempted to determine the presence, type, magnitude, and time course of emotions, from onset of injury until return to competition, among athletes. They examined 72 recreational athletes (49 males and 29 females), at 2-week intervals, from the time their injury was sustained until their return to full participation or 4 months later, whichever came first. Immediately following injury, the athletes experienced elevated levels of frustration, depression, and anger. In the most seriously injured athletes ( $n=23$ ), simultaneous elevations in depression, anger and tension were significant compared to the college norm, and remained elevated for approximately 1 month. In this study the severity of injury and the athlete’s perception of recovery appeared to influence the emotional response. These factors combined with the loss of fulfillment from participating in sport and exercise were the probable basis for the post-injury mood disturbances.

Leddy et al. (1994) examined the psychological reactions of 343 male collegiate athletes to injury. They assessed the mood and self-esteem of both injured and non-



injured athletes. Initially all 343 athletes completed a Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (SAIA), and a Tennessee Self-Concept Scale (TSCS) before official practice or competition got underway. Athletes who were injured completed, for a second time, the BDI, the STAI, and the TSCS within one week after injury. Each time an injured athlete was tested, a non-injured athlete was selected at random and asked to complete the BDI, the STAI, and the TSCS for a second time. The injured athlete and the randomly selected non-injured control subject then completed the same three tests for a third and final time 2 months after each athlete's second test completion. Results indicated that depression, anxiety, and lower self-esteem persist among athletes 2 months after an injury. This evidence suggests that high-level athletes are vulnerable to emotional reactions following injury, including increased depression, anxiety, and reduced self-esteem. A limitation of this study, however, was they only examined men.

Smith et al. (1993) attempted to better understand the emotional response of competitive athletes to injury. They determined whether pre-injury and post-injury differences existed in the mood state and self-esteem of competitive athletes. The influence of severity of injury, gender, level of participation, and type of sport on these dependent variables was also measured. The participants of this study were 238 male and 38 female competitive athletes. The instruments used to determine the athlete's emotional responses were, The Emotional Response of Athletes to Injury Questionnaire, The Profile of Mood States, and The Rosenberg Self-Esteem Inventory. The results showed a significant difference between pre-injury and post-injury mood state and self-

esteem. Depression, anger and decreased vigor were significantly greater post-injury. Severity of injury did indeed influence the mood state and self-esteem of the athletes. The most severely injured athletes experienced more post-injury depression than the less injured athletes. No significant differences in mood state and self-esteem were found between various levels of participation within the same sport. The only difference found between gender was significant pre-injury differences for anger as male athletes had higher scores. These findings show a significant prevalence of pre-injury and post-injury differences in mood state, suggesting that post-injury mood disturbances are likely attributable to the occurrence of injury. Post-injury mood disturbances are also related to the severity of injury and do not merely reflect a disturbed pre-injury mood. A limitation to this study was the male to female ratio.

McGowan et al. (1994) examined pre- and post-injury changes in self-worth. The participants were varsity football players. They completed the Coopersmith Inventory (CI) as a pretest and injured athletes completed the CI weekly during rehabilitation. Marked decreases in self-esteem were noted. The same athletes who were later injured had a mean pre-injury CI scores of 83.8 which decreased to 64.0 after injury, whereas scores for non-injured athletes were unchanged between pre- and post- testing. They concluded that injured athletes experience diminished self-worth post-injury. The authors also interviewed these injured athletes to better understand the drop in self-esteem. Low self-esteem was most acute when the team won. The athletes expressed feelings of alienation and decreased self-worth as a consequence of such thoughts as "the team is playing well even without me". The authors also suggested that severity of injury

is the major determinant of post-injury depression.

Earlier work by Little (1969, 1979) and Morgan (1979), noted that excessively motivated athletes often persist with exercise at the risk of physical trauma or re-injury. The significant depression and tension frequently experienced by injured athletes when exercise is terminated even temporarily, provides health care professionals with some understanding of why other injured athletes persist with their exercise or sport despite medical contraindications (Dishman, 1985). These athletes may prefer the physical discomfort of continuing exercise or sport in the presence of injury to the emotional discomfort of depression and tension, which may accompany sport cessation.

### **Coping strategies**

Folkman and Lazarus (1986) defined coping as constantly changing behavioral effects to change specific external and internal demands that are appraised as taxing or exceeding a person's resources. The relationship between coping and a stressful event such as an injury is a dynamic process. Coping is a series of transactions between a person who has a set of resources, values, and commitments and a particular environment with its own resources, demands, and constraints (Lazarus & Laurier, 1978). Thus coping is not a one-time action that an athlete takes, but rather, it is a set of responses, occurring over time by which the environment and the athlete influence each other. It has been argued that the manner in which an injured athlete confronts the situation of injury is based on individual personality traits that direct the "choice" of situation-specific coping strategies. Cox (2002) describes coping strategies to be of two-types. A person will either take a problem-focused coping response, meaning they will center on

alleviating the environmental stimulus causing the stress response, or they will take a emotion-focused coping response where they seek to regulate emotions in order to reduce or manage cognitive distress. The style in which a coping strategy is used will also be of two-types. A person will either prefer an approach style where the preference is to address the stressful situation directly, or an avoidance style where the preference is to solve the problem by avoiding the problem. Furthermore, such factors as age, level of competition, extent of the injury, duration of the period of rehabilitation, and the person's experience of prior injuries can all be expected to play an important role in the activation of individual coping strategies (Johnson, 1997).

Evans and Hardy (1995) describe a three-stage grief process that can be applied to athletic injury. The first stage consists of stress reactions to the injury and attempts to recover the lost objects (e.g., lost identity and self-esteem), and is often characterized by anxiety and anger. In the second stage, dependency, depression, apathy, withdrawal, despair, a sense of guilt, and an inability to concentrate can all result from the athlete's awareness of loss. The athlete will realize the impact of the injury on his or her future sport participation, and the resultant emotions may carry over into other contexts. For example, the athlete's loss of team identity will create an increase in negative emotions that may influence the student's academic performance and social interactions. Recovery is achieved during the third stage when these symptoms become less prevalent and the athlete is able to focus on the process of recovery instead of ruminating over the grief-causing injury incident.

Gould, Finch and Jackson (1993) investigated the coping strategies used by

national champion figure skaters. This study was done qualitatively through in-depth interviews. The participants were 17 (10 female, 7 male) senior U.S. National Champion figure skaters, with ages ranging from 18 to 33 years. This investigation was an effort to examine the positive and negative elements of the skaters' championship experience, levels of stress experienced prior to and after attaining their national champion status, and the stress-coping strategies they employed. Majority of stress sources included physical and psychological demands, external expectations of success and relationship pressures. One hundred fifty-eight raw data themes or unique coping strategies were reduced to 51 first order themes, 29 second order themes, and 13 general dimensions. The 13 dimensions are rational thinking and self-talking (76 %), positive focus and orientation (71 %), social support (71 %), time management and prioritization (65 %), pre-competitive mental preparation and anxiety management (65 %), training hard and smart (65 %), isolation and deflection (47 %), ignoring (41 %), uncategorized strategies (35 %), reactive behaviors (29 %), no coping strategy (24 %), striving for positive working relationship with partner (18 %), and changing to healthy eating attitudes and behaviors (12 %).

The majority of the coping strategies used by the skaters were adaptive (e.g., pre-competitive mental preparation and anxiety management, social support, training hard and smart, and rational thinking and self-talk). However, reactive behavior strategies such as excessive or inappropriate alcohol consumption, walking out of the rink, excessive sleep, anger, and bulimic behavior were evident and would be characterized as dysfunctional or maladaptive. Additional other coping strategies, such as ignoring,

isolating, and a lack of discernment for coping strategies, also could be considered maladaptive. The researchers concluded that due to these maladaptive coping strategies efforts must be made to educate and provide psychological support to athletes who may use potentially destructive coping behaviors.

This present study confirmed Gould's results from his previous study (Gould, Eckland & Jackson, 1993). During the 1988 Seoul Olympics they interviewed all 20 members of the U.S. Olympic wrestling team regarding how they coped with the stress they encountered during the Olympics. Four general dimensions emerged, thought control strategies (blocking distractions, perspective taking, positive thinking, coping thoughts, and prayer), task focus strategies (narrow, more immediate focus, concentrating on goals), behavioral based strategies (changing or controlling the environment, following a set routine), and emotional control strategies (arousal control, and visualization). With the exception of seeking social support, the coping strategies reported by the figure skaters tended to be similar to those reported by the wrestlers.

Johnson (1997) examined the basic personality traits and coping strategies/mood level of highly competitive athletes suffering from long-term athletic injuries. The participants were 81 highly competitive athletes who sustained an injury leaving them unable to compete for a period of 5 weeks or longer. The control group consisted of 64 highly competitive athletes who were injury free. Three self-rating scales were used: Mood Adjective Check-list, General Coping Questionnaire and Karolinska Scales of Personality. No differences in basic personality traits were found. Being injured was found to result in a depressed mood state and in the activation of coping strategies

directed at receiving help. Comparisons were made between injured male and female athletes as well as between team-sport and individual-sport athletes. Women were found to become more anxious, tense and to have a stronger inclination to use emotion-focused coping strategies. Team-sport athletes were found to cope more in terms of passive acceptance, help from others, whereas individual athletes were found to activate problem-solving strategies in face of injuries.

Wasley and Lox (1998) reported the differences in measure of self-esteem and coping strategies following sport-related injury between athletes suffering acute injuries to athletes suffering from chronic injuries. Six athletes suffering from an acute injury were compared to six athletes suffering from a chronic injury. The Rosenberg Self-Esteem Inventory, Ways of Coping Questionnaire, and demographic Questionnaire were administered. No differences were found for accepting responsibility, as chronically injured athletes scored higher on escape/avoidance and lower on seeking social support for the ways of coping category. Those with chronic injuries also scored more negatively on self-esteem than acutely injured athletes. These results suggest the type of injury may differentially affect self-esteem and coping behavior, with chronic injuries having a greater effect on the athlete than acute injuries.

### **Summary**

The three areas of research reviewed, body image, psychological effects of injury, and coping mechanism, have all been researched fairly extensively. The attempt in this study will be to unite the three. Many studies have examined body image and the pressure athletes feel to conform to a certain body type coming from a number of

sources: general societal pressure, peer, trainer, or coach pressure and the judging criteria used in certain sports but none have examined the effect of long-term injury on body image. Injury has been linked to athletes experiencing higher levels of depression, anxiety and a decrease in self-esteem. (Leddy et al., 1994). When women experience such decreases in mood it has been found to negatively influence the way they feel about their body (Barber, 2001). Low self-esteem and a negative body image are two of the most important psychological factors that are associated with disordered eating and unhealthy exercise behaviors (Berry & Howe, 2000). Female athletes get hurt everyday and this is a cycle that could affect them. We already know injury affects their emotional well being but it may also affect their body image, and to what extent, and how do they cope with a negative body image especially when physical activity is at a halt. The present study will answer these questions.



## **Chapter 3**

### **Methods**

This chapter describes the methods used in the present study of the effects of long-term injury on body image in female collegiate athletes. The chapter is divided into five sections. The first section describes the participants and their eligibility for the study. The second section describes the interview process. The third section details how the data was analyzed. The fourth section describes how academic rigor was established. The final section describes the voice behind the writings.

#### **Participants**

Eight “elite” female athletes participated in this study. For this study elite was defined as an athlete who has competed at the Division I level. This was a convenient sample as all participants attended the same west coast university. Participants either were currently competing, or they had recently finished their athletic career at the university. Participants ranged in age from 18 to 22 years old and represented each class standing, freshman through seniors. Female athletes were chosen on the basis that they were elite athletes who had sustained a long-term injury within the last two years. A long-term injury was defined as an injury that did not allow them to participate in team practice or competition for a time of two months or longer. Participants represented several sports, including volleyball, basketball, soccer, and softball.

#### **Interview strategy and procedures**

Before the interviews took place, a bracketing interview was conducted (Dale, 2000). A bracketing interview is when the researcher is asked the same questions he or

she intends on asking the participants. This serves several functions. It allows the researcher to lay out any of their own bias and perceptions of the topic. It also enables the researcher to see how well the interview guide flows, and reveals if anything is missing. Finally, it allows the researcher to experience the interview through the point of view of the participants. A faculty member with an extensive background in qualitative research conducted the bracketing interview.

Each interview took place in the doctor's office inside of the university's Sports Medicine Training Room. This provided a private and secure location where no interruptions would impede the interviews. Each participant was interviewed one time, and if follow up information was needed, it was attained via e-mail. In fact, because of the sensitive nature of this topic, several participants revealed additional information after the interview session via e-mail. These participants found it easier to discuss personal information via e-mail than in a face to face interview. The length of the interviews ranged from 30 minutes to 1 hour, and generally extended until the interview guide was completed and the participants were able to describe all the details of their experiences. Each interview was tape recorded and transcribed verbatim by the researcher.

The interviews followed a semi-structured format. The interview guide consisted of open-ended questions, which was used as a framework to help guide the interviewer. Probes followed upon the participant's responses when appropriate. The first section of the interview consisted of several questions focusing on the participant's sport experiences. They started with the meaning of athletics in their life and expanded on the benefits sustained from participation. The second section focused on the injury they

sustained and the psychological impact it had on them, as well as the affect on their body image. The third section included questions on the how they coped with being injured and a change in body image. The final section focused on their current feelings about their body image, their injury, the team, and any advice the participants had for coaches and athletic trainers regarding how they could help female athletes get through the injury process.

### **Data analysis**

The process of data analysis followed those outlined by Miles and Huberman (1994). Data analysis began with the researcher reading and re-reading the data. All field notes, transcripts, documents, and other material were read through carefully and then read through again. Once the researcher had a thorough familiarity of the data the coding process was initiated. Individual meaning units were attached to participant's responses. The units were then gathered, sorted and put into categories using Microsoft Word files. The Microsoft Word files enabled the researcher to analyze patterns in the data relevant to the emerging themes. The initial Microsoft Word categories were then refined to higher order themes capturing the substance of the topic. These higher order themes served as the main organizational categories, and were used to create the results section. There were nine higher order themes that developed from the data. They consisted of: the meaning of sport, the influence of sport on body image, the psychological effect of athletic injury, the impact of long-term injury on body image, coping mechanisms, coping with a negative body image, role change, social impact, and advice for athletic trainers and coaches when confronted with future female athletes with

body image issues resulting from their injury.

### **Criteria for evaluating qualitative research**

Once the data was transcribed an individual profile was created for each participant. The data was sent back to the athletes for “member checks” (Lincoln & Guba, 1985). This allowed the participants to read their transcript and results of the study. The athletes were invited to express their views on the factuality of their representation in the study and include any other information relevant to the study that they may have forgotten to include during the interview.

Peer reviews were also used to help ensure the academic rigor of this study (Lincoln & Guba, 1985). On six occasions throughout the peer review process, a researcher with substantial experience in qualitative research read the transcripts, and provided feedback on the author’s thematic structure. Further, the individual served as a critical voice during the entire data analysis process.

Throughout the entire study the researcher kept a reflective journal as well. This was a record of ongoing notes of the researcher’s thoughts, questions, and decisions regarding the data. The process of reflexivity served as a constant reminder that the researcher’s subjective experiences are constitute components of this research process (Gary, 1997). Furthermore, because body image can be such a personal topic for some female athletes, it was important to note their body language, facial expressions, and eye contact when responding to questions.

### **Voice**

As the researcher of this study and also an athletic trainer at the university, I was

able to also draw information through my observations and intimate interactions with the participants. I worked with the participants for a length of two years, and through that time I was able to establish relationships with them, know their personalities, and observe them on a day-to-day basis.

## Chapter 4

### Results

In this chapter, each of the eight participants will be introduced. This introduction will provide the names (changed) and background information of each, so that the reader can follow them throughout the results section. The themes that emerged from the analysis of the qualitative data will also be presented.

#### Profiles

*Ariel* is a shooting guard on the basketball team and has just completed her third season. Ariel suffered from a stress fracture in her right tibia during her freshman year. After taking most of that season off, the fracture did not heal, so surgery was needed. A titanium rod was inserted through the length of her tibia to encourage healing. Since the insertion of the rod, Ariel has been plagued with many complications and has never been able to complete a full season of play. She has had three surgeries in the past year as a result of these complications. After finishing this season still unable to compete due to continued shin pain, she has decided not to return to the team next year. As she puts it, “I just want to feel normal again.”

*Christine* is a senior on the volleyball team and has just finished her college athletic career. Her twin sister plays on the team as well. Christine played as the teams libero and plans on graduating in the spring. Like Ariel, Christine suffered from a tibia stress fracture. She was diagnosed with the injury during her senior year of high school, but was reluctant to take time off. After trying to get through double-days her freshman year of college the pain grew so intolerable that she decided it was time to fix the

problem. She also had a titanium rod inserted into her tibia. Though she had complications with her rod, it never stopped her from playing. However, the rod did limit her activity. Now that she is done playing Division I volleyball she has chosen to have the rod removed. Currently she is about 6 weeks post surgery and recovering well. She is looking forward to living an active life.

*Kasey* is a freshman on the volleyball team who came in this year challenging for a starting position as an outside hitter. Unfortunately, she had to take a medical red-shirt this year. During a pre-season game she came down on an opponent's foot which caused her patella to dislocate. She underwent surgery several days following the injury to repair the ligament damage caused by the dislocation. Kasey kicked off her college life by having surgery the day after school started. She felt this impaired her social life because she became known as, "the girl with the knee brace." Currently she is 5 months post surgery and battling through a tough rehabilitation process. She is not healing as expected and may have to have a follow up operation in the near future.

*Kayla* is a junior on the volleyball team and plays middle blocker. She is an All-American candidate known for her explosive jump combined with a powerful arm swing. However, that powerful swing has caused her numerous shoulder problems. Her freshman year she was diagnosed with shoulder instability. At the end of that season she had shoulder stabilization surgery, which after a long rehabilitation process proved to be ineffective. She has just underwent a second surgery that she hopes will be effective. She is heading into her senior year as the team captain but is having a hard time adjusting to her role while she is sidelined due to her injury.

*Lauren* is a sophomore on the softball team and plays first base. At the end of her freshman season she overrotated her back while batting, causing a facet joint in her back to become extremely inflamed. She had numerous cortisone injections to help get through the season. After the season ended, she rested her back and did therapy to improve her core stability. She was instructed to take the whole summer off from swinging the bat and continue working on her core strength. Unfortunately, Lauren decided it was in her best interest to play summer softball. She came back to school this year still very inflamed again and was unable to play in any pre-season games. She got through approximately half the season this year and is now in pain preventing her from playing. Everyday she comes into the training room begging to play even though she cannot walk without pain and has to take doctor prescribed Vicodin to sleep.

*Stephanie* is a junior on the soccer team. She plays in the mid-field and is one of the top female collegiate soccer players in the nation. She also plays on the U-21 national team. Her entire college career she has been plagued with stress fractures in both her tibias. For the past two seasons she has been allowed limited amounts of practice and game time due to this injury. Stephanie is a shy and reserved athlete whose life literally revolves around soccer. Every vacation or break from school she spends either training with the national team or playing in tournaments around the world.

*Torrance* is a freshman basketball player who came into this season with a fractured 5th metatarsal. Due to the time consuming healing process of this type of fracture she had to take a medical red-shirt year. She was in a walking boot from August to November while this fracture healed. She has just been cleared to play and is very



excited to get back on the court. She was the only freshman on the team this year and definitely got the short end of the stick when it came to freshman duties. She is a very outgoing person and actually enjoyed all the extra attention she received.

*Vicky* is a junior on the softball team and plays third base. At the end of her freshman year, a teammate yanked on her arm and she heard a pop. She thought nothing of this pop until a few days later when she was unable to throw the ball. She was diagnosed with tears in her glenoid labrum and supraspinatus tendon. She took a medical red-shirt her sophomore year and had surgery to fix these problems. The red-shirt season was tough for her because she isolated herself from the team and felt like she did not belong anywhere near the field. Currently she is mid-season and feeling like an important part of the team again. She is still experiencing unexplained shoulder pain and will have exploratory surgery after the season is over to find the source of this pain.

### **Meaning of sport**

Sport plays a defining role in an athlete's life. Who they are, the friends they make, and the values they hold are often a result of their experience in athletics. Russel (2000) states that sport plays an important role in defining the identity of many scholastic athletes by virtue of the significant amount of time, energy, and emotion they invest in it. Many of the athlete's most powerful assessments of self-worth are derived from their involvement and achievement in sport. All of the participants included in this study have been competitive athletes from a young age and have chosen to continue their participation in college. More specifically, Division-I athletics is very demanding. In addition to their regular practice schedules, athletes must also lift weights, travel to and

from contests, and maintain academic standards. However, the athletes in this study generally felt what they got out of competing in athletics, particularly as it relates to self-identification, makes all the time and commitment well worth the time and energy they put in. For example, Lauren has been playing softball since the age of five and feels that, "Softball has been a huge part of my life without it I don't think I would be the same person. Overall it has made me a more dedicated and hard working person." Stephanie agrees, and feels soccer has made her into the person she has become. In reflecting on soccer she states, "It means everything to me, it is my entire life, and I definitely think it built my character, like who the person I became." In fact, all of the participants in this study generally felt they were defined by the sport they play. At school you are labeled as an athlete and become known as a soccer girl, basketball girl etc. Your teammates become your closest friends and together you share the common goal of succeeding.

Aside from an athlete-centered identity, participants also viewed the commitment to being a Division-I athlete as rewarding in other ways. As Ariel explains:

Basketball is a passion in my life, something that I love to do, a release from everyday life, school and family. I get to get away from things that are stressful and just do something that is fun and something that I enjoy. It makes me enjoy life more because it involves exercise and is something that I am good at and allows me to have fun.

Vicky described softball to be an outlet of stress for her. She stated, "When you are out there playing you forget about everything, all your problems disappear and the pressures of life just go away." Similar to Ariel, she noted that softball is also a way for her to feel good about herself, and stated that, "through softball, I gain confidence in

myself because it is something I am good at and being able to perform well makes me feel good about myself.”

The benefits that the athletes expressed paralleled the research of Levy (2002), who found that competitive female athletes attach meanings of self-fulfillment to their sport experiences. The study also reported benefits in self-esteem, self-expression, perception of competence and personal growth. Thus, the benefits of sport appear to be numerous.

Kasey expressed reasons of personal growth and the love of competition as motivation for waking up at 7:00 am every morning for practice. She explains:

I love to compete; I've always loved to compete. I really like the challenges that it [sport] presents physically, emotionally, mentally. I think it gives great opportunities for growth. I like the dynamics of a team and I like a lot of the standards that it sets as far as work ethic, discipline, coachability, mental toughness and resilience.

A number of researchers have examined the relationship of meaning to participation in sport within the framework of personal investment theory (Maehr & Braskamp, 1985). This theory suggests that the personal meaning individuals attach to situations will play a critical role in determining whether or not they choose to invest themselves in that situation or activity. Self-fulfillment reasons were expressed by all eight of the participants especially benefits such as enjoyment, competition, exercise, camaraderie and a coping mechanism.

### **The influence of sport on body image**

In the review of literature, there were contrasting views regarding the influence of sport participation on body image. These contrasting views were also reflected in this

study. On the positive side Ariel stated, "... sport influenced the way I looked at my body because I was always fit and I liked the way that looked." Lauren added, "Well physically it makes me feel somewhat good about my body because I know that I am working out that's healthy for my body." Christine also felt that when you participate in a sport you're constantly working out and training to stay fit which encourages you to eat healthy and just be healthy, thus making your body image positive. Thus, Ariel, Lauren and Christine were consistent with DiBartolo and Shaffer (2002), Finkenberg et al. (1998) and Wilkins et al. (1991), who reported that athletes had significantly lower anxiety about their physiques as compared to non-athletes, thus suggesting that athletics encourages a positive body image.

Not all participants associated sport with a positive body image. Kasey, for instance, had a hard time watching her body change from a socially reinforced thin body type to a bigger, stronger, and more muscular body type. She identifies her struggle to put weight on:

It definitely created a struggle for me. When I was in high school I had three sisters that all modeled, so I struggled with the idea of putting on weight to compete. When I made the decision to be serious about volleyball and that I wanted to play in college I also had to make a decision to give up my desired body type and strive for a more muscular and stronger body.

Greenleaf (2002) reported one of the challenges related to body concerns and unique to female athletes is the pressure to meet cultural body ideals while also possessing qualities beneficial to successfully completing physically demanding tasks associated with sport.

Vicky also struggled with her body image in the athletic atmosphere. Besides comparing herself to the cultural ideal body type she also compared herself to the other athletes. She grew up playing softball, basketball, and volleyball, and remembered looking at the other girls, especially during volleyball in spandex and comparing herself to them.

*Researcher:* How has playing a sport influenced the way you feel about your body?

*Vicky:* I think negatively for me because I am always comparing myself to other people, the other athletes. I just don't think I've ever been happy about my body and seeing skinny people, especially athletes isn't something I like to deal with.

*Researcher:* Do you think participating in sports encouraged you to have body image issues?

*Vicky:* I think I would be less body conscious if I wasn't athlete, just because you're if not an athlete, you're not as held to as high as standard. If you see people heavier than yourself it's okay because they are not a Division I athlete, so I think there are higher standards definitely. If I wasn't an athlete, I think I would compare myself less.

The preceding exchange relates to research in which Picard (1999) found that Division-I female athletes displayed characteristics such as preoccupation with weight, an increased drive for thinness, and a morbid fear of fatness when compared to Division-III female athletes. This indicates that female athletes of higher levels of competition

experience considerably more demands to aspire to an unrealistically slender form in order to achieve aesthetic as well as performance advantages.

Other participants seemed to have few, if any, body image issues before entering the college environment. For example, Stephanie noted that all through high school she never thought about her body image at all, she stated, “Not till I came to college did I start thinking about it [body image] just because it’s more common, you are around more players that are concerned about their body so you start to become more concerned about it.”

In summary, it is evident that although some participants in this study felt that sport enhanced their body image, several also experienced the onset of, or an increase in, body image issues as a result of their sport experience. Further research is needed to distinguish between factors influencing a positive/negative effect of sport on body image.

### **Psychological effect of athletic injury**

All eight athletes in this study experienced post-injury psychological distress and an overall negative affect. For most of the athletes, this was the first time they had experienced a significant injury and the first time they had to take time off from their sport. Research shows (Shaffer, 1991) that injury history affects an athlete’s assessment of their ability to manage injuries successfully, and that the first injury experienced will cause the most emotional distress to the athlete.

Ariel suffered from a stress fracture in her tibia. This type of injury can be very frustrating because there is little if nothing that can speed the recovery. Time is the only

factor relevant to healing. The emotional impact of this injury had a severe effect on Ariel. She explains her emotional status after the injury:

...Because I wasn't able to play at all and then just having to just sit out at practice and watch, it was really a downer. I just felt worthless for a good while. I felt like I was in the way, I felt like I didn't belong there, I felt like I would never get a chance to play again.

Vicky expressed a sense of worthlessness as well, and stated that, "You are not valuable to the team when you can't do anything but sit and watch. It made me feel worthless that I couldn't do anything." Both Ariel and Vicky's self-worth was threatened by their injury. Kaforey and Stricker (1999) stated when an athlete sustains an injury it threatens the very core and self-worth of that athlete. The injured athlete becomes vulnerable to ego-identity loss and subsequent depression. Little (1969) labeled this as "athletic neurosis" and described it as a bereavement reaction to the loss of a part of the self, the overvalued physical prowess.

Another factor that the athletes found to contribute to an increase in depression was having to sit out and watch practice. Stephanie stated, "I would come to practice and just have to sit out and watch, I couldn't stand it, just watching, it made me feel miserable." Vicky expressed this same resentment:

I hated it, I hated it so much. It was really hard to go out there and watch other people playing. I was pissy a whole lot. I didn't have that outlet anymore so if I got stressed out in school then I'd go watch softball and then I would get more pissed off.

All of the athletes, in fact, expressed negative feelings about watching practice. Kasey felt that making an injured athlete sit there and watch practice was the worst possible thing you could do to a player, and said that, "You want more than anything to be out

there and having to sit there and watch all your teammates do everything you would give anything to do is just cruel.” She even admitted that she would leave practice more depressed then when she got there.

Kasey also felt that her current physical state was another factor that influenced her emotional state. She found her mood and depression levels to be dependent on her physical state. Currently, she is 5 months post-surgery and still is experiencing a great deal of pain, so she is unable to progress to weight bearing activities. The doctors are giving her one more month of rehabilitation before another surgical intervention is needed. In the following quote Kasey identifies her struggle with her physical state influencing her emotional state:

Psychologically it has been a struggle, an uphill battle. Immediately after the injury I was depressed for quite a while. Even now it comes and goes. A lot of it will depend on my physical state for my emotional state. If the knee feels good and I could bike a lot that day or swim, bike and lift and feel good then I'd be happier. So a lot of times where I'm at physiologically will depend where I'm at physically and then also just like my progress will psychological change how I feel. Today I'm not feeling very good, I had a doctor's appointment this morning and its now 5 months post surgery and I still can't go and run without hurting.

Kasey's experiences echo Smith et al. (1994) findings, as they found that an athlete's perception of the severity of the injury and their perceived rate of recovery seemed to influence their emotional response. These perceptions could most likely be the basis for the post-injury mood disturbances.

Another aspect of the theme involved feelings of frustration related to having to work back to a performance level. Lauren struggled with the uncertainty of not knowing what level of play she could return to. She was afraid she would never be able to return to the level she was at before she got injured. Her confidence and self-esteem were both



dependent on her physical ability and being injured caused her to question this ability.

As a result, she noticed a significant loss of confidence and self-esteem. Kaforey and Stricker (1999) stated the onset of potential emotional problems that are, depression from missing games, guilt from letting the team down, and fear of never reaching the same fitness or performance level.

Christine also got depressed as she watched all of the hard work it took to get in shape go down the drain. She was more concerned with her body image than her playing ability. She has always been very proud of her body and liked feeling strong and powerful. When her muscle began to atrophy she became very self-conscious and starting considering herself normal instead of strong and athletic.

I just felt insecure I guess for the fact that my twin is getting all buff and here I am just withering away. My confidence really went down because I wasn't strong anymore. I was just like every other person and as an athlete you feel stronger and more confident because you are stronger than the normal person and now I'm just like everybody else.

Gould, Urdy, Bridges and Beck (1997) found that many athletes feel that the greatest sources of stress following an injury are not physical in nature, but rather psychological (e.g., fear of re-injury, feelings that hopes and dreams are shattered, watching others perform) and social (e.g., lack of attention, isolation, negative relationships). This was apparent in talking to the eight athletes in this study. Not a single female mentioned her physical pain as a cause for depression, but rather it had to do with the emotions they were experiencing. Lewis-Griffith (1982) attributes the new negative emotions to feelings of separation, loneliness, guilt, and loss of identity and independence that athletes experience after a debilitating injury.

### **The impact of long-term injury on body image**

All eight participants felt that their injury had a negative impact on their body image. Perhaps most notably Ariel, who never had any issues with her body image until she sustained a long-term injury. Previous to the injury, she was content with her body and felt very positive about the influences sport participation had on it. Those feelings all changed after her injury. She explains how her body image changed as a result of her injury:

Oh dear God, I just started putting on a little weight, a lot of weight in my eyes. I was never really able to shake it. I felt fat and ugly and just stupid, I hated, hated getting dressed up. I just never felt good about my body anymore.

Ariel now has a history of extreme dieting and disordered eating patterns (anorexia), which stemmed from her inability to lose the weight she gained while being injured. Her change in body image ensued after her physical activity was halted. Her injury has caused her to be held to a very minimal level of activity for 3 years now. The lack of activity did not have an impact on her body image until she noticed she put on a little weight. Road trips were the worst for her, the team would go out to nice restaurants and all of her teammates would order these gigantic meals with no concerns at all. She expressed feelings of jealousy because they could eat whatever they wanted and just work it off the next day at practice. She would be unable to work it off so sometimes she would decide not to order at all. She thought there was no other way to stop putting on this unwanted weight then to starve herself. She stated, "It is unbelievable how your body image fluctuates when you go from engaging in an intense exercise daily to nothing for a month."

What Christine said supported what Ariel said, although her case is slightly different because her concerns were there even before she had to sit out. She knew she had a stress fracture but chose to play through the pain rather than accept the changes taking time off would have on her body image. She was afraid that if she stopped her high level of activity that she would become fat and “cheesy.” She made it about a year and a half before the pain became so intolerable and she had no choice but to take time off. She talks about the impact it had on her body image:

The first week of nothing you can already see your muscle going, you can just look, and you’re just like, “oh my God this is happening to me”. I think initially it makes you not want to eat. You are so worried cause you have always been working out for so long and now all of sudden they tell that you can’t work out at all. I got so frustrated because, I would be like, am I more upset about the fact that I can’t play volleyball or am I more concerned because I’m sitting here getting fat well everybody is getting in good shape.

Little (1969) and Morgan (1977) reported that excessively motivated athletes often persist with exercise even at risk of injury or illness. Dishman (1985) stated that perhaps injured athletes prefer the physical discomfort of exercising with an injury to the emotional discomfort of tension and depression associated with the cessation of exercise or sport. Christine definitely fits this description but her motives for not wanting to stop exercising had more to do with her body image than anything else. This is an area of research that has been neglected. It is somewhat disturbing that maintaining her body image meant more to Christine than the physical discomfort of a stress fracture in her leg.

Vicky has battled a poor body image as long as she can remember; she does not recall a time when she has not compared herself to others. At the age of 17 she began engaging in bulimic behaviors. She still struggles with bulimia and uses exercise as a

way to feel better about herself and her body image. After undergoing shoulder surgery, she was unable to exercise at all for about a month, which caused her to feel worse about her body. Exercise was stripped from her daily routine, and because of this she reverted back to her previous bulimic behaviors.

It was really, really hard right at the beginning when I wasn't allowed to bike, run or do any kind of physical activity. I have always been a workoutaholic, in the gym all the time. I thought I had to run everyday, so January was probably the worst month of my life, because I couldn't do anything. I had body image issues anyway and I thought I had to do the running to be allowed to eat so that was really, really hard. I was really bitter about not being able to do my cardio, my mood is horrible when I can't workout. Working out makes me feel good about myself and all of a sudden that was gone. I was freaking out, thinking that I was gonna get fat...

Barber (2001) found when women have a low mood they also tend to think that they have heavier then they actually are. This suggests that unhappiness invokes comparison with gender stereotype of physical attractiveness. Vicky was very unhappy about her injury and already measured her attractiveness by this stereotype. Her injury served to increase her sensitivity to what she thought was wrong with her body and how unlike the ideal women her body was.

Stephanie's injury was also the spark that lead her to destructive behaviors that resulted from a poor body image. During her freshman year, her activity level was held to a minimum. She was diagnosed with having stress reactions in both of her shins and too much running would cause the stress reactions to turn into stress fractures. She was not allowed to practice, but occasionally she got to play in a big game and would play an average of about 20 minutes. While the situation was not ideal, she was okay with it and

did not have any body image issues until she received a comment from her father. In this quote she reflects back on the first time she ever questioned her body image.

Well it [the injury] really didn't impact me [body image] till I went home that one Christmas break freshman year. I just remember going home and my father saying you look fat. Up until that point I don't think I ever really thought about my body or was concerned about my weight. Not just my father but a lot of people made comments like, "you look bigger."

The comments Stephanie received from her friends and family started her on a path of destruction. Her life is now directed by her body image. Her mood, eating habits, exercise routines, and social life depend on how she is feeling about her body.

When I went home and I got all those comments, not that it didn't affect me right away but there definitely came a point where I would be like okay, I gotta watch what I eat or I gotta watch how much I lift. It basically drove me to a point where I became obsessive about working out. I use to go to the gym three times a days. When asked if she thought her obsession with her weight and working out stemmed from this injury she answered, "I think so, I really think it did."

Not all of the athletes were concerned with gaining weight. In fact, Kasey had the opposite problem; she thinned out considerably after her injury. Her knee had to be in a locked brace for 8 weeks following her surgery and watching her leg atrophy affected her body image.

I just felt so gross, I hated it, I hated it so much and all the muscle atrophy just really looked disgusting to me, seeing my leg that skinny was repulsive, I did not like it at all.

She soon learned to accept being thinner, because she was not performing, but her body image remained quite negative.

Often times I felt so gross that I didn't care how I looked but just how I felt. I felt lethargic, lazy and inactive. My body image was terrible even though I was thinner, then before. I was emotionally dependent on being active, and when that was taken away from me I became unstable.

Kasey was experiencing a withdrawal from physical activity. Chan and Grossman (1987) found when constant runners were prevented from running by an injury they displayed significant withdrawal symptoms and psychological distress from not being able to run. These symptoms include depression, anxiety, confusion, mood disturbances, lower self-esteem, and a negative body image.

### **Coping mechanisms**

As mentioned in the review of literature, the coping response to a stressful situation, like being injured, is influenced by many factors. Personality, age, severity of injury, and the experience of prior injuries all have an effect on how an athlete perceives the situation, and these factors also determine the athlete's emotional/behavioral reaction to it (Johnson, 1997).

Ariel has just completed her third season of basketball and has struggled with her injury throughout the duration of her collegiate career. Her playing status fluctuated from full go, to limited activity, to nothing at all. Most of the time her playing status was no activity at all. She struggled with feeling worthless when she was unable to play. To compound these feelings of worthlessness she adapted a coping strategy of becoming the loudest person on the court. She cheered as much as she could and helped out in the drills as often as possible. She explains her coping strategy:

I tried my best to be in the drills. I could be the passer, rebounder or just shoot for the rebounding drills. I just tried to be involved as much as I could. I cheered a lot and just tried to stay in the middle of things just so I wouldn't be just sitting there useless.

Ariel took a problem-focused, approach style coping strategy. Research shows that individuals tend to benefit most from a problem-focused coping strategy (Smith,

1990). Ariel took her problem of feeling worthless and forgotten about and channeled her energy to become the loudest person on the court. This strategy worked well for her, as she never felt left out or not part of the team. Her role became that of an encourager and her teammates looked to her when they were down. This made her feel important, like she was contributing to the team's success.

Christine had the opportunity to talk with a sport psychologist after the onset of her injury. She felt like this helped her to cope in a positive way because she was able to talk to somebody who helped her realize that her feelings were completely normal. The sport psychologist helped Christine set goals and look towards the future. She expressed that, "Looking toward the future was the only thing that got me through it." The sport psychologist also helped Christine cope with her body image issues as well by reminding her that muscle has memory and it would all come back as soon as she started competing again. As time went by Christine had an easier time coping with her injury and body image. She remembers the first year being the hardest but now when she has to sit out she thinks to herself, "whatever, I don't care, I'm not going to change that much and it is really does all come back as soon as you start playing again."

Johnson (1997) stated that an athlete's prior experience to injuries is a major factor in determining the emotional response they will have, as well as the coping strategies they will employ. Once Christine knew what to expect from being injured and sitting out, the next time she had to do it, it was not as hard for her and did not have the same effect on her emotional well being.

Kayla can relate to Christine. After her first shoulder surgery the uncertainty of

the outcome and what was going to become of her caused her the most stress. She has just undergone her second shoulder surgery and her emotional reactions are not as heavy as before. Her main complaint is frustration with the long therapy process because she has been through it once already with no benefits, so having to go through it all over again is hard. To cope with these frustrations she turns to her friends for support. "When I get frustrated with rehab, my friends help me to stay motivated and get it done. They have been super supportive and help me focus on other more enjoyable things I have in my life."

Petrie (1993) found social support to be one of the most adaptive coping resources available to athletes. Social support tends to help reduce the debilitating effect of the stress response.

Social support was also very important to Kasey. She felt like she was left stranded after her injury because her outlet for both depression and a poor body image was gone. "My release is through athletics, through competing, through working out and after my injury I couldn't cope how I was used to." Kasey relied on social support and religion instead.

I relied on family and friends, to talk to and help me through. It was definitely God, just helping me to accept that there is a reason why things happen and even though it's an obstacle it's really an opportunity for growth. There is a plan and a reason why everything happens.

Gould et al. (1993) found female athletes to be more emotion-focused. In being more emotion-focused they tend to rely on social support in order to cope with the emotions that follow an injury.



Lauren on the other hand chose not to seek social support and kept her emotions bottled up. She never wanted to talk about her injury or her emotions. When asked about it, she would always answer in a depressed voiced, "I'm fine." It was obvious to everyone through her change in personality that she was not fine. She explains her coping strategy:

I keep it to myself; people would know something is wrong with me but I won't really say anything or talk about it. I tend to keep it all bottled up inside. I just pretty much become a head case and tried to deal with it on my own... I start thinking too much because I didn't know what to think about my injury, treatment, and rehab. My emotions became out of control and I started taking things out on my friends. I was pissed off, angry and frustrated I wasn't playing and so I took it outside of the training room and the field and let it affect my personal and social life as well.

Shuer and Dietrich (1997) stated that athletes may be unable to cope with the events surrounding the injury and may require psychiatric help to reassess their immediate and long-term goals and to contend with their sudden change in status and abilities.

In contrast, Torrance took a very positive approach in coping with her injury. Instead of dwelling on being injured she tried to forget about it and used all of her free time to do things she was never able to do before. She wasn't traveling with the team or spending numerous hours on the court so she was able to meet more friends outside of the team, go out on weekends, and just experience freshman dorm life as a regular college student and not a Division I athlete. She enjoyed this experience and is thankful for the opportunity to meet new friends that she would have never had time for if she were playing basketball.

### **Coping with a negative body image**

All eight participants responded to a change in their body image by altering their diets in some manner. Torrance and Lauren both became more aware of the foods they ate and tried to make healthier decisions regarding food choices. Lauren explains:

Because I wasn't able to be work out, I really made sure that I was eating right and eating healthy foods. When I did eat foods that I didn't feel were healthy or right for me I did feel guilty and was disgusted by myself for doing it.

Before the injury Lauren did not watch what she ate because she knew she was just going to work it off, but ever since she stopped working out her body image has declined. She battled this issue by altering her diet to include healthier food choices. Lauren and Torrance both managed to do this in a healthy manner.

Kayla also never watched what she ate until she got hurt and noticed a change in her body image. Not being able to do any cardiovascular exercise has been a main factor in the decline of her body image.

I started feeling really self-conscious about the way I looked because I was only able to do arm exercises and no cardio. I started thinking man I'm going to have to severely change it [eating behaviors], so I don't gain any more weight. I have even made my housemates not buy certain foods, they are helping me do it to, but its just tough cause I crave something but you think no, not going to eat that, gonna have a carrot instead.

Kayla has had a hard time trying to diet. She feels really bad about her body right now, but is still reluctant to fall into a pattern of dieting. She explains, "Well last night I splurged, and at 9:30pm I ate nuggets and fries from Mc Donald's." Dieting is a new experience for her and she hates having to watch what she eats, but she hates how she looks and feels even more then dieting. As she put it, "I have never felt this bad about my body before."

Christine has always been concerned with her body image, and after her injury she did not want to eat at all because she was scared she was going to gain weight. Soon she realized that she had to eat and decided to make extreme changes in her diet instead of starving herself. She would not allow herself certain foods or anything else that would cause her to put weight on. For example:

On the weekends when everybody would go out and start drinking I definitely didn't want to do that cause everybody knows when you drink you get fat, so for a awhile I would not drink just for the pure fear of getting fat and drunk eating.

Vicky struggled significantly during her injury rehabilitation as well. In the past she coped with a negative body image by engaging in bulimic behaviors. Although still not a completely healthy habit, she got away from bulimia turned into a compulsive exerciser instead. When she was no longer able to exercise she no longer had her coping mechanism and reverted back to her old routine of throwing up.

When the whole surgery thing came down I pretty much freaked out because I was not allowed to do any physical activity. More than anything I just didn't want to gain any weight, so during that month that I wasn't allowed to workout, I pretty much went full swing back into throwing up. I had it under control before that but after surgery I was doing it everyday. I was never really into the whole binging thing...really I pretty much hardly ate anything, like I lived on salad...and then if I had anything more, a piece of bread, a cookie, or something that I thought had too much fat, then I would throw up. I did not think I was allowed to eat a full meal.

Stephanie also fell into destructive behaviors when trying to cope with her negative body image. She has very unusual eating habits that are controlled by her body image. When she feels good about her body image, she will eat what is considered "normal" amounts, but when she is feeling bad about her body image she will either not eat or over eat. She explains:

I go through my phases where for about 2 weeks I'll eat pretty much normal and then there will be a period of 2 weeks where I would eat less than normal, and then there would be a period where I would eat not necessarily binge eat but more than normal. I know every time before I go home I go on a diet, I'm expecting my dad to say "oh you look fatter" or sometimes I'll go home and he'll say, "oh you look to skinny".

Stephanie also struggles with allowing her level of activity to affect her dieting behaviors. Her playing status is determined on a day to day basis and on the days she gets the, "no go" from the athletic trainer the first thing that runs through her head is, "okay then that means I can't eat as much today." She doesn't know why these thoughts consume her. What she does know is ever since she received those comments from her friends and family those are the thoughts that run through her head. When she isn't allowed to play she focuses her thoughts on how she must alter her eating to avoid getting fat.

In summary, the female athletes coped with a change in their body image by restricting certain foods or engaging in disordered eating patterns. They were used to maintaining a positive body image through athletics and since competition was no longer available to them, the only other alternative they had was altering their diet. Some altered it in a healthy manner and others took dieting to an extreme.

For some of the athletes two smaller themes developed from being injured and had a significant effect on their emotional well-being. They were the role change they experienced and the impact this injury had on their social life as well.

### **Role change**

Some of the athletes felt as a result of being injured their role on the team changed from being a team contributor on the field or court to being an unimportant bystander

watching from the sideline. They felt their injury kept them from expressing their opinions and thoughts about team affairs. Lauren, for example, came into this year wanting to step up and take a leadership position but she felt she was unable to do that because when you're not participating with the team your teammates are not going to respect what you say.

I'm not participating in the games so its hard for me to really voice my opinion as far as what I think about certain things, my injury really hasn't allowed me to really step up and take that leadership role because I'm not actually physically on the field.

Christine just finished her volleyball career at the university. In all 4 years her injury limited the amount of activity she was able to take part in at practice. She was never allowed to jump or do the sprint workouts. These limitations were hard for her to accept because she wanted to be a leader and thought it is not possible for a person to lead the team that is just playing volleyball and not actually working out with the team.

Your team looks up to you when your doing the workouts with them and when your not able to work out with them, I think they know that you want to be doing the workouts but when you try to give them your input they are not going to listen. When I say keep pushing hard, you guys are doing great, they are just thinking well she's not even doing the workout I'm not going to listen to her. I think that in order to be a good leader you really have to do everything and its not going to be someone who just gets to play volleyball. I felt so bad all the time I could just play volleyball but I didn't have to do any of the workouts.

Kayla is experiencing the same difficulties in becoming a leader. She is entering her senior year as one of the team's captains. This spring starts their off-season workouts where the captains really step up, run the practices and set the work ethic for the next season. Kayla has had a hard time stepping up and taking this leadership role while she is

recovering from surgery. She feels she cannot set the work ethic if she cannot be out there as an example.

I have been having major issues with being a captain, we are the seniors this spring and for me to be gone its hard because if I'm gonna be one of the captains I need to be there and since I wasn't, its hard for me to say go Broncos when I'm the one sitting on the side of the gym.

### **Social impact**

The psychological distress resulting from an injury can be sometimes carried over to other areas of an athlete's life. Kasey (a freshman) for example, had surgery on the second day of school. She felt being injured and having to have surgery put her social life in a slump for a while. All her dormmates were going out, meeting new people and making new friends while she was stuck in bed. She was already emotionally unstable, and seeing this part of her life be non-existent only exacerbated the psychological distress she was feeling.

Vicky's socially life suffered as well. Her entire group of friends at school consisted of her teammates and when she had to red shirt she felt she was not a part of them anymore on and off the field.

I definitely didn't feel as close to the team, it's hard when they are out there playing and yeah you come out and watch sometimes but it is not the same. I was definitely not hanging out with them as much just because I felt weird because it was like I was not a part of what they were doing on the field so I shouldn't be a part of what they were doing off the field either.

Lauren also isolated herself from her teammates and friends. She was just miserable to be around and would not talk about her feelings or let anybody help her. Everything was just building inside of her and she soon began taking her frustrations

about her injury out on all the people around her, so soon nobody wanted to be around her.

I get frustrated and I tend it to take my frustration out on other people because of this injury, I mean the trainers, my coach, my teammates, my friends, my roommate. I'm pissed off, angry and frustrated that I'm not playing and so I take it outside of the training room and the field and let it affect my personal and social life.

In their research on chronically injured athletes in whom denial was prevalent, Shuer and Dietrich (1997) found that the athletes continued to minimize the extent and nature of the injury resulting in them becoming "frozen" in the avoidant state. This suggests that athletes do not have the psychological tools required to adequately process the serious effects of the event, due to its highly personal meaning, and, thus, remain in denial.

In contrast to the negative social impacts that some participants experienced after their injuries, Torrance and Stephanie used their free time to make more friends and spend more time going to parties and such on the weekends. Torrance explains how she utilized her free time:

Not being able to play, I could go out more. I was able to meet other people besides the people on my team. So socially I was able to do a lot more because I wasn't in the gym for as many hours or having to travel with the team. Stephanie was also able to take part in a part of college life she was never able to

before. She took soccer very seriously, and would never stay out late or drink because of the negative effects it would have on her game. When she got injured and knew she did not have to be ready to play she experimented with what college life is known for.

I definitely went out a little more especially my freshman year because I knew I didn't have to be ready to play soccer. If I knew I had a soccer game the next day I still went out because it wasn't like I was going to play so my social life definitely became a little more prevalent in my life.

## Summary

Through the athletes own words the reader was able to not only the physical but psychological struggle each athlete faced when confronted by a long-term injury. The impact of injury had devastating emotional effects on each of the athletes. They experienced activity withdrawal symptoms, which included an increase in depression, tension, confusion, and a drop in self-confidence and self-esteem. They also believed that their body image was negatively affected a result of being injured. They were no longer able to maintain the physical fitness level they were used to, losing muscle mass, and in some cases gaining weight. The female athletes were used to maintaining their body image through the daily physical activity of their sport participation. As a result of being injured all activity had to stop to allow the body to heal. The athletes were losing all the benefits they normally received from physical activity, were dealing with the physical pain of being injured, a change in body image, a change in role on the team, and in some cases a change in their social life. To cope with these changes each athlete initiated a coping strategy. The majority leaned on social support from friends and family, but others isolated themselves and fell into destructive behaviors. To confront the changes in body image all eight athletes chose to initiate a diet of some manner. The diets ranged from healthy changes of cutting unnecessary fats to falling into unhealthy, destructive, disordered eating patterns.



## **Chapter 5**

### **Conclusions and Recommendations**

The final chapter in this study includes three sections. The first section entails a discussion section. The second section includes advice from the athletes in this study on what might have helped them better cope with the emotional distress their injury caused them. The final section provides recommendations for future research in this area.

#### **Discussion**

This study exemplified how an injury can be a detrimental experience for an athlete, particularly for female athletes who have been subjected to particular types of body-related socialization throughout their lives. After the onset of a long-term injury the female athletes felt a reduction in self-esteem, self-worth, and self-confidence. For these female athletes a reduction in these qualities in turn affected their body image.

Possible factors that could have influenced the results of this study were the race of the sample. Seven out of eight participants were of Caucasian descent. Stephanie was the only participant of an ethnic descent (Hispanic). This could have factored in on the impact her father's comment about her body had on her and her drive for his approval. Also the sample attended the same small, primarily Caucasian, private university. The results may have been different if the sample attended a larger, more diverse, state school where there is not a particularly stereotype of how a college female should look. The type of injury may have also been a factor on the emotional reaction each participant experienced. Three out of eight participants suffered from stress fractures. This type of injury can be very frustrating to an athlete because there is little, if nothing you can do to

speed the recovery process. There is no time frame for an athlete to return by, progress is on a day-to-day basis according to pain.

Another area for discussion is the role of the athletic trainer when body image issues are brought up. Should the athletic trainer be trained to handle the emotional disturbances, body image issues, and disordered eating patterns that may follow an injury. Is there more that an athletic trainer can do to prevent body image issues from occurring? Should athletic trainers spend more time on educating coaches, athletes and parents about the emotional reactions following injury and the possible impact it may have on body image or should more time be geared toward educating athletes to utilize coping intervention methods?

#### **Advice from athletes**

The participants in this study also had their own ideas of what they needed during this emotionally unstable time. They provided three main suggestions that, from their perspective, would have helped them deal with the emotional consequences of the injury and its effects on their body image. The first suggestion was to increase the amount of reassurance from the coaches and athletic trainers. Ariel, for example, felt that the coaches never understood what she was going through and always looked down at her, as if it was her fault she got hurt. She felt that more acknowledgement and reassurance from them would have helped her not to feel as worthless as she did.

Vicky also felt excluded. Her suggestion was to have weekly check ups with the coach and athletic trainer where her emotional status could be discussed and her questions could be answered. She needed to know that she was still important and was

still cared about her even if she could not contribute on the field. Torrance also expressed that better communication was needed between herself, the coach and the athletic trainer. She felt that if the coach would have talked to her more about her injury and given her more support, encouragement, and positive feedback, she would have felt better about herself and would not have lost so much confidence. From the athletic trainer, Torrance needed to better understand her injury and the rehabilitation process. She felt like she was just told what exercises to do but not helped to understand why.

Another area the participant's felt would have helped them related to Smith et al advice (1990) on goal setting. Kasey was really frustrated with just being handed a pair of goggles and sent to swim, and she felt a program with goals would have given her something to strive for. As she put it:

You need to set them up on a program and give them goals to reach. Athletes are really goal orientated and they need something to strive for. Goals help because it still gives you a sense of achievement even though it's implemented in a different way and at a different level. There is some sense of achievement and some sense of fulfillment through that.

Lauren also talked about the competitive drive that many athletes have, and how injured athletes need to learn how to redirect this drive towards rehabilitation and getting healthy. Setting goals would be a good way to direct it. She felt that if she had a program set up with her goals posted then her energy would have been directed toward accomplishing them, and she would not have time to dwell on being injured.

The third suggestion from the participants was that they would have liked to have access to a dietitian. Their body image was definitely a concern to them, and they believed that a dietitian could have addressed their questions regarding weight

management, body image issues, food choices, and set up diet plans for them to follow.

Ariel felt that a diet plan would have been a great asset because since she was not able to work out she knew she could not eat the same way as she was used to without gaining weight. She needed help figuring out what changes to make in her diet. She needed information on what kinds of foods to include in her diet and what kinds to stay away from. Instead of being educated on making the healthy diet changes she went through phases where she did not want to eat at all. She also tried advertised diets that all made her more body conscious than before.

Kayla, who has now been through two surgeries, also mentioned that she would have liked to have access to a nutritionist. She is used to following the structure of a rehabilitation program and likes coming into the training room and knowing exactly what kinds of exercises she has to do and how many. She felt if she had the same sort of structure with her diet she would be able to follow it and not worry about making the wrong food choices and then gaining more weight. It would be all taken care of for her and she would know she was doing everything she could to maintain her body image.

Contrary to all of this advice, Stephanie had no advice to offer, and she had no idea how to help herself or others in this situation. She did suggest, however, that other people need to be aware of what they say to an athlete, especially when they are at such an emotionally unstable time in their life. When her friends and family mentioned that she looked bigger, that was the end of normal life for her. From then on she has had body image issues and suffered from disordered eating patterns. She welcomes help and has seen numerous therapists and nutritionists but nothing has helped so far. Her only

advice was to monitor female athletes who get injured and not let them fall into a pattern like she has. She would do anything to rid herself of this obsession she now has with her body image and food consumption.

### **Future research**

The results of this study point to the need for future research in several areas. First, future researchers may extend this study by examining a larger number of female athletes from various sport contexts and varying levels of experiences. Secondly, understanding the correlation between the emotional response to injury and its effect on body image in both female and male athletes' needs to be further investigated. Thirdly, future work should also address potential sport-specific issues related to body image. For example, team sports, versus individual sports, the potential for racially based differences in body image, influence of coach, and influence of coping strategies. Finally, future research is warranted to determine what role athletic trainer's should play, or be trained to play, when injured athletes mention body image issues.

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**Semi-structured interview guide:**  
**A qualitative study of long-term injury and body image**

1. Tell me about your current participation in sport?
  - a. How long have you been playing?
  - b. What does participating in sport mean to you?
  - c. Benefits sustained from participating in sport?
  - d. How has playing a sport influenced the way you feel about your body?
    - i. How aware of your body are you and the way it looks?
2. Tell me about the long-term injury you sustained?
  - a. How, what, when, and diagnosis of injury?
  - b. How long were you out for?
  - c. What kind of impact did this injury have on you:
    - i. psychologically and physiologically
    - ii. socially
    - iii. role on team
  - d. What kind of impact did this injury have on the way you felt about your body?
  - e. Pre-injury vs. post-injury body image
3. How did you cope?
  - a. The psychological impact of the injury?
  - b. Not being able to participate in any activities?
  - c. Impact on body image?
  - d. Did your eating habits change?
  - e. Any other coping mechanisms?
4. Is there anything else you would like to add about how injury has influenced your body image?
5. Is there any advice you would give athletic trainers/coaches about how to help female athletes cope with long-term injury effects on body image?