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Determinants of Social Physique Anxiety in Collegiate Female Athletes

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DETERMINANTS OF SOCIAL PHYSIQUE ANXIETY IN COLLEGIATE FEMALE ATHLETES

By

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This thesis is dedicated to my family: Paul, Shannon, Jennifer, Carey and Drew. Thank you for your unfailing love, support, and guidance in all aspects of my life.

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TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Concerns about self-presentation affect many athletes. Oftentimes, athletes who struggle to control the way they present themselves develop Social Physique Anxiety. Ample research has been completed providing evidence of negative outcomes associated with Social Physique Anxiety. These adverse consequences make it necessary to understand the particular environment in which social physique anxiety and self-presentational concerns are fostered with the goal of eliminating its source. Female collegiate volleyball players (n=156) participated in the study. Ages ranged from 18-23 years old. There were 8 respondents from Division I programs, 53 respondents from Division II programs, 91 respondents from Division III programs, and 5 respondents from the National Association of Intercollegiate Athletics (NAIA). Each participant initially completed the trait portion of the Trait Anxiety Inventory to ensure equal trait anxiety across conditions. Participants were randomly assigned to the control condition, practice condition, intersquad scrimmage condition, or heavy spectator condition. Scores for social physique anxiety were collected using the Social Physique Anxiety Scale and scores for self-presentation concerns were collected using the Self-Presentation in Sport Questionnaire. Results indicated that there were no significant differences across conditions for self-presentation concerns, but that the intersquad scrimmage condition experienced significantly less physique anxiety than the control condition.

INTRODUCTION

The perceptions we have of ourselves in conjunction with the way we believe others perceive us has a profound influence on the way we view our bodies (Leary & Kowalski, 1990). Most people are more willing to interact with attractive people than unattractive people (Leary, 1995). In addition, the immediate impressions formed of unattractive people tend to be less positive even when they are related to domains entirely independent of looks, while immediate impressions formed of attractive people tend to be more positive (Leary, 1995). Attractiveness has shown to have a profound influence on societal status. Therefore, most people work hard to continually manage the impressions others form of them (Leary, 1995). This phenomenon is termed impression management, or self-presentation. Self-presentation is complex and to afford more understanding of the process, Leary and Kowalski (1990) divided it into two distinct components: *impression motivation* and *impression construction*.

Impression motivation is the desire a person has to manage the impressions that others form of him or her (Leary & Kowalski, 1990). When people intend to control the way others view them, there tends to be an underlying motivation to keep their public image from being damaged (Leary, 1995). Schlenker (1980) found that people impression manage to minimize punishments and to maximize rewards. Impression motivation is not synonymous with impression construction, because someone may be greatly motivated to impression manage but not engage in actions to do so. The actions lie in impression construction, wherein a person shapes his or her behavior to help elicit a desired impression formulation by another person (Leary & Kowalski, 1990).

Self-Presentation has been shown to lead to adverse outcomes in certain situations (Martin Ginis & Leary, 2004). The inability to control self-presentation can lead to the development of Social Physique Anxiety (SPA). SPA has been found to correlate with body image disturbances in female athletes but not male athletes (Haase, Prapavessis, & Owens, 2002), showing that the athletic environment may be a potential breeding ground for self-presentational concerns. Because of the negative outcomes associated with Social Physique Anxiety, it is necessary to understand behaviors in certain situations in which social physique anxiety and self-presentational concerns are fostered with the hopes of eradicating its causes. The aim of this study is to identify particular situations that correlate highly with elevated levels of state SPA and increased self-presentational concerns. First, literature examining the

components of physique concerns will be examined. Next, a summary of the literature pertaining to the prevalence of social anxiety in athletes and females will be presented. Finally, the focus of the paper will turn to the identification of particular situations that are thought to cause an increase in state SPA and self-presentational concerns.

CHAPTER 1

LITERATURE REVIEW

The drive to impression manage can come from various sources. Leary and Kowalski (1990) listed several of these including: social and material outcomes, self-esteem maintenance, and development of identity. Social and material outcomes refer to the capitalization of the reward-cost ratio. This means that with the right impression, a person can potentially increase the amount of desired impressions while decreasing the amount of undesired impressions others create of them. Self-esteem maintenance occurs when a person intends to make an impression that will garner praise, compliments, and acceptance and therefore raise self-esteem, while also avoiding impressions that may elicit criticism and rejection (responses that generally deflate self-esteem). Development of identity means that people will manage their identity in such a way that their representation will be in accordance with the societal expectations for that identity (e.g., a professor acting like a faculty member to solidify his or her status as an academician) (Leary & Kowalski, 1990).

Self-Presentation

Self-presentation is defined as the process by which people monitor and control how they are perceived and evaluated by others (Schlenker, 1980). Leary (1992) found that self-presentation often influences processes common to sport. Examples of these processes include the motivation to engage in physical activity, the physical activities that a person will choose, the context chosen to perform them in, the performance quality of the person, and the person's emotional response. This self-presentation can be unconscious, meaning that a person can self-present to alter an unfavorable impression or extend a favorable impression without being aware that he or she is doing so (Leary & Kowalski, 1990). Leary (1992) claimed that there are four areas where evidence exists to support the operation of self-presentational processes. This shows how numerous self-presentational processes are in behaviors derived from sport and exercise. Leary (1995) described how most social situations are places in which people pay close attention to the way they are being perceived and evaluated by other people. In addition, he articulates that in these social situations people are prone to self-present. In other words, people tend to selectively present self-relevant information and desirable characteristics that will increase the evaluator's chances of making a preferred impression. There is also evidence that to avoid undesired impressions people will consciously omit certain negative information and

characteristics about themselves. However, an interesting facet of self-presentation is that some people manage their impressions unconsciously. People who are high in the trait of public self-consciousness will be more likely to self-present than people who are not continuously aware that they are being judged (Leary, 1995). This has serious implications for athletes, who are frequently evaluated on their performance. Because self-presentation occurs in social settings and athletes compete publicly, self-presentation is applicable in athletic contexts.

In their review of self-presentation in the exercise and sporting domains, Martin Ginis, Lindwall, and Prapavessis (2007) defined impression motivation as the desire to create particular impressions; impression construction is the process of putting impression motivation into action (choosing an impression to create and then utilizing tactics to convey it). In a brief historical overview of impression motivation and construction, they note that there are three generations of research questions that have been used to conduct social psychological research. First generation questions are known as "is" questions. They generally look to see if there is a phenomenon, an effect, or a relationship present with the intention of describing a phenomenon, its correlates, and its effects. Second generation questions are typically "when" questions. These questions are relative to the conditions under which the effects of the phenomenon emerge, and what associations are held between the phenomenon and its correlates with the objective of identifying moderator variables. Third generation questions are "how" questions. These questions of mediation have the purpose of looking at the underlying psychological processing that drives self-presentational phenomena. There are very few studies of impression motivation and construction that have been completed in sport settings, and according to Martin Ginis et al. (2007), none of them has asked second or third generation questions.

Impression Formation

Impression formation is distinctly different from impression motivation and construction. Impression formation studies allow researchers to examine what the evaluator is thinking of the athlete, while impression motivation and construction focus on characteristics such as a person's thoughts, behaviors, and affects (Martin Ginis et al., 2007). Another facet of impression formation is that athletes have been shown to possess the awareness that spectators are forming impressions of them that have nothing to do with the way they compete. For example, Halbert's (1997) research with female boxers revealed that they used self-presentational tactics in order to shorten the distance between what they believed to be the impression of others with their

impressions of themselves. Halbert (1997) interviewed 12 professional female boxers to examine what challenges are faced as a women competing in a sport viewed as socially deviant for women. The study indicated that the boxers were aware of the stereotypes placed upon them as competitors in a traditionally male sport. The author revealed the desire to avoid negative impression formations, which was so salient that the female boxers intentionally tried to balance the identity they had as boxers with the identity they had as females. Thus, they wore uniforms that were overly feminine to downplay the stereotype of female boxers as lesbians, concealed information that could elicit the undesirable impression of being a lesbian, and emphasized feminine aspects of their appearance (e.g., by wearing make-up during competition).

Consequences of Impression Management and Construction. There has been insufficient research examining the negative consequences of impression motivation and construction. The literature on the self-presentational perspective includes few studies of health-damaging behaviors. A review of the literature on this topic by Martin Ginis and Leary (2004) listed a variety of ways that self-presentation can lead to adverse outcomes. Examples of these adverse outcomes are that the elderly, in an attempt to appear younger, sometimes refuse assistance when they need it; athletes often self-handicap when faced with the possibility of losing; men are prone to taking unnecessary risks to preserve a masculine image; professional hockey players will often play after injury to avoid being seen as a wimp, even if it risks further injury. Moreover, Martin Ginis and Leary (2001) described how the desire to be liked by the opposite sex creates high potential for risky self-presentation. They showed that recreational weightlifters, in an attempt to be viewed as impressive by other gym members, have lifted weight that they believed was beyond the limits of safety. They also reported sexual promiscuity as one respondent's method of self-presenting to the opposite sex. Despite all of these studies, the self-presentational perspective has not often been used to study health-damaging behaviors (Martin Ginis et al., 2007). However, health-damaging behaviors, such as unsafe sex and the unwillingness to seek medical treatment when it is needed are examples of extreme self-presentation that result in health risks (Leary, 1995). If people are so determined to self-present that they would take such obvious risks, self-presentation must be considered very important. The combination of its importance and its pervasiveness makes it likely that self-presentation has an effect on sport performance.

Self-presentational processes do not just affect the performer; they also influence the way in which others attend to athletes. For example, Ford and Gordon (1997) found that across several countries there was overwhelming agreement in the type of self-presentational style preferred by physiotherapists providing support to athletes; they all preferred a balanced self-presentation style in which the athlete honestly describes an injury while simultaneously taking steps to rehabilitate. The physiotherapists preferred these types of clients and as a result treated them more positively than athletes with less engaging self-presentation styles.

Social Physique Anxiety. Social Physique Anxiety (SPA) is conceptualized in an article by Hart, Leary, and Rejeski (1989). They define SPA as, "anxiety that people experience in response to others' evaluations of their physiques" (p. 94). Individuals high in SPA, compared to those low in SPA, tend to avoid situations in which their bodies can be evaluated by others. Other consequences of high SPA include becoming distraught when their bodies are exhibited for others to see, avoiding activities in which their bodies may be judged negatively (e.g. certain fitness settings), becoming depressed in relation to their bodies, and endeavoring to achieve a more desirable body (sometimes using methods harmful to their overall well-being).
Social physique anxiety (SPA) is a particularly significant influence among female athletes. Haase et al.'s (2002) findings indicate SPA is correlated with body image disturbances (such as disordered eating) in female athletes but not in male athletes. This can be attributed to the fact that in western societies, the ideal female body (slim and toned) is frequently unattainable (Martin Ginis et al., 2007) through exercise and normal dieting. Martin and Mack (1996) found that athletes are not immune to the pressure to achieve the ideal body. While a man may feel anxious during a game due to spectators evaluating his performance, a woman might be more susceptible to worries about how others are viewing her appearance due to the more intense pressure on women to have attractive bodies. They tested 93 females and 53 males using measures of sport competition anxiety, physical self-presentation confidence, and social physique anxiety. All participants also answered questions regarding age, gender, current and past sport participation, and current and past exercise participation. Findings revealed that female athletes experienced significantly higher social physique anxiety than male athletes. In addition to this gender difference, women who were the most anxious about sport competition were the ones who were most anxious about having their bodies evaluated by others. Although the correlation was moderate, this shows the importance of addressing the issue of social physique

anxiety. Thus, decreasing social physique anxiety in athletes could lead to a moderate decrease in their anxiety about sport competition.

Further support for the notion of social physique anxiety being more of a concern for women than men comes from the finding that women are more socially anxious in general than men (Leary & Kowalski, 1995). The findings on social anxiety show that women are more socially anxious than men in situations when assertiveness and unfamiliar social encounters are prevalent. Assertiveness has been found to be a typical component in an athlete's competition environment (Leary & Kowalski, 1995), meaning that athletes believe that being assertive in competition is oftentimes necessary to be successful. In addition, athletic competitions are minefields of unfamiliar social encounters (with other teams, other coaches, unknown spectators). These two factors give more evidence to the usefulness of focusing on women when discussing social physique anxiety in sport. This is not to say that men cannot experience social physique anxiety, but it has been shown repeatedly that women are much more prone to this type of anxiety. This susceptibility should make them the first priority for study.

Haase, Prapavessis, and Owens (2002) instructed 319 male and female athletes to complete measures of Positive and Negative Perfectionism, SPA, disordered eating, and social desirability. They found that for females only, SPA accounted for a significant amount of the variance of disordered eating. Therefore, SPA presence can enable a mental health professional to better predict the presence of an eating disorder. In addition, Haase and Prapavessis (1998) found that sport type was not considered a moderating variable in the relationship between disordered eating and SPA. Apparently, the type of sport played may be irrelevant in this facet of body image. Female athletes who believe that their bodies are being evaluated develop disordered eating habits, regardless of the sport they play. This is an indication of the breadth of the phenomenon, and therein lays the importance of reducing SPA among female athletes.

Self-Presentation Efficacy

It is possible that many of the self-presentation issues female athletes face are derived because of their inability to control how they are perceived by others. This probability of expressing a desired collection of self-images to others is self-presentation efficacy (SPE; Ryckman, Robbins, Thornton, & Cantrell, 1982). SPE was studied in depth by Maddux, Norton, and Leary (1988) with 164 male and female students. The researchers administered the experiment by giving each of the participants one of five scenarios which were designed to elicit

anxiety. The dependent measures were presentational self-efficacy expectancy, presentational outcome expectancy, presentational outcome value, and social anxiety. This study highlighted the differentiation between outcome expectancy (the belief that certain behaviors will or will not have a desired result) and self-efficacy expectancy (the belief in the ability of a person to perform those behaviors). Results indicated that both presentational self-efficacy and outcome expectancy were significantly correlated with dispositional and situational measures of social anxiety. Trait social anxiousness was not associated with outcome value for the situational goals described in the study. However, findings did indicate that self-efficacy expectancy was the most powerful predictor of social anxiety that is situation-specific. This indicates that social anxiety is more influenced by the doubt that a particular goal will not be attained, and less influenced by the end product of the goal. Because sport competitions are situation-specific, this has serious implications for the social anxiety experienced during these competitions. Increasing self-efficacy expectancy may reduce situation-specific social anxiety, creating a more socially accepting environment in which athletes could perform comfortably.

The ideal socially accepting environment is elaborated in Leary and Kowalski's (1995) book, *Social Anxiety*. They describe the world of social encounters in order to capture how people create an environment in which they feel socially secure. They illustrate that when people wish to manage the impressions others form of them, they do so understanding that they may be able to do it well (and have everyone form the desired impression) or poorly (and have nobody form the wanted impression). Most people fall somewhere on the continuum of effective impression managers to ineffective impression managers, meaning that their self-efficacy ranges from a probability of zero (no possibility the desired impression will be made) to one (certain the desired impression will be made).

Self-Presentation Confidence. Self-presentation efficacy and self-presentation confidence differ conceptually. Self-presentation efficacy is situation specific, and therefore is experienced depending on the state of the person. Self-presentation confidence is a trait construct reflecting the confidence a person possesses in his or her ability to display physical skills and elicit a positive evaluation of those skills by observers (Martin Ginis et al., 2007). Ryckman, Robbins, Thornton, and Cantrell (1982), attempting to test constructs for the development of a Physical Self-Efficacy Scale (PSES), found that subjects who possessed certain characteristics (high self-esteem, low social anxiety and feelings of self-consciousness, internal locus of control, the

propensity to participate in adventurous physical activity, and high likelihood to engage in disinhibiting sexual experiences) were the subjects who rated themselves as having high physical skills. In addition, subjects who positively perceived their level of physical confidence performed more competently on three physical skill-related tasks than subjects who had low perceptions of their physical confidence level (Ryckman et. al., 1982). When Martin and Mack (1996) studied the effects of physical self-presentation confidence using the Physical Self-Presentation Confidence (PSPC) subscale of the Physical Self-Efficacy Scale (PSES) (Ryckman et. al., 1982), they found that the combination of physical self-presentation confidence and social physique anxiety accounted for a significant amount of variance (21%) in the sport competition trait anxiety levels for females. In addition, Wilson and Eklund (1998) have shown that competitive anxiety is largely self-presentational in nature. They developed the Self-Presentation in Sport Questionnaire (SPSQ) to ascertain the potential self-presentational concerns of athletes. In their study, collegiate athletes completed inventories that ascertained levels of competitive trait anxiety and concerns about self-presentation. They found that a significant amount of the variance in competitive anxiety was due to self-presentational variables. In other words, if an athlete is not certain that he or she is able to self-present in a desirable way, the situation is likely to be perceived as threatening in competition. Because self-presentational variables account for a significant amount of competitive anxiety, decreasing self-presentational concerns could potentially alleviate a source of anxiety during competition.

Martin Ginis et al. (2007) note that first and second generation studies of self-presentation confidence have been abundant. A noteworthy study in this domain was conducted by Wong, Lox, and Clark (1993). They examined the relationship between the two different sport contexts (team sports and individual sports), and perceived physical ability and self-presentation confidence. Findings showed that athletes competing in individual sports had higher mean trait anxiety levels than athletes competing in team sports. Another important finding from this study is the significant main effect of sport context on self-presentation confidence. Some sports involved higher levels of self-presentational confidence just because of the venue in which they are played, although the reasons for this lack empirical evidence. Clearly, first and second generation studies on confidence provide important information about self-presentation. Therefore, a need exists for a study that looks at self-presentation concerns during different contexts of the athletic competition environment. Previous research showed that self-presentation

is present within the competition environment, but specifics about that competition environment have not been studied. It is necessary to understand what facet of the sport competition provides the greatest self-presentation concerns.

Summary

Purpose Statement and Hypotheses. While participating in their sport, athletes can experience anxiety about how their physiques are (or might be) evaluated by others, even when competition outcome is unrelated to these evaluations. The purpose of this study was to identify particular situations in which female volleyball players experience physique-related anxiety. This anxiety can arise from several different environmental contexts regardless of the level of the athletes' trait anxiety. It was expected that female volleyball players' concern about appearance would vary according to the context of the situation because certain situations promote a higher potential for a player to feel as though they are being evaluated. The tight-fitting uniforms provided the opportunity for physique evaluation. When this opportunity for physique evaluation was present the anxiety about players' concerns were expected to increase. Multiple explanations can be expressed to explain what mediates concern over body evaluations. However, the aim of this study was not to infer causation. The aim was to test the hypothesis that wearing volleyball uniforms in the presence of spectators during sport participation would result in a tendency to experience higher levels of SPA. This purpose was fulfilled by asking volleyball players to respond to concerns about their physique in situations differing in evaluative potential. Specifically, women responded to concerns in practices, scrimmages, and competitions. This created a situational contrast between the presence and absence of spectators. Specifically, it was hypothesized that:

1. Physique anxiety scores would be comparable among the control condition, practice condition, and intersquad scrimmage condition.
2. Physique anxiety scores would be significantly higher in the heavy spectator condition than the control condition, practice condition, and intersquad scrimmage condition.
3. Self-presentational concerns for athletes responding relative to the practice setting would score significantly higher than the control condition.
4. Self-presentational concerns for athletes responding relative to the intersquad scrimmage setting would score significantly higher than the practice condition.

5. Self-presentational concerns for athletes responding relative to the heavy spectator setting would score significantly higher than the intersquad scrimmage condition.

CHAPTER 2
METHOD

Participants

Participants (n=156) included female athletes competing in collegiate volleyball in the United States. Ages of these volleyball players ranged from 18-22 years, and the mean age was 19.5 (*SD* = 1.23) years. All participants were enrolled full-time at a college or university and competing intercollegiately for that college or university. There were 8 Division I participants, 52 Division II participants, 91 Division III participants, and 5 National Association of Intercollegiate Athletics (NAIA) participants. Participants were generally experienced in the game of volleyball, with a mean amount of volleyball experience of 7.9 (*SD* = 2.3) years. Participants' mean weight was 153.7 (*SD* = 20.8) pounds and mean Body Mass Index was 22.4 (*SD* = 2.19), which is medically classified as normal weight in proportion to height (Aires, Selmer, & Thelle, 2003).

Instrumentation

Demographic Information (Appendix A). Participants were asked to indicate their age, years of playing experience, current level of participation, height, weight, and approximate average number of spectators at their competitions.

Trait Anxiety Inventory (Spielberger, 1983; Appendix B). The trait version of Spielberger's (1983) state-trait anxiety inventory was used in this study. The trait portion was comprised of 20 items and can be completed within 10 minutes. Examples of items on the scale are: "I am tense," and "I feel joyful." Responses were recorded on a 4-rating Likert-type scale, ranging from 1 (*almost never)* to 4 (*almost always).* A mean internal consistency coefficient of .89 was reported by Barnes, Harp, and Jung (2002). Test-retest reliability was .88. Measures of concurrent validity were .80 for the Taylor Manifest Anxiety Scale and .75 for the IPAT Anxiety Scale (Cattell & Scheier, 1963) in the collegiate female sample (Spielberger, 1983).

Social Physique Anxiety Scale (SPAS; Motl & Conroy, 2000; Appendix C). The Social Physique Anxiety Scale measured the tendency to experience anxiety in response to perceived or real evaluations of one's physique by other people. A unidimensional SPAS proposed by Hart, Leary, and Rejeski (1989) was shown to be valid through appropriate magnitude positive correlations. Specifically, correlations of .33 between the SPAS and the Interaction Anxiousness Scale (Leary, 1983), .35 between the SPAS and the Fear of Negative Evaluation Scale (Leary,

1983), -.51 between the SPAS and the Body Cathexis Scale (Secord & Jourard, 1953) were reported. The SPAS has high internal and test-retest reliability, with a Cronbach's alpha coefficient of .90 and an eight-week test-retest reliability coefficient of .80 (Hart, Leary, & Rejeski, 1989). Results from experiment 2 (Hart, Leary, & Rejeski, 1989) demonstrated a low to moderate correlation between SPAS and public self-consciousness (r=.30). Motl and Conroy (2000) shortened the scale to 7 items to reduce subject burden and to resolve psychometric difficulties evident in the 12-item version. The final scale contains 7 statements, and participants rate how true each statement is for them on a 5-point scale ranging from 1 *(never)* to 5 *(always)*. The correlation between scores from the 9-items scale and the 7-item scale was .97. The scale is self-administered and there is no time limit imposed upon participants, but usually requires less than five minutes to complete.

Self-Presentation in Sport Questionnaire (SPSQ; Wilson & Eklund, 1998; Appendix D.) The Self-Presentation in Sport Questionnaire (SPSQ) was developed by Wilson and Eklund (1998) to measure potential self-presentational concerns for those participating in sport competitions. The questionnaire consists of 33 items, such as, "appearing unathletic," "appearing to choke under pressure," "appearing lethargic," and "appearing physically unattractive." These items follow a statement stem (i.e., "During competition I worry that other people will perceive me as…") that highlights concerns about the perceptions of evaluative others. A Likert-type scale is used for responses, asking the subjects to rate their response from 1 (*never)* to 5 (*always)*. Alpha coefficients ranged from .90 to .93 (Wilson & Eklund, 1998). As well, the SPSQ was observed to correlate with the Sport Anxiety Scale (SAS) and the Sport Competition Anxiety Test (SCAT), especially with cognitive subcomponents of competitive trait anxiety.

Experimental Conditions

The study employed a between subjects design involving three experimental conditions (a practice condition, an intersquad scrimmage condition, and a heavy spectator condition) and a control condition. Participants were randomly assigned to one of these conditions. All subjects completed all questionnaires. The contextual instructions varied by condition assignment for the SPAS and the SPSQ but not for the TAI. After each participant completed the TAI she was randomly assigned to the control condition or one of the experimental conditions. The instructions for the control condition were the SPAS and SPSQ standard questionnaire instructions.

The practice condition instructions for the SPAS and SPSQ included this statement: "Think back across times in which you were participating in a practice for your sport. This practice is a typical practice run by coaches and closed to spectators. Please answer all questions on the following scales according to the way you would feel during this practice."

The intersquad condition instructions for the SPAS and the SPSQ included the following statement: "Think back across times in which you were participating in an intersquad scrimmage for your sport. This scrimmage is at your home gym but closed to the public or anyone other than your team members. Please answer all questions on the following scale according to the way you would feel during these scrimmages."

The heavy spectator condition instructions for the SPAS and SPSQ included the statement: "Think back across times when you were competing at your home playing arena in front of large crowds of spectators. Please answer all questions on the following scale according to the way you would feel during this competition." Upon completion of the questionnaires, subjects were thanked for their participation in the study.

Procedure

To recruit participants, college volleyball coaches were sent an e-mail providing a description of the study approved by the FSU Human Subjects Committee (Appendix E). Coaches were asked to forward a hyperlink for the study to all of the players on their team. This SurveyMonkey link directed the players to a website for data collection following appropriate informed consent procedures as approved by the FSU Human Subjects Committee. Each volleyball player responded to the scale individually. Prior to beginning, each participant was informed that participation is not mandatory. After clicking on the "I agree to participate box" on this webpage, participants were directed to a new web page in which they were randomly assigned to one of the four conditions. Each participant first provided demographic information. Participants were then directed to a second page on which data from the trait portion of the TAI was collected. The survey was set up in such a way that each page must be responded to in order to move on to the next item.

After the trait portion of the TAI was completed, participants were assigned to conditions (i.e., the control condition, the practice condition, the intersquad scrimmage condition, or the heavy spectator condition). Following this, each participant completed the Social Physique Anxiety Scale followed by the Self-Presentation in Sport Questionnaire.

Upon completion of the SPSQ, a debriefing statement appeared. This statement read: "Thank you for participating in my Master's Thesis Study. Your participation is helpful and I appreciate the time you have spent on this."

Data Analysis

The analyses of this investigation were performed in five stages. First, a principal-axis factor analysis followed by oblique rotation solutions was performed on SPSQ data to ensure that the pattern of item loading on a four factor solution in these data was consistent with what had been reported in the Wilson and Eklund (1998) investigation. Second, Cronbach's alpha coefficients were derived to evaluate the internal consistency of measurement for each scale or subscale employed in the investigation. Third, descriptive statistics were calculated for all conditions on SPAS and SPSQ measures. Fourth, an ANOVA comparison of TAI trait scores among the four conditions was conducted to ensure that the conditions were equivalent in their tendencies to experience anxiety. Fifth, hypotheses were tested by conducting ANOVAs with Tukey HSD post hoc tests on SPAS and SPSQ scores across conditions to inferentially evaluate any observed descriptive differences.

Effect sizes were also reported to facilitate interpretation of results. Cohen's *d* effect size were employed to interpret significant (or near significant) pairwise comparisons with .2 being regarded as a small effect, .5 a moderate effect, and effects greater than .8 considered large (Cohen, 1988). Eta-squared was reported to facilitate interpretation of ANOVA comparisons where .01 was considered a small effect, .06 a moderate effect, and .14 a large effect (Cohen, 1988).

CHAPTER 3
RESULTS

SPSQ Factor Analysis

To ensure that the SPSQ items loaded on the same factors as reported in Wilson and Eklund's (1998) initial study, the same principal-axis factor analysis with direct oblimin rotation was conducted on the data obtained in this investigation. As in Wilson and Eklund's (1998) study, a four-factor solution was pursued in these analyses. The criteria they employed in evaluating the adequacy of pattern matrix loadings required greater than .42 on a given factor and less than .35 on the other factors. Three items (i.e., items 8, 10, and 16) did not meet these criteria in the initial analyses because of weak primary loadings, or cross loadings. These items were removed and the analysis was rerun on the 30 remaining items. The observed pattern matrix from the second analysis is presented in Table 1. Examination of this matrix revealed that the clustering of items on factors was consistent with what had been reported in the Wilson and Eklund (1998) report. Moreover, the examination revealed that the pattern matrix loadings were clean with strong primary loadings (i.e., all > .42). As a consequence, only the 30 items included in the second analysis were retained for use in this investigation. These items were used to measure self-presentational concerns subscales of: (a) performance/composure inadequacy (8 items), (b) appearing fatigued/lacking energy (6 items), (c) appearing athletically untalented (9 items), and (d) physical appearance (6 items).

Table 1

Pattern Matrix Coefficients of the Four-Factor Direct Oblimin Rotation of the SPSQ for 156 Collegiate Athletes

During Competition I worry that other people may perceive me as:				
SPSQ Response Item Descriptors	*Factor 1*	*Factor 2*	*Factor 3*	*Factor 4*
Self-presentational concerns about performance/composure inadequacies (8 items)				
appearing unable to handle the pressures	**.85**	-.01	.07	-.09
appearing to not perform up to my potential	**.71**	.13	-.06	.04
appearing to not live up to my expectations	**.61**	.22	.00	.00
appearing nervous under pressure	**.57**	-.16	-.15	-.17
appearing not physically and mentally ready	**.57**	.18	-.29	.04
appearing to choke under pressure	**.52**	-.23	-.23	-.27
appearing to lose composure	**.50**	.07	.03	-.25
appearing not to perform or execute properly	**.43**	.03	-.14	-.29
Self-presentational concerns about physical appearance (6 items)				
appearing ugly or unpleasant in my uniform	-.02	**.92**	.00	-.03
appearing too small or too big in my uniform	.11	**.86**	-.01	.08
appearing physically untoned	.11	**.83**	.08	-.10
appearing flabby	.01	**.83**	-.08	-.04
appearing physically unattractive	-.03	**.80**	-.12	-.06
appearing out of shape	-.09	**.66**	-.08	-.25
Self-presentational concerns about appearing fatigued/lacking energy (9 items)				
appearing tired	-.02	.08	**-.91**	.13
appearing exhausted	-.04	.03	**-.89**	.08
appearing not energized	.10	-.04	**-.83**	-.02
appearing fatigued	-.05	.07	**-.82**	.02
appearing unenergized	.08	-.01	**-.79**	-.03
appearing to lack energy	.02	-.03	**-.77**	-.19
appearing underactivated	.04	.04	**-.75**	-.13
appearing lethargic	-.06	.00	**-.72**	-.23
appearing weary	.16	.07	**-.61**	-.16
Self-presentational concerns about appearing athletically untalented (7 items)				
appearing underskilled	.03	.06	.06	**-.91**
appearing athletically incompetent	.04	.06	-.02	**-.83**
appearing to lack ability	.01	.05	.01	**-.83**
appearing unqualified	.06	-.02	-.05	**-.81**
appearing unathletic	-.04	.12	-.12	**-.71**
appearing untalented	.14	.10	-.03	**-.69**
appearing to lack balance	.08	.08	-.10	**-.57**

Note. SPSQ = Self-Presentation in Sport Questionnaire. Factor loadings ≥ .43 appear in boldface type

Internal Consistency of Measurement for All Study Variables

Internal consistency of measurement scales are displayed in Table 2. The internal consistency coefficients of each scale and subscale were consistent with previous investigations. All internal consistency coefficients were .88 or above, which indicates low measurement error. Internal consistency coefficients are above the minimum standard for internal consistency of .70 for exploratory research advocated by Nunnally (1978), ensuring adequate reliability for further analyses.

Table 2

Internal Consistency of Measurement for All Study Variables

Measure	Cases	Cronbach's Alpha	Number of Items
TAI	156	.877	20
SPAS	156	.880	7
SPSQ	156	.972	33
SPSQ Subscale 1	156	.928	10
SPSQ Subscale 2	156	.959	10
SPSQ Subscale 3	156	.952	6
SPSQ Subscale 4	156	.949	7

Descriptive Statistics for Study Variables

Descriptive statistics for the 6 study variables are provided in Table 3. The TAI range varied from 1 (*almost never)* to 4 (*almost always)*, and the mean of the sample was a 1.76 (SD = .36). Therefore, participants in the present study did not have the tendency to experience anxiety extensively. The variability around the mean suggests that there were some participants who

reported almost never experiencing anxiety and there were some participants who reported experiencing anxiety with moderate frequency.

The SPAS was scored from 1 *(never)* to 5 *(always)*. The mean of the sample completing the SPAS was 2.52 (*SD* = .75). Across conditions, on average, participants on average had anxiety about their body somewhere in the range of "rarely" (i.e., anchor for a score of 2) to "sometimes" (i.e., anchor for a score of 3). The variability around the mean shows that most of the volleyball players did not have the tendency to experience anxiety about their bodies being displayed in social settings.

The SPSQ was scored from 1 (*never)* to 5 (*always)*. Factor 1 (self-presentational concerns about performance/composure inadequacies) of the SPSQ had a mean level of self-presentational concerns of 2.30 (*SD* = .71). This was the highest mean of all of the SPSQ subscales, indicating that the most frequent self-presentational concern in sport for these volleyball players related to appearing inadequate to others in terms of their performance or composure. While this was the most frequent concern for these athletes, it only indicated the concern occurring "sometimes" (i.e., a score of 2.30). The variability was such, however, that some athletes were rarely experiencing this concern while others were nearly always experiencing that concern.

Factor 2 (self-presentational concerns about physical appearance) of the SPSQ had mean self-presentational concerns of 2.09 (*SD* = .71). This indicates that, on average, the sample was rarely concerned about their physical appearance. The variability around the mean suggests that some of the participants were never concerned about their bodies while others were sometimes concerned. Very few participants had the tendency to experience self-presentational concerns about their appearance most of the time or always.

Factor 3 (self-presentational concerns about appearing fatigued/lacking energy) of the SPSQ had mean results of 2.15 (*SD* = .92). Concerns about being fatigued or lacking energy were the second highest in the sample, but still in the range of 1-3 (i.e., "never" to "sometimes"). The self-presentational concerns here were still relatively low across groups, showing that, in general, volleyball players are not concerned about appearing as though they are fatigued or do not have enough energy.

Factor 4 (self-presentational concerns about appearing athletically untalented) of the SPSQ had mean self-presentational concerns of 1.97 (*SD* = .79). This was the lowest mean of all the SPSQ subscales, showing that the volleyball players from this sample, on average, were least

concerned about appearing athletically untalented. On average they reported these types of self-presentational concerns to occur rarely. The variability around the mean indicates that there were some participants who never had a tendency to experience self-presentation anxiety about appearing athletically untalented, while there were some that had a tendency to experience it sometimes.

Table 3

Descriptive Statistics for All Study Variables

		N	Mean	SD	SE
TAI	Control	51	1.77	.35	.05
	Practice	34	1.74	.35	.06
	Intersquad	37	1.70	.36	.06
	Heavy Spectator	34	1.85	.40	.07
	Total	156	1.76	.36	.03
SPAS	Control	51	2.74	.71	.10
	Practice	34	2.52	.75	.13
	Intersquad	37	2.15	.70	.11
	Heavy Spectator	34	2.59	.77	.13
	Total	156	2.52	.75	.06
SPSQ Factor 1	Control	51	2.23	.68	.09
	Practice	34	2.40	.73	.13
	Intersquad	37	2.25	.69	.11
	Heavy Spectator	34	2.35	.78	.13
	Total	156	2.30	.72	.06
SPSQ Factor 2	Control	51	2.15	.73	.10
	Practice	34	2.09	.62	.11
	Intersquad	37	1.94	.65	.11
	Heavy Spectator	34	2.16	.84	.14

Table 3-Continued

Descriptive Statistics for All Study Variables

		N	Mean	SD	SE
	Total	156	2.09	.71	.06
SPSQ Factor 3	Control	51	2.33	.93	.13
	Practice	34	2.20	.86	.15
	Intersquad	37	1.81	.79	.13
	Heavy Spectator	34	2.22	1.04	.18
	Total	156	2.15	.92	.07
SPSQ Factor 4	Control	51	1.99	.79	.11
	Practice	34	2.09	.82	.14
	Intersquad	37	1.73	.70	.11
	Heavy Spectator	34	2.08	.83	.14
	Total	156	1.97	.79	.06

Note. TAI = The trait portion of Spielberger's State Trait Anxiety Inventory, with responses ranging from 1 (*almost never*) to 4 (*almost always*) on a 4-rating Likert Type Scale. SPAS = The Social Physique Anxiety Scale, with responses ranging from 1 (*never*) to 5 (*always*) on a 5-rating Likert Type Scale. SPSQ = Self-Presentation in Sport Questionnaire, with responses ranging from 1 (*never*) to 5 (*always*) on a 5-rating Likert Type Scale. SPSQ Factor 1 = *Self-Presentational concerns about performance/composure inadequacies*. SPSQ Factor 2 = *Self-Presentational Concerns about appearing fatigued/lacking energy*. SPSQ Factor 3 = *Self-Presentational Concerns about physical appearance*. SPSQ Factor 4 = *Self-Presentational Concerns about appearing athletically untalented*.

A correlation matrix for all 6 study variables is presented in Table 4. Correlations were obtained to determine if each of the measures was statistically related to one another. The correlation matrix shows mid-range to high correlations between measures. All relationships were in a positive direction. Therefore, the scales and subscales are all measuring similar constructs.

Table 4

Correlation Matrix For All Study Variables

	1	2	3	4	5	6
1. TAI	1.00					
2. SPAS	.53	1.00				
3. SPSQ Factor 1	.56	.37	1.00			
4. SPSQ Factor 2	.55	.43	.71	1.00		
5. SPSQ Factor 3	.46	.78	.49	.56	1.00	
6. SPSQ Factor 4	.51	.49	.77	.67	.60	1.00

Note. All correlations significant at $p < .02$.

Analyses to Evaluate TAI as a Potential Covariate

The descriptive statistics for the TAI are reported by condition in Table 2. The means ranged from 1.70 for the intersquad scrimmage condition to 1.85 for the heavy spectator condition. Inferential comparison of these means in a oneway ANOVA resulted in non-significant differences among conditions $F(3,152) = 1.16$, p=.329. It appears, therefore, that the randomization of participants to conditions was successful, at least relative to equating the conditions on this measure of trait anxiety. Consequently, there was no need for further TAI analyses.

Inferential Analyses to Test Hypotheses

Inferential analyses to evaluate the hypotheses were completed on SPAS and SPSQ scales and subscales. The descriptive statistics for each condition on the SPAS variables are presented in Table 3. The ANOVA conducted to compare SPAS means for the conditions was significant, $F(3,152) = 4.695$, $p = .004$, $\eta^2 = .085$. Tukey HSD post hoc tests revealed significant difference between the control and intersquad conditions ($p = .002$, $d = .83$). No other significant differences emerged. The difference between the SPAS scores observed for the heavy spectator and intersquad conditions, however, did approach significance ($p = .06$, $d = .59$).

The descriptive statistics for each condition on the four SPSQ subscales are also presented in Table 3. None of the four ANOVA analyses conducted to compare SPSQ subscale scores across conditions resulted in a significant effect. Specifically, no significant differences among conditions were observed on the SPSQ performance/composure inadequacies subscale, $F(3,152) = .496$, $p = .686$, $\eta^2 = .010$, the SPSQ appearing fatigued/lacking energy subscale, $F(3,152) = .765$, $p = .516$, $\eta^2 = .015$, or the SPSQ appearing athletically untalented subscale, $F(3,152) = 1.692$, $p = .171$, $\eta^2 = .032$. The SPSQ concerns about physical appearance subscale, however, approached significance, $F(3,152) = 2.559$, $p = .057$, $\eta^2 = .048$. Examination of the Tukey HSD post hoc test revealed the control and intersquad conditions to differ significantly ($p = .04$, $d = .58$) on the SPSQ concerns about physical appearance subscale, but none of the other pairwise comparisons were significant.

CHAPTER 4
DISCUSSION

Female athletes have been found to have concerns about other people evaluating their bodies during participation in athletic events (Haase et al., 2002). Fear of this evaluation has been associated with anxiety concerning the way an athlete presents her body in a social setting (Martin Ginis & Leary, 2004). The tight-fitting uniforms worn by volleyball players may make them particularly prone to becoming aware of the ways in which their bodies are on display. Furthermore, athletes struggle with self-presentation confidence and Social Physique Anxiety (SPA; Martin Ginis et al., 2007). However, the environmental determinants that factor into the experience of SPA have not been identified. The aim of this study was to identify volleyball settings in which spectator numbers differ (i.e. a practice condition with few, if any spectators, an intersquad scrimmage condition with few, if any spectators, and a heavy spectator competition environment). These settings were then used to evaluate whether the presence or absence of spectators relates to the extent to which self-presentational concerns or SPA tend to be experienced.

The TAI was the first measure given to the participants to ensure that the random assignment process resulted in conditions having equivalent tendencies to experience anxiety. Results showed that the tendency to experience trait anxiety was not significantly different across conditions. This demonstrates that prior to the manipulation, each condition had the same tendency to broadly experience anxiety.

Initial validation studies for the TAI were compared with the sample from this study to ascertain similarities and differences across conditions. Spielberger (1983) reported a mean of 2.02 (SD = .51) for college students in his initial validation studies. The mean of the sample of female volleyball players participating in this study was 1.76 (SD = .36). It appears that these athletes generally had a somewhat lower tendency than the average player to experience anxiety compared to the collegiate females participating in Spielberger's investigation. Spielberger has characterized trait anxiety as "potential anxiety," and suggested that a person who has very low potential anxiety to begin is unlikely to experience high levels of anxiety when looking back over typical volleyball situations, as this study asked participants to do. The sample of this study on average had a lower tendency to experience trait anxiety than the females in Spielberger's (1983) initial validation study, which could account for some of the low findings on the other

measures, which test the tendency to experience anxiety during certain types of volleyball situations.

Regarding the SPAS hypotheses of this investigation (i.e., hypothesis 1 and 2), no support for these hypotheses was observed. Specifically, it was hypothesized that SPAS would be comparable among the control condition, practice condition, and intersquad scrimmage condition, and that the heavy spectator condition would report a greater tendency to experience anxiety than any other condition. The findings, however, indicate that SPAS scores for the intersquad scrimmage condition were significantly *lower* than the control condition (with a large effect size), and approached being significantly *lower* than the heavy spectator condition (with a moderate effect size). All other comparisons were non-significant.

These findings run essentially counter to the argument forwarded in the investigative rationale. Instead of the heavy presence of spectators tending to make the volleyball players more likely to be anxious about physique evaluation than would be typical, it appears that their presence tended to cause the players to be no more likely to be anxious about their bodies than would be typically expected. The lowered tendency to experience physique-related anxiety in the intersquad scrimmage circumstances relative to what was typical or in the presence of a large audience may relate to the women's relative engrossment in playing the game combined with the relative absence of physique evaluative threat potential. It is possible that the control environment, the practice environment, and the heavy spectator environment are all related, and are a factor in the tendency of volleyball players to experience anxiety. These three environments are all places where an athlete could be prone to thinking about her body frequently.

The intersquad condition may be lower in their tendency to experience anxiety due to the fact that they tend to be fully engrossed in playing the game because (a) there is the intense game environment, and (b) the minimal number of spectators lowers physique evaluative potential. The control condition responded to the normal SPAS instructions, which included no situational manipulation and hence there was no game environment or competition entering into players' responses. Therefore, their responses reflected their typical tendency to experience physique anxieties. In the practice condition, the typical tendency (i.e., similar to the control condition) to experience physique anxiety may have been observed because the practice environment is not intense enough or competitive enough to take their minds away from the physique evaluative potential of the situation. In the heavy spectator condition, the tendency to experience anxiety

may have been at a similar level to practice and control conditions because, even though the players may be absorbed into the intense competitive situation, they are also very aware of the addition of spectators to the equation. By contrast, however, in the intersquad condition the players have to focus on the competition only. The players are engrossed in the competition, and there are no spectators, leaving no reason to have anxious thoughts about their bodies. The moderate effect size between the intersquad scrimmage condition and the heavy spectator condition suggest that more power could result in the intersquad scrimmage condition reporting significantly lower tendency to experience self-presentational concerns than the heavy spectator condition.

The results of this study are consistent with the literature on SPA. Haase et. al (2002) found that SPA is experienced when an athlete cannot control his or her self-presentation. This study suggests that female volleyball players are just as likely to report anxiety about their bodies in the control condition as in the practice condition and the heavy spectator condition. These are all environments in which evaluative potential exists and in which controlling the way their bodies are presented could be difficult for volleyball players.

Research on self-presentation and SPA focused on reasons which facilitate concerns and anxiety about one's body (Hart, Leary, & Rejeski, 1989). This study, however, sheds light on situations in which concerns about one's body can be decreased. Instead of SPA increasing due to the inability to control how a person presents herself to others, this study shows that SPA decreases when a female athlete is engrossed in an activity with relatively few spectators. The combination of being absorbed into the scrimmage and few spectators leaves the volleyball player no room to think that her body is potentially being evaluated.

Means from all four of the SPSQ subscales in this study were slightly higher than means reported by Wilson and Eklund (1998). This indicates a greater tendency of this sample to experience sport-related self-presentational worries than those in the Wilson and Eklund (1998) sample. However, Wilson and Eklund's (1998) data were obtained from both males and females, while this study only represented females. Women are generally more socially anxious than men (Leary & Kowalski, 1995), which may explain why Wilson and Eklund's (1998) sample had a lesser tendency to report self-presentational concerns.

Of the four SPSQ subscales, differences among the four conditions only approached significance on the self-presentational concerns about physical appearance subscale where post

hoc analyses revealed the intersquad condition to score significantly *lower* than the heavy spectator condition (with a small effect size). The concerns female volleyball players had about their ability to present their bodies in a physically pleasing way are congruent with the literature dealing with self-presentation in athletes. For example, this study confirms Leary's (1992) finding that self-presentation concerns are prevalent in sporting domains. The tendency of the volleyball players in this study to have self-presentational concerns about their physical appearance and the tendency to experience anxiety in scrimmage environments is also congruent with Wilson and Eklund's (1998) finding of a significant correlation between self-presentational concern variables and competitive anxiety variables from their use of the SPSQ. The different environments have no effect on self-presentational concerns about performance/composure inadequacies, self-presentational concerns about appearing fatigued/lacking energy, and self-presentational concerns about appearing athletically untalented.

The hypothesized patterns of findings in response to the SPSQ (i.e., hypotheses 3, 4, and 5) were not evident. Specifically, it had been hypothesized that self-presentational concerns for athletes responding relative to the practice setting would be significantly higher than the control condition, self-presentational concerns for athletes responding relative to the intersquad scrimmage setting would be significantly higher than the practice condition, and self-presentational concerns for athletes responding relative to the heavy spectator setting would be significantly higher than the intersquad scrimmage condition. Contrary to the hypotheses, there were no findings that showed differences between conditions in self-presentational concerns. The third subscale of the Self-Presentation in Sport Questionnaire, which measured self-presentational concerns about physical appearance, was the only subscale that approached significance. The two conditions that were almost significantly different on the SPSQ subscale measuring self-presentational concerns about physical appearance were the control condition and the intersquad scrimmage condition. The eta-squared values assessing multiple comparisons yielded small effect sizes for each subscale. Consequently, with more statistical power the intersquad scrimmage condition might show a significantly lower tendency to experience self-presentational concerns than the control condition.

Potential Limitations

A variety of limitations warrant consideration in interpreting the results of this study. First, although steps were taken to make the manipulation salient, there is no guarantee that all

athletes paid strict attention to the manipulation before responding to the questions. There was no manipulation check at the end of the study, and the athletes' responses may have been influenced by their level of anxiety (or recent events) at the time they took the survey instead of responding to the questions with the manipulation in mind.

Furthermore, there were no questions asked regarding practice, intersquad scrimmage, and competition apparel. Inferences were drawn about the revealing uniforms without asking the participants if their practice or intersquad scrimmage uniform was different than their competition uniform. Some teams may practice and scrimmage in the same type of apparel that they play in, while others may wear baggy clothing for practice and tight-fitting uniforms for scrimmages and competitions. Any further suggestions that uniforms play a role in the evaluative potential of typical volleyball environments need to be supported by asking participants about typical environment apparel.

Moreover, some athletes responded to the questionnaire in the summer and some athletes responded in early fall. Volleyball season begins in the fall, so some athletes responded to the survey while they were in season and some responded when it had been several months since their season ended. Athletes could have a diminished sense of how much anxiety they experienced if they responded in the summer because of the length of time since they last participated in volleyball. However, the majority of collegiate teams have a spring season ending in late April so they were not too far removed from the practice and intersquad scrimmage environments. The heavy spectator environment is generally not replicated well in the spring season, so athletes could have had trouble remembering their experiences in the heavy spectator situations.

As well, when the participants completed the SPSQ, they completed the questions in order. The questions from each subscale should be integrated randomly into one scale, then broken down and interpreted separately for the analysis. It is possible that the respondents answered the same across each subscale because questions alike in content were all grouped together.

In addition, respondents were mainly Division III athletes. It is possible that these athletes are indicative of a specific population and responded accordingly. One explanation is that Division III athletes could be less muscular and therefore less able to play in one of the higher divisions. This could produce less anxiety about their bodies, because they have a typical

body of the collegiate female, instead of the more muscular body that is necessary to compete in the higher divisions. However, it is possible that Division III athletes are not fit enough to play in another division, which would explain their high level of anxiety in the intersquad condition that the other divisions may not have.

Another potential limitation is that the players who started taking the survey, and continued to the end, could have been more physique conscious than players who chose to not start the survey or the players who began but did not continue to the end. They could have felt as though they needed to express their anxious feelings and the survey gave them the forum to do so. This would have resulted in a sample skewed towards physique anxiety.

Furthermore, statistical power should be taken into consideration when viewing the results. The SPSQ subscale measuring self-presentational concerns about physical appearance approached significance, as did the analysis between the heavy spectator and intersquad condition of the SPAS. These analyses could have yielded significant results with a larger sample size. Future investigations should include at least two-hundred participants for more appropriate statistical power.

Additionally, it is possible that measured tendencies relative to general types of situations may not relate to state responses in a given situation. This study measured responses to typical environments, which may be more or less salient when looking at state situations. Therefore, a state anxiety study employed during or directly after practices, intersquad scrimmages, and games should be completed for future investigation.

Future Research Directions

The future research in this area should be dedicated to the amount of mental attention given to the current situation the players are facing. It is possible that the amount of mental capacity that can be dedicated to the actual sport is diminished once spectators are present. Once spectators are in the arena, some of the focus that should be dedicated to the sport goes to the anxiety about one's body. The intersquad scrimmage condition experienced less anxiety than the control condition, the practice condition, and the heavy spectator condition, so the components of this environment should be analyzed and replicated in practices and games as often as possible.

The SPSQ and the SPAS both measure the tendency to experience anxiety instead of the actual experience of anxiety. In addition, the measures used in this investigation do not give any

information on the intensity or the frequency of anxiety. Measuring state anxiety would be useful to obtain information regarding anxiety in particular situations.

If this study was replicated, researchers could improve this study by having volleyball players take the survey directly after they participate in the environment. This will determine the saliency of the manipulation on the survey. It is possible that the players will respond differently if they have just participated in a practice, intersquad scrimmage, or heavy spectator competition environment than if they are thinking back to one of these environments from several months ago.

There was a significant difference in playing level, but controlling for that difference yielded no additional significant results. However, the possibility remains that players from different levels feel differently about their bodies. Successful volleyball players in Division I programs are expected to dedicate themselves to lifting weights heavily in the off-season, resulting in much more muscular bodies for Division I athletes than the other levels. However, it is possible that those athletes are just as unhappy with their bodies as their lower division counterparts because although they are toned, they still do not have the body of the typical college female. Martin Ginis, Eng, Arbour, Hartman and Phillips (2005) found that after participating in a strength training program, female college students reported significant body image improvements. These body image improvements were correlated with both objective increases in strength and subjective physical changes. Nevertheless, the strength training program in their study was designed for non-athletes. A study about which body type athletes have, and how they feel about that body type in relation to the normal college female population, is necessary to further understand the perception female athletes have about their own bodies.

A longitudinal study would be helpful to determine if being a college student makes a female anxious about her body, or if women generally feel anxious about their bodies. Finkenberg, DiNucci, McCune, Chenette, and McCoy (1998) studied collegiate females and found that the condition with the highest commitment to physical activity had the lowest physique anxiety, and the condition with the lowest commitment to physical activity had the highest physique anxiety. This indicates that collegiate female athletes (who are committed to physical activity) may start out at a lower level of physique anxiety than the average college female. Therefore, it is necessary to study if a manipulation can raise the anxiety of an athlete to the level of a nonathlete.

An ethnographic study that encompasses quantitative and qualitative data would also be effective as a follow-up to this study. This study is quantitative and adding qualitative data to it would allow researchers to gain a broader understanding of what facilitates anxiety. Self-disclosure of why certain environments result in high affective anxiety would broaden the current research to include why the athletes think they become anxious in certain situations.

In addition to an ethnographic study, a physiological study of anxiety would be a good way to measure anxiety in athletic performance. Having athletes wear a heart rate monitor (or other devices measuring anxiety) during a practice, a scrimmage, and a heavy spectator competition environment would give some insight into how much anxiety differs across conditions. This could also be a validation for the information provided by the qualitative and quantitative studies. Physiological information could provide a solid backing to self-disclosure, or it could show that athletes think they are more anxious in one environment but their bodies show that they are more anxious in a different environment.

Since the type of uniform is thought to be a contributing factor to female volleyball players' social physique anxiety, a future study dealing with uniforms would provide more insight into the role of the uniform in the experience of anxiety. It is possible that a player's absorption in the game is undermined by feeling as though her body is on display, so wearing a less revealing uniform could eliminate worries about the body and allow players to focus on the game. Another uniform study would be to see if the anxiety levels of players who wear the same uniform in games and in practice differ from the anxiety levels of players who wear different uniforms for games and practice.

Physique anxiety and self-presentation concerns are prevalent in collegiate females. This study indicates that female athletes do not tend to be more anxious while competing in front of an audience than they are otherwise. Further, this study shows that being engrossed in the game is related to fewer concerns about self-presentation. Competing in volleyball during an intersquad scrimmage takes away some of the physique anxiety experienced by collegiate women, giving them a respite from worrying about how their bodies appear to others.

CONCLUSION

A study aimed to determine the specifics of the volleyball player's environment that can lead to the experience self-presentation concerns and social physique anxiety was completed by 156 collegiate volleyball players. Negative outcomes often result with the development of social

physique anxiety, so the goal of this study was to begin down a path that will eventually enable researchers to determine the causes of SPA. Once these causes are determined, the eradication (or at least reduction) of physique anxiety while performing in sports can become a possibility.

Each participant initially completed the trait portion of the TAI to ensure equal trait anxiety across conditions. Participants were randomly assigned to one of four conditions: a control condition, a practice condition, an intersquad scrimmage condition, or a heavy spectator condition. Scores for social physique anxiety were collected using the SPAS and scores for self-presentation concerns were collected using the SPSQ. Results indicated that there were no significant differences across conditions for self-presentation concerns.

Results did indicate, however, a difference between conditions for social physique anxiety. The control condition, practice condition, and heavy spectator condition all had comparable levels of social physique anxiety. The intersquad scrimmage condition had significantly less social physique anxiety than the control condition. This finding warrants further research into the dynamics of each setting to determine why the scrimmage setting is correlated with the least physique-anxious thoughts among collegiate volleyball players.

APPENDIX A

DEMOGRAPHIC INFORMATION

Please fill out the following information about yourself.

Age: _____

Years of playing experience: _____

Current level of participation: _____

Height: _____

Weight: _____

Approximate average number of spectators at each match: _____

APPENDIX B

THE TRAIT PORTION OF THE STATE-TRAIT ANXIETY INVENTORY

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you **generally feel**. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best. Use the following rating scale:

1= not at all
2= somewhat
3= moderately so
4= very much so

1.	I feel calm…….	1	2	3	4
2.	I feel secure……...	1	2	3	4
3.	I am tense……..	1	2	3	4
4.	I am regretful…….	1	2	3	4
5.	I feel at ease……...1		2	3	4
6.	I feel upset……..1		2	3	4
7.	I am presently worrying over possible misfortunes……...1		2	3	4
8.	I feel rested……1		2	3	4
9.	I feel anxious……..1		2	3	4
10.	I feel comfortable……...1		2	3	4
11.	I feel self-confident……1		2	3	4
12.	I feel nervous……..1		2	3	4
13.	I am jittery……..1		2	3	4
14.	I feel “high-strung”……	1	2	3	4
15.	I am relaxed……1		2	3	4
16.	I feel content……...1		2	3	4
17.	I am worried……1		2	3	4

18. I feel over-excited and rattled……. 1 2 3 4
19. I feel joyful……..1 2 3 4
20. I feel pleasant……..1 2 3 4

APPENDIX C

SOCIAL PHYSIQUE ANXIETY SCALE

	Always	Most of the Time	Sometimes	Rarely	Never
1. I wish I wasn't so uptight about my physique/figure	□	□	□	□	□
2. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively	□	□	□	□	□
3. Unattractive features of my physique/figure make me nervous in certain social settings	□	□	□	□	□
4. In the presence of others, I feel apprehensive about my physique/figure	□	□	□	□	□
5. I am comfortable with how fit my body appears to others	□	□	□	□	□
6. It would make me uncomfortable to know others were evaluating my phy-					

sique/figure	□	□	□	□	□
7. When it comes to displaying my physique/figure to others, I am a shy person	□	□	□	□	□

APPENDIX D

SELF-PRESENTATION IN SPORT QUESTIONNAIRE

During competition I worry that other people may perceive me as:

	Always	Most of the Time	Sometimes	Rarely	Never
Appearing to not live up to my expectations	□	□	□	□	□
Appearing unable to handle the pressures	□	□	□	□	□
Appearing to not perform up to my potential	□	□	□	□	□
Appearing not physically and mentally ready	□	□	□	□	□
Appearing to lose composure	□	□	□	□	□
Appearing not to perform or execute perfectly	□	□	□	□	□
Appearing to choke under pressure	□	□	□	□	□
Appearing unfocused	□	□	□	□	□

Appearing nervous under pressure	□	□	□	□	□
Appearing to lack necessary focus	□	□	□	□	□
Appearing exhausted	□	□	□	□	□
Appearing fatigued	□	□	□	□	□
Appearing tired	□	□	□	□	□
Appearing lethargic	□	□	□	□	□
Appearing unenergized	□	□	□	□	□
Appearing distressed	□	□	□	□	□
Appearing to lack energy	□	□	□	□	□
Appearing underactivated	□	□	□	□	□
Appearing not energized	□	□	□	□	□
Appearing weary	□	□	□	□	□
Appearing flabby	□	□	□	□	□
Appearing physically untoned	□	□	□	□	□

Appearing ugly or unpleasant in my uniform	□	□	□	□	□
Appearing physically unattractive	□	□	□	□	□
Appearing too small or too big in my uniform	□	□	□	□	□
Appearing out of shape	□	□	□	□	□
Appearing untalented	□	□	□	□	□
Appearing athletically incompetent	□	□	□	□	□
Appearing unathletic	□	□	□	□	□
Appearing underskilled	□	□	□	□	□
Appearing to lack balance	□	□	□	□	□
Appearing to lack ability	□	□	□	□	□
Appearing unqualified	□	□	□	□	□

APPENDIX E

E-MAIL TO COACHES

Dear Coach,

I am the graduate assistant volleyball coach at Florida State University and I am currently working on my Master's thesis. I am a sport psychology student looking at the athletic environment of collegiate volleyball players, and I appreciate your cooperation. I have a series of questionnaires that I need current volleyball players to complete online. These questionnaires are completely confidential and no names, e-mail addresses, or any other identifying information can possibly be recorded from their participation in this study. There are no benefits associated with completion (no gifts, monetary compensation, or class credit). I believe that this is a worthwhile study that will contribute to the scientific knowledge about the environment that your athletes participate in constantly. I would appreciate it if you can forward this e-mail, with the hyperlink below, to your student-athletes.

Thank you for your assistance.

Sincerely,

Jessica Cortese
jlc05r@fsu.edu

<<HPYERLINK TO SURVEY MONKEY HERE>>

APPENDIX F

HUMAN SUBJECTS APPLICATION FOR FULL IRB AND EXPEDITED EXEMPT REVIEW

1. Project Title and Identification

1.1 Project Title

Determinants of Social Physique Anxiety in Elite Female Athletes

Project is: Thesis

1.2 Principal Investigator (PI)

Name(Last name, First name MI): Cortese, Jessica	Highest Earned Degree: Bachelor's Degree
Mailing Address: 2074 W Forest Dr, Tallahassee, FL 32303	Phone Number: 404-775-9655
	Fax:
University Department: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS	Email: jlc05r@fsu.edu
The training and education completed in the protection of human subjects or human subjects records: None	Occupational Position: Student

1.3 Co-Investigators/Research Staff

1.4 Faculty Advisor/Department Chair/Dean Information

Name(Last name, First name MI): Eklund, Robert C; Advisor	Highest Earned Degree:
Mailing Address: 4453	Phone Number: 850-645-2909
	Fax:
University Department: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS	Email: eklund@coe.fsu.edu
The training and education completed in the protection of human subjects or human subjects records:	Occupational Position:

2. Funding

2.1 Is this research funded by an internal (FSU) or external agency?

No

How costs of research will be covered?

Costs of research are minimal and will be covered by the researcher's personal account

3. Institutional Oversight

3.1 Is this research proposal being reviewed by any other institution or peer review committee?

No

4. Conflict of Interest

Federal guidelines encourage Institutions to assure there are no conflicts of interest in research projects that could adversely affect the rights and welfare of human subjects. If this proposed research study involves a potential conflict of interest, additional information will need to be provided to the IRB. Examples of potential conflicts of interest may include: any sort of compensation, in cash or other form, for services to an individual and his or her immediate family, the value of which exceeds $10,000 in a one-year period or an equity interest which exceeds $10,000 or which exceeds a five percent ownership interest.

4.1 Do any of the Investigators or personnel listed on this research have a potential conflict of interest associated with this study?

No

5. Payment or Other Compensation for Research Subjects

5.1 Will you give subjects gifts, payments, compensation, reimbursement, services without charge or extra credit/class credit?

No

6. Protocol Description and Other Detail

6.1 Describe the objective(s) of the proposed research including purpose, research question, hypothesis, method, data analysis, research design and relevant background information etc.

While participating in their sport, athletes can experience anxiety about how their physiques are (or might be) evaluated by others even when competition outcome is unrelated to these evaluations. The purpose of this study is to identify particular situations in which female volleyball players experience physique related anxiety. This SPA can arise from several different environmental contexts regardless of the level of the athletes' trait anxiety. It is expected that female volleyball players' concern over their appearance vary due to the context of the situation because certain situations promote a higher potential to feel as though they are being evaluated. The tight-fitting uniforms provide the opportunity for physique evaluation. When this

opportunity for physique evaluation is present the likelihood that anxiety about the evaluation experienced increases. Multiple explanations can be expressed to explain what mediates concern over body evaluations. The aim of this study is to test the hypothesis that the presence of spectators while wearing volleyball uniforms results in a tendency to experience higher levels of SPA while participating in the sport. This purpose will be fulfilled by asking athletes to respond to concerns about their physique in situations differing in evaluative potential. Specifically, women will respond to concerns in practices, scrimmages, and competitions. This creates a situational contrast between the presence of spectators and the absence of spectators. It is hypothesized that:

1.Physique anxiety scores will be comparable among the control group, practice group, and intersquad scrimmage group.

2.Physique anxiety scores will be significantly higher in the heavy spectator group than the control group, practice group, and intersquad scrimmage group.

3.Self-presentational concerns for athletes responding relative to the practice setting will score significantly higher than the control group.

4.Self-presentational concerns for athletes responding relative to the intersquad scrimmage setting will score significantly higher than the practice group.

5.Self-presentational concerns for athletes responding relative to the heavy spectator setting will score significantly higher than the intersquad scrimmage group.

Participants will include 120 female athletes competing in collegiate volleyball in the United States. Ages of these volleyball players range from 18-22 years. Participants are all enrolled full-time at a college or university and compete intercollegiately for that college or university.

To recruit participants college volleyball coaches will be sent an e-mail providing a description of the study. Coaches will be asked to forward a hyperlink for the study to all of the players on their team. This SurveyMonkey link will direct the players to a website for data collection following appropriate informed consent procedures. Prior to beginning, each participant will be informed that participation is not mandatory. Clicking on the “I agree to participate box” on this webpage will direct participants to a new web page in which they will be randomly assigned to one of the four groups. Each participant will first provide demographic information (Appendix

A). Participants will then be directed to a second page on which data from the trait portion of the State-Trait Anxiety Inventory (Appendix B) will be collected. The survey will be set up in such a way that each page must be responded to in order to move onto the next item.

At this point all participants will have completed the same version of the trait portion of the STAI regardless of group assignment. After the trait portion of the STAI is completed, they will read no manipulation (the control group) or one of three manipulations (the practice group, intersquad scrimmage group, and heavy spectator group). Following this, each participant will complete the Social Physique Anxiety Scale (Appendix C) followed by the Self-Presentation in Sport Questionnaire (Appendix D).

The control group has no manipulation paragraph, but the three experimental groups will read a manipulation paragraph before the completion of the SPAS and the SPSQ. These manipulations are as follows:

The practice group manipulation instructions for the SPAS and SPSQ will include the statement: "Think back about the practices you have been involved in for your sport-typical practices run by coaches and closed to spectators. Please answer all questions on the following scales according to the way you felt during those practices."

The intersquad group manipulation instructions for the SPAS and the SPSQ will include the following statement: "Think back about your participation in intersquad scrimmages for your sport-typical scrimmages at your home gym but closed to the public or anyone other than your team members. Please answer all questions on the following scale according to the way you would feel during this competition."

The heavy spectator group manipulation instructions for the SPAS and SPSQ will include the statement: "Think back across times when you were competing at your home playing arena in front of large crowds of spectators. Please answer all questions on the following scale according to the way you would feel during this competition."

The analyses in this investigation will be performed in 4 stages. First, analyses will be conducted

to evaluate the internal consistency of measurement for each scale or subscale employed in the investigation. Second, comparisons of STAI trait scores among the 4 groups will be conducted to ensure that the groups were equivalent in their tendencies to experience anxiety. Third, descriptive statistics will be calculated for the manipulation and control groups on all SPAS and SPSA measures. Fourth, to test the hypothesis, the SPAS and SPSQ will be evaluated using ANOVA with Tukey post hoc tests to inferentially evaluate any observed descriptive differences across the groups. If the groups are found to differ on the STAI trait scores, ANCOVA analyses using the STAI scores as the covariate will be conducted along with Tukey post hoc tests.

6.2 Following categaries will apply for the evaluation of the project:

- Questionnaires or Surveys to be administered
- Subjects studied at non_FSU location(s)
- Students as Subjects

6.3 Survey Techniques: the only involvement of human subjects will be in the following categories:

- Research involving survey or interview procedures

Research involving survey or interview procedures:

1. Responses will be recorded in such a manner that human subjects cannot be identified, by persons other than the researcher, either directly or through identifiers linked to the subjects.
Yes

2. Would subjects' responses, if they became known outside the research, reasonable place the subject at risk of criminal or civil liability or be damaging to the subjects' financial standing or employability. No

3. The research deals with sensitive aspects of the subject's own behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol. No

6.4 This study will include following methods:

- Descriptive
- Experimental/Control Design

6.5 Describe the tasks subjects will be asked to perform.

Upload surveys, instruments, interview questions, forcus group questions etc. Describe the frequency and duration of procedures, psychological tests, educational tests, and experiments; including screening, intervention, follow-up etc. (If you intend to pilot a process before recruiting for the main study please explain.)

The participants will provide demographic information (Appendix A). Participants will then complete the trait portion of the State-Trait Anxiety Inventory (Appendix B). The survey will be set up in such a way that each page must be responded to in order to move onto the next item. At this point all participants will have completed the same version of the trait portion of the STAI regardless of group assignment. After the trait portion of the STAI is completed, participants will read no manipulation (the control group) or one of three manipulations (the practice group, intersquad scrimmage group, and heavy spectator group). Following this, each participant will complete the Social Physique Anxiety Scale (Appendix C) followed by the Self-Presentation in Sport Questionnaire (Appendix D).

6.6 How many months do you anticipate this research study will last from the time final approval is granted?

3 months

7. Participant (Subject) Population

7.1 Expected number of participants

Number of male: 0 Number of female: 120

Expected number of participants: 120

7.2 Expected Age Range

- 18-65

7.3 Inclusion/Exclusion of Children in this Research

Exclusion

If this study would exclude children, NIH guidelines advise that the exclusion be justified, so that potential for benefit is not unduly denied. Indicate whether there is potential for direct benefit to subjects in this study and if so, provide justification for excluding children. Note that if inclusion of children is justified, but children are not seen in the PI's practice, the sponsor must address plans to include children in the future or at other institutions.

- No direct benefit established (exclusion of children permissible)

Provide justification for exclusion of children:

This study is assessing potential environmental factors that lead to anxiety for collegiate female athletes. Children are not a part of this population.

7.4 Other Protected Populations to be Included in this Research

- Gender Imbalance - all or more of one gender

7.5 Inclusion and Exclusion of Subjects in this Research Study

Describe criteria for inclusion and exclusion of subjects in this study

Inclusion Criteria:

female collegegiate athletes age 18-22

Exclusion Criteria:

males, non-athlete females in college, and female athletes younger than 18 or older than 22

7.6 Location of subjects during research activity or location of records to be accessed for research

- Other: Collegiate volleyball teams from around the country: Division 1, 2, 3, and NAIA
- University Campus (non-clinical): Students will be contacted because of their affiliation with a collegiate volleyball team

7.7 Describe the rationale for using each location checked above

Upload copies of IRB approvals or letters of cooperation from other agencies or sites, if it has been granted or the application submitted if approval has not been granted.

Colleges and Universities will be randomly selected from a list of all higher learning institutions in the United States that have a varsity volleyball team. There will be a mix of Division 1, Division 2, Division 3, and NAIA teams as participants. Once 120 participants have responded to the survey, no additional institutions will be contacted. There will be 12 teams contacted initially (because volleyball teams generally have 10 members), with more contacts randomly selected if 120 participants do not respond from the original contacts.

8. Recruitment of Participants (Subjects)

8.1 Describe the recruitment process to be used for each group of subjects

Upload a copy of any and all recruitment materials to be used e.g. advertisements, bulletin board notices, e-mails, letters, phone scripts, or URLs.

To recruit participants college volleyball coaches will be sent an e-mail providing a description of the study. This e-mail to the coaches will explain the study and let them know that there are no benefits for their player's participation in the experiment other than the advancement of scientific understanding of the experience of anxiety among female athletes. If they choose, coaches will be instructed to forward a hyperlink for the study to all of the players on their team. This SurveyMonkey link will direct the players to a website for data collection

8.2 Explain who will approach potential subjects to take part in the research study and what will be done to protect individuals' privacy if required in this process

Confidentiality will be maintained because each participant will never disclose her name or any other personal information that could lead to identification. They will access the survey through the website, which will not record any information about the participants that could identify them.

8.3 Are subjects chosen from records?

No

8.4 FSU policy prohibits researchers from accepting gifts for research activities. Is the study sponsor offering any incentive connected with subject enrollment or completion of the research study (i.e. finders fees, recruitment bonus, etc.) that would be paid directly to the research staff?

No

9. Risks and Benefits

9.1 The research may involve following possible risks or harms to subjects:

9.2 Does Research Involve Greater Than Minimal Risk to Human Subjects?
"Minimal Risk" means that the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

No

9.3 Explain what steps will be taken to minimize risks or harms and to protect subjects' welfare. If the research will include protected populations (see question 7.4) please identify each group and answer this question for each group.

Risks are virtually non-existent. The only risk associated with this subject could be that while responding to anxiety experienced during athletic participation, participants could experience those feelings of anxiety.

9.4 Describe the anticipate benefits of this research for individual subjects in each subject group. If none, state "None".

The participants will not have access to their scores on any of the surveys. Therefore, there will be no benefits.

9.5 Describe the anticipated benefits of this research for society, and explain how the benefits outweigh the risks.

This research project will provide society with a greater understanding of the anxiety associated with the competitive athletic environment. If the determinants of this anxiety are understood, it is possible to eradicate them from the lives of athletes.

10. Confidentiality of Data

10.1 Will you record any direct identifiers, names, social security numbers, addresses, telephone numbers, email addresses, cookies etc.?

No

10.2 Will you retain a link between study code numbers and direct identifiers after the data collection is complete?

No

10.3 Will you provide the link or identifier to anyone outside the research team?

No

10.4 Where, how long, and in what format (such as paper, digital or electronic media, video, audio, or photographic) will data be kept? In addition, describe what security provisions will be taken to protect this data (password protection, encryption, etc.)

The data will be kept in electronic media until 120 participants have completed the study. At this point it will be moved to SPSS to generate statistical data. The data will be collected by SurveyMonkey. This data will be protected with use of a password by the principal researcher.

10.5 Will you place a copy of the consent form or other research study information in the subjects' record such as medical, personal or educational record?

No

10.6 If the data collected contains information about illegal behavior, please refer to the NIH Certificates of Confidentiality Kiosk for information about obtaining a Federal Certificate of Confidentiality.

11. Use of Protected Health Information (PHI): HIPAA Requirements

In the course of conducting research, researchers may desire to obtain, create, use, and/or disclose individually identifiable health information. Under the HIPAA Privacy Rule, covered entities (healthcare providers, health plans, employer or healthcare clearinghouses) are permitted to use and disclose protected health information for research with individual authorization, or without individual authorization under limited circumstances set forth in the Privacy Rule.

11.1 As part of this study, will you be accessing PHI from a covered entity for research purposes?

No

12. Informed Consent Process

12.1 Recognizing that consent itself is a process of communication, please expand on your responses to questions 8.1 and 8.2 and describe what will be said to the subjects to introduce the research.

Prior to beginning, each participant will be informed that participation is not mandatory. In addition, they will be told that there is no penalty for not participating, and they are free to terminate the experiment at any time. Clicking on the “I agree to participate” box on this webpage will direct participants to the first survey.

12.2 In relation to the actual data gathering, when will consent be discussed and documentation obtained? (e.g., mailing out materials, delivery of consent form, meetings)

When the participants click on the hyperlink that will lead them to the study, the first page will be the informed consent page. The website will be set up so that they will have to consent to participate before beginning the study.

12.3 Please name the specific individuals who will obtain informed consent and include their job title/credentials and a brief description of your plans to train these individuals to obtain informed consent and answer subject's questions:

The principal researcher is the sole collector of informed consent. Participation is completely voluntary and if subjects have any questions or problems with participation they can terminate the study immediately.

12.4 What questions will you ask to assess the subjects' understanding of the risks and benefits of participation?

Due to the fact that this experiment is being conducted online, there can by no open ended questions regarding the understanding of the risks and benefits of participation. The participants will be instructed to click on a box that reads, "I agree to participate" after reading about the risks and benefits of the study.

APPENDIX G

APPROVAL MEMORANDUM

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 . FAX (850) 644-4392
APPROVAL MEMORANDUM
Date: 5/9/2007
To: Jessica Cortese
Address: 2074 W Forest Dr, Tallahassee, FL 32303
Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS
From: Thomas L. Jacobson, Chair
Re: Use of Human Subjects in Research
Determinants of Social Physique Anxiety in Elite Female Athletes

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.
The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.
If the project has not been completed by 5/7/2008 you must request a renewal of approval for

continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.
By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations. This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Robert Eklund, Advisor
HSC No. 2007.455

APPENDIX H

CONSENT FORM

Dear Participant:

I am a graduate student under the direction of Professor Dr. Robert Eklund in the Department of Educational Psychology and Learning Systems at Florida State University. I am conducting a research study on perceptions and concerns associated with volleyball participation.

Your participation will include providing demographic information and completing three short questionnaires. The time to complete these questionnaires will take approximately 10 minutes.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You will never be asked to provide your name or any other information that could identify you. Only the researcher will have access to the data generated from your responses, and your individual responses will remain confidential to the extent allowed by law. The results of this study may be published, but your participation will not be disclosed.

There are no personal benefits for you in participating in this research project although the results may provide information useful for better understanding volleyball participation for players, coaches and researchers.

If you have any questions concerning this research study or your participation in the study, please contact me, Jessica Cortese, at jlc05r@fsu.edu or (850) 645-2631, or Dr. Robert Eklund, at eklund@coe.fsu.edu or (850) 645-2909.

There are no known risks associated with in this study. If you have any questions about your rights as a participant in this study, or if you feel that you have been placed at risk because of

your participation, you can contact the chair of Human Subjects Committee, Institutional Review Board, through the FSU Office of the Vice President for Research at (850) 644-8633 or by email: phaire@fsu.edu.

By checking this box, I give my consent to participate in this study ☐

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BIOGRAPHICAL SKETCH

Jessica Cortese was born in Memphis, Tennessee on January 30, 1983 and grew up in Lancaster, Pennsylvania. She attended Gettysburg College in Gettysburg, Pennsylvania upon graduation from Hempfield High School in 2001. Jessica attended the University of Wollongong in New South Wales, Australia in 2004 and studied Australian political and sociological systems and neuropsychology. She obtained a Bachelor of Arts degree from Gettysburg College in 2005 with major of Psychology and a minor of Political Science. While pursuing her Master's degree she worked as the graduate assistant for the Florida State Women's Volleyball Team.