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AN EXAMINATION OF SOCIAL PHYSIQUE ANXIETY AMONG COLLEGE STUDENTS:
A MIXED METHODOLOGICAL APPROACH

by

SARA MARIE ROTHBERGER

(Under the Direction of Brandonn S. Harris)

ABSTRACT

Hart, Leary, and Rejeski (1989) defined the anxiety and/or fear associated with one's physique being evaluated as Social Physique Anxiety (SPA). Since then, numerous studies have examined this psychological construct (Crawford & Eklund, 1994; Focht & Hausenblas, 2004; Russell & Cox, 2003). However, little research has been found examining this phenomenon within current college students. The purpose of the present study was to analyze the association between SPA, gender, and self-efficacy levels among college-aged students experiencing physical activity courses requiring exercise. A secondary purpose of this study was to qualitatively examine specific physique qualities among those with high and low levels of SPA. Participants included 237 undergraduate students at a Southeastern University participating in jogging, body conditioning, or weight training courses. After separating participants into high/low categories based on self-efficacy scores, analyses were conducted on the remaining 106 male ($n = 56$) and female ($n = 50$) participants. Results of the study indicated a significant, inverse relationship between SPA and self-efficacy ($r = -.67$). Analysis of Variance yielded a significant main effect for gender, as females experienced significantly higher SPA ($p = .004$). Qualitative themes identified those experiencing high SPA had a dislike for their physique, leading to feelings of a need for physique improvement and lower self-confidence. In contrast,

those experiencing low SPA were pleased with their physique, and felt comfortable in social settings. This information could aid in creating interventions designed to decrease SPA prevalence (Scott, 2005) and increase levels of self-efficacy among the current college-aged student population.

INDEX WORDS: social physique anxiety, self-presentation theory, body image concerns

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by

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DEDICATION

For encouraging me to believe in myself and encouraging me to give my best effort
academically, athletically, and personally.

For unconditional love and support in everything I do.

For teaching me to stand up for what I believe in, how to give to others, and instilling in me a
love for learning and the desire to challenge myself.

For never allowing me to give up and reminding me to “keep shooting baskets in the rain.”

I dedicate this thesis to the following:

My mother, Linda Rothberger

My brother, Tim Rothberger

My Confidants, Brandonn Harris, Daniel Czech, and Bridget Melton

My close friends who have supported me academically and personally

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CHAPTER 1

An Examination of Social Physique Anxiety among College Students: A Mixed Methodological Approach

In present society, it is a common occurrence for one's body to be on constant display. This can cause an array of emotions to arise as any social context is subject to human opinion and judgment. To provide a theoretical framework for this phenomenon, Schlenker and Leary (1982) introduced self-presentation theory, or the framework suggesting that people make an attempt to influence the perceptions of those around them. According to these authors, individuals may bring special attention to certain aspects of the self that they are fond of (personality aspects or accomplishments) while deemphasizing others that cause particular amounts of stress or anxiety (i.e. physique or body image). Further, an awareness of the perceptions others have of us can often lead to anxiety associated with behavior or performance in social settings, which may lead to feelings of inferiority thereby decreasing one's self-esteem.

According to Schlenker and Leary (1982), self-presentation is often a goal-oriented action, as those who present themselves to others are typically aware that they are doing so and therefore take specific actions in attempts to form a particular impression in the minds of those surrounding them. Specific motivations behind the actions of achieving one's goal of a positive self-presentation include the longing for confirmation of one's own self-perceptions, peer approval, respect, fear of the negative perceptions of others, or seeking a sense of autonomy. The awareness of the interaction between one's own self-perceptions and the perceptions of those around them in a social setting can cause feelings of anxiety to occur and elicit the response of having self-presentational apprehensions.

One realm of importance related to self-presentation is in the discipline of sport and exercise. Leary (1992) found that self-presentation impacted one's choice of exercise environment, as individuals who had a tendency to evaluate other's perceptions of their physique in a negative light avoided exercise settings in which their bodies would be on display (i.e. aerobics classes, jogging areas, or swimming pools). This fear of negative self-perception caused complete exercise avoidance in efforts to reduce or eliminate feelings of social anxiety (Leary, 1992).

Hart, Leary, and Rejeski (1989) defined this fear as social physique anxiety (SPA), or feelings of anxiety as a result of having one's physique evaluated by others. SPA is a derivative of social anxiety directly related to the responses of the social judgment of one's physique (Hart et al., 1989). Physique was operationally defined by the work of Hart and colleagues (1989) as "one's body form and structure, specifically body fat, muscle tone, and general body proportions." These anxious feelings are due to the social environment of exercise, thus creating anxiousness related to self-presentation and having one's body on display (Crawford & Eklund, 1994). Hart and colleagues (1989) developed an SPA-scale to measure feelings related to displaying physique in social settings and found that women with high levels of SPA feel more stressed in exercise situations and environments.

Popular exercise settings, such as gyms or health clubs, are often characterized by masses of people engaging in aerobics or resistance activities that present the body moving in a variety of ways. This can be either facilitative or debilitating for those who engage in exercise. Hausenblas, Brewer, and Van Raalte (2004) found that for those who may lack confidence in their own self-image, perhaps feeling overweight or lacking muscle tone, experienced feelings of unease and discouragement regarding exercise participation. The opposite was also found to be

true as those who perceived themselves as being physically fit and having a slender physique enjoyed participating in exercise.

Exercise environment has also been shown to effect exercise-induced anxiety levels among women. Participants with high levels of SPA in this study completed a 20-minute cycling session in two different environments: a naturalistic setting (university gym) and a laboratory setting. Anxiety levels were assessed both pre- and post-exercise session. The naturalistic environment was associated with increased distress among women with high levels of SPA as opposed to laboratory settings, indicating that public exercise settings may have been related to increased anxiety for women (Focht & Hausenblas, 2004). Not only does exercise environment affect SPA levels, but exercise attire may also influence one's feelings of anxiety.

Tight clothing is also often worn in exercise settings, thus potentially influencing those who are already insecure about their own physique to experience feelings of inferiority and stress (Hart et al., 1989). Crawford and Eklund (1994) conducted a study with college-aged females in which participants watched two video-taped aerobics classes. One tape included exercisers wearing t-shirts and shorts, which were not form-fitting, while the other tape included outfits which emphasized physique. It was found that college-aged females experienced higher levels of SPA in settings with clothing that was form fitting and emphasized physique.

Social physique anxiety levels have a tendency to influence physical self-perception as well. Crocker, Sabiston, Kowalski, McDonough, and Kowalski (2006) conducted a three-year longitudinal analysis to determine if a relationship exists between the health behaviors (diet and activity level), emotions and perceptions (SPA and self-perception), and body composition (BMI) of adolescent females. SPA scores remained relatively consistent throughout the study, and the predictor variable most highly correlated with SPA was physical self-perception.

Therefore, changes in SPA score were linked to changes in one's perception of body image and attractiveness. Future directions for this study included adding a qualitative component to examine psychological aspects of the relationship between these variables (Crocker et al., 2006).

While exercise environment and form-fitting clothing have both been strong indicators of SPA prevalence, within recent years, culture has been emerging as a key component in the study of social physique anxiety. Russell (2002) conducted a study assessing the prevalence of SPA, self-esteem, and body image satisfaction among college-aged males. Results indicated that males scoring high in body dissatisfaction reported significantly higher SPA than those with low body dissatisfaction. Caucasian males also reported higher levels of SPA and lower levels of self-esteem than did their African-American counterparts with similar BMI levels (Russell, 2002). Similar results were yielded by Russell and Cox (2003) with a sample of college-aged females, as Caucasian females exhibited higher levels of body image dissatisfaction and SPA along with lower levels of self-esteem. This work suggests that cultural background and ethnicity may have an influence on the prevalence of SPA among both males and females.

Another construct closely related to social physique anxiety is the relationship between SPA and self-efficacy. Albert Bandura (1977) formulated a theory of self-efficacy, which states that people have a tendency to engage in activities that make them feel competent and increase self-confidence, including personal health habits (Bandura, 2004). Individuals may attempt to avoid situations causing anxiety due to uncertainty of skill competence or coping ability, whereas those situations where one feels efficacious decreased negative affect (Bandura, Adams, & Beyer, 1977). With heightened feelings of anxiety, those who have lower self-efficacy have a tendency to avoid certain exercise settings due to lack of perceived ability.

Feelings of efficaciousness directly relate to one's comfort level regarding displaying physique in certain settings. Katula, McAuley, Mihalko, and Bane (1998) tested the effects of exercise environment on perceived self-efficacy. Male and female participants involved in the study were asked to complete aerobic-based workouts in a variety of exercise settings including a laboratory, in front of a mirror, and in a naturalistic setting of the participant's choice. Results indicated that women experienced significantly decreased self-efficacy levels and rose when exercising in front of a mirror. It was also found that as SPA increased, levels of self-efficacy declined among both males and females regardless of exercise setting. (Katula et al., 1998). These results thereby link back to the work of Schlenker and Leary (1992) stating that situations in which one is aware of being evaluated can have a negative effect on self-presentation and perception.

Previous research has also focused on identifying the relationship between SPA and gender (Crawford & Eklund, 1994; Focht & Hausenblas, 2004; Hart et al., 1989; Russell, 2002), however there is research lacking with regards to examining both males and females with regards to SPA prevalence. Self-efficacy has also been analyzed from this perspective (Bandura, 2004; Katula et al., 1998), but a gap exists linking both genders and SPA in individuals with varying degrees of self-efficacy. The existing body of research also lacks an in depth qualitative analysis regarding individual physique perceptions of those with particularly high or low levels of SPA (Hausenblas & Downs, 2001; Hausenblas et al., 2004). This information may therefore aid in creating interventions designed to decrease the prevalence of SPA (Scott, 2005) and increase levels of self-efficacy among college-aged students from a perspective that is both gender and culturally sensitive. In turn, increased knowledge about the effects of SPA on gender and self-

efficacy of college students may be beneficial in creating exercise environments that allow all participants to feel confident and comfortable displaying their physique.

Given the aforementioned research, therefore, the purpose of the present study was to analyze the association between SPA, gender, and self-efficacy levels among college-aged students partaking in physical activity courses requiring exercise. By gaining insight into these relationships, the knowledge may be useful to help educate about the effects of SPA across gender and varying degrees of self-efficacy. A secondary purpose of this study was to qualitatively examine specific perceptions about physique among those with particularly high or low levels of SPA.

CHAPTER 2

Method

Bracketing Interview

Prior to the beginning of the study, a bracketing interview was conducted between the primary investigator and an expert in qualitative research. This process helped to reveal any possible biases the investigator may have which may have impacted the results (Patton, 2002). As the investigator serves as an instrument for data collection, particularly in qualitative research, it was essential that these potential presuppositions be identified prior to the data collection process. (Czech, Wrisberg, & Fisher, 2004).

Participants

Participants of this study included 237 male ($n = 99$) and female ($n = 139$) undergraduate students (ages 18-24) participating in physical activity classes. After removing cases based on the inclusion criteria specified for data analysis, the final sample for the quantitative portion of the study included 106 male ($n = 56$) and female ($n = 50$) participants (M age = 20.03 years, $SD = 1.47$). The physical activity courses representing this sample were body conditioning ($n = 42$; 39.6%), jogging ($n = 38$; 35.8%), and weight training ($n = 26$; 24.5%) exercise courses. Physical activity courses of a fitness-based nature were chosen in efforts to control for the prevalence of SPA among participants (Scott, 2005). The ethnicities of the participants were Caucasian ($n = 63$; 59.4%), African-American ($n = 34$; 32.1%), Hispanic/Latino ($n = 3$; 2.8%), Multi-racial ($n = 5$; 4.7%), and other ($n = 1$; 0.9%). All participants were currently enrolled at a Southeastern university. This number of participants was chosen based on a power value of .8 and a moderate effect size value of .5 with an alpha level set at .05. These values were determined based on standards for behavioral research (Thomas, Nelson, & Silverman, 2005).

The qualitative interview portion of the study included eight total participants. Four males and four females took part in the interviews, and were chosen based upon their total SPA scale scores. Two members of each gender were chosen to represent those displaying high amounts of SPA and two members represented low amounts of SPA. The mean age of participants was 19.88 years. Ethnicities of the interview participants included Caucasian ($n = 3$), African-American ($n = 3$), Hispanic/Latino ($n = 1$), and Multi-racial ($n = 1$). Participants were enrolled in Jogging ($n = 4$) and Body Conditioning ($n = 4$) physical activity classes.

Instrumentation

Social Physique Anxiety. The Social Physique Anxiety Scale (SPAS) was developed by Hart, Leary, and Rejeski (1989) and originally consisted of 12-items. More recently, Motl and Conroy (2000) altered the SPAS to contain seven items scored on a 5-point Likert-type scale with anchors including 1 (not at all) to 5 (extremely). Items included phrases such as, “When I look in the mirror I feel good about my physique/figure,” or “In the presence of others I feel apprehensive about my physique/figure” (Hart et al., 1989). The use of this 7-item scale in measuring SPA levels was validated for a college-aged population. (Scott, Burke, Joyner, & Brand, 2004). This study found single intraclass correlation values of .85 for men and .89 for women, as well as average intraclass correlation values of .92 and .94 respectively (Scott et al., 2004). Internal consistency values for this scale were calculated at .72 (Motl & Conroy, 2001). For the purpose of this study, demographic information regarding age of participant, gender, ethnicity, and type activity course was added to the SPA-7.

Self-Efficacy. The Physical Self-Efficacy scale (PSE) was developed by Ryckman, Robbins, Thornton, and Cantrell (1982) and consists of 22 items in which participants rate their perceived physical competence levels. Items are ranked on a 6-point Likert-type scale with 1

indicating the participant “strongly agrees” with the statement and 6 indicating, “strongly disagreeing” with the statement. The PSE scale consists of two subscales assessing Perceptions of Physical Ability (PPA, 10 scale items) and Physical Self-Presentation Confidence (PSPC, 12 scale items). PPA items included, “My physique is rather strong,” and “I can’t run fast.” Items on the PSPC scale also included, “People think negative things about me because of my posture,” and “I am not concerned with the impression my physique makes on others” (Ryckman et al., 1982). The PPA subscale is scored from 10 to 60 while the PSPC is scored from 12 to 72. Both subscales may be combined to produce an overall PSE score, on a scale of 22 to 132. Higher ratings indicate higher levels of perceived efficaciousness of the physical self with regards to each item. Internal consistency values of the subscales along with the overall scale were found to be .91 (PPA), .78 (PSPC), and .92 (PSE) (Ryckman et al., 1982).

Qualitative Interview Recording. The recording of the qualitative interviews took place on the personal laptop of the principal investigator via the application Garage Band version 5.1 for Apple products. Digital files were stored securely via password protection and could only be accessed by the lead researcher and designated members of the research team.

Procedures

Upon receiving Institutional Review Board approval, data collection for this study took place in physical activity classes requiring exercise at a Southeastern university. Initially, a pilot test was conducted with a non-physical activity undergraduate class to ensure all questionnaire items were easily understandable and survey administration procedures were clear. All participants were asked to voluntarily participate and were informed that they may choose to stop data collection at any time throughout the study. Each participant gave written consent prior to participating in the study.

Data collection took place once in each physical activity class. After obtaining informed consent at the start of the class, the SPA-7 (with demographic information) and PSE scales were administered by the principal investigator. Participants were allowed 20 minutes for the completion of these questionnaires. Questionnaire packets were counterbalanced to avoid the possibility of fatigue and order effects among participants. Once completed, participants were informed that they might be contacted for interviews at a later time and date.

Prior to the start of the qualitative interview sessions, a pilot study was conducted with an experienced qualitative researcher to ensure the comprehensiveness of interview questions and structure. Participants were once again informed that they voluntarily consented to take part in the study and may choose to leave the interview at any time if feeling uncomfortable. As these sessions are recorded, each interview participant was also informed that the recording may be stopped at any time and he or she may choose to leave without any repercussions.

Interviews occurred between the researcher and participant individually using a semi-structured format. Questions asked participants their thoughts about their own physique/figure, thoughts about others evaluating of their physique/figure, and thoughts about displaying their physique/figure to others. For example, “when you think about your physique or figure, what comes to mind?” “When you think about others evaluating your physique, what comes to mind?” “When you think about displaying your physique to others, what comes to mind?” Probing questions were used if the researcher felt more information is needed regarding a certain response. All participants’ responses were kept confidential from one another and stored in the form of digital files on the researcher’s personal computer. Only the researcher had access to these transcripts. In order to maintain confidentiality, each participant was given a coding number prior to the start of the interview. A protocol was also set in place in case participants

became overwhelmed during the interview and felt the need to seek further counseling assistance upon interview completion.

Data Analyses

Descriptive statistics including means and standard deviations were derived from the sample responses. Data was analyzed using the SPSS version 21 software system. Two-way ANOVAs were performed to determine if gender and PSE scores of participants interacted significantly regarding SPA-7 scores. A 2 (gender) x 2 (self-efficacy level) ANOVA was carried out to determine if there are significant interactions and differences between gender, self-efficacy, and SPA level. Each ANOVA analyzed gender and overall PSE scale score (high and low levels of self-efficacy respectively). To determine high and low self-efficacy scores for each PSE subscale, the mean was calculated for the total sample ($n = 237$, $M = 87.34$, $SD = 15.41$) and it was determined that three-quarters of a standard deviation above said mean ($M = 98.9$) represented high levels of self-efficacy and three quarters of a standard deviation below the mean ($M = 75.78$) represented low levels of self-efficacy. Participants whose PSE scores fell outside of this range were used in data analysis, resulting in a final sample size of 106 survey participants. The alpha level was set at .05 to determine statistical significance. Two independent t-tests were also completed comparing both gender and PSE to SPA respectively.

A multiple-regression analysis was also completed to determine which variables are most strongly associated with predicting SPA among participants. First, a multicollinearity analysis was conducted using a correlation matrix in efforts to determine the degree to which the predictor variables are correlated (Thomas et al., 2005). Statistics for multicollinearity included Tolerance and VIF values. Tolerance must be greater than 0.2 (actual value .966) and VIF need not exceed 2.0 (actual value 1.035). The raw data scores from each PSE subscale were coupled

with gender to represent four total predictor variables in this regression. Using SPSS version 21 software, each variable was associated with SPA in efforts to determine which variable is the most effective model for explaining the prevalence of SPA within this sample.

To determine which participants would be chosen for the qualitative interview portion, mean SPA scores were calculated for all participants. These scores were isolated within one full standard deviation above and below the mean. Those falling on the high or low end of the mean were pooled and contacted to partake in the qualitative interview portion of the study.

The qualitative interviews were recorded and fully transcribed verbatim by the lead researcher. Upon completion of the transcription process, each interview was read by the researcher, the qualitative expert of the research committee, and graduate student peer members of the research team in efforts to provide triangulation for coding the data. The use of multiple angles for data analysis helped to establish trustworthiness of the results (Patton, 2002). Raw data was then coded be into main themes from the interview transcripts. This coding process followed the procedure established specifically for qualitative research by Czech and colleagues (2004) and Patton (2002), which includes approaching the interviews through transcription, focusing the data by grouping text, reduction by eliminating overlapping data, and the release of meanings through theme identification and description. If a main theme required more detailed explanation, sub-themes were established.

Further efforts to ensure credible and trustworthy qualitative data were established through the use of member checking. Full transcripts were sent to interview participants so they could confirm responses were accurate and complete (Patton, 2002). Participants were also encouraged to include additional pertinent information if necessary.

CHAPTER 3

Results

Means and standard deviations of the final sample ($n = 106$) with regards to SPA-7 and PSE scale scores were compiled and may be found in Table 1. A two-way ANOVA yielded no significant interaction between PSE and gender with regards to SPA ($p = .422$, $\eta^2 = .006$). There were significant main effects with gender ($F(1, 105) = 4.128$, $p = .045$, $\eta^2 = .039$) and PSE ($F(1, 105) = 86.890$, $p < .001$, $\eta^2 = .460$). Results of the ANOVA indicated that Levene's test for homogeneity was violated. Therefore, two independent t -tests were conducted to examine the main effects for gender and self-efficacy. Results indicated that women displayed higher SPA than men ($p = .004$), and individuals with low self-efficacy displayed higher SPA than their respective counterparts ($p < .001$).

A multiple regression analysis was conducted to determine which variables most strongly predicted the prevalence of SPA. PSE demonstrated a strong, negative correlation with SPA ($r = -.667$, $p < .001$) while gender had a weak, positive correlation ($r = .276$, $p = .002$). PSE accounted for 43.9% of the variance ($R^2 = .445$, $p < .001$) while gender and PSE accounted for 45.9% of the variance ($R^2 = .469$, $p < .001$). The first model generated accounted for 43.9% of the variance and showed PSE alone to be a strong predictor of SPA ($\beta = -.667$, $p < .001$). The second model, which included both predictor variables, accounted for 45.9% of the variance and indicated that PSE was the strongest predictor of SPA ($\beta = -.638$, $p < .001$) while gender was weaker in comparison ($\beta = .159$, $p = .032$).

The qualitative interviews were transcribed and thematized following the procedures established by Patton (2002) and Czech et al. (2004). Raw data responses were separated into themes and classified into two groups by those representing low levels of SPA versus those

representing high levels of SPA. These themes are represented in tables 2 and 3, respectively. The number of participants reporting each response is located in parentheses. In an effort to present a concise and comprehensive description of the data, specific and detailed quotations were used.

Six main order themes emerged for high SPA participants, including dislike of physique, need for physique improvement, concern with how physique appears to others, societal and cultural pressures surrounding physique evaluation, clothing choices made to present a certain physique appearance, and surroundings impact comfort level of displaying physique. A sub-theme of individual ideal physique qualities emerged from the main order theme of need for physique improvement, as well as a sub-theme of family views impact personal physique evaluation from the main theme of societal and cultural pressures surrounding physique evaluation. Eight main order themes surfaced from those with low SPA. These included being pleased with physique, individual ideal physique qualities, lack of concern with how physique appears to others, societal and cultural physique expectations, concern with overall health as opposed to physique appearance, clothing choices made to present a certain appearance, physique impacts personal body satisfaction, and surroundings impact comfort level of displaying physique. A single sub- theme of family views impact physique evaluation came from the main order theme of societal and cultural physique expectations.

High SPA Participant Results

Dislike of Physique. All four participants indicated displeasure of their physique within the interviews. Each participant indicated feeling self-conscious regarding his/her body appearance. Multiple participants indicated, “I’m still not at the place where I’d like to be,” which lead to the second main theme of need for improvement.

Need for Physique Improvement. All of the high SPA participants responded that they felt the need to improve their physique in some regard. Most responses centered on altering physical physique aspects (i.e. decreasing body fat, gaining musculature, changing height, and having a more desirable appearance). One participant stated, “I’ll focus on my areas of my body that I don’t like which are the ones that are still bigger like my stomach.”

Individual Ideal Physique Qualities. This sub-theme was reported by three out of four participants. Responses focused on physical attributes, which the participants felt were desirable for having an ideal body image. It was noted by all participants that they felt having a more slender, toned physique would increase their confidence and physical appearance.

Concern with how Physique Appears to Others. All participants indicated having concerns with displaying their physique to other people. Common trends in responses included feeling victim to negative judgment as a result of bodily appearance. One participant noted, “I would like other people to always see me as looking nice.”

Societal and Cultural Pressures Surrounding Physique Evaluation. Three out of four participants reported this main order theme during the interviews. Points of emphasis included feeling the need to fit into society’s view of an acceptable and attractive physique, which participants noted to be a person who is slender in size. Participants also mentioned the media’s portrayal of an ideal physique.

Family Views Impact Personal Physique Evaluation. Three out of four participants also reported this identified sub-theme of family views impacting personal physique evaluation. It was stated that certain family members, particularly parents, elicit participants to feel the need to adhere to certain expectations regarding their physique. One example includes:

I feel like I need to be perfect for all the people around me, especially my parents. They told me that I don't have to be perfect; especially lately because I am trying to be a little calmer about all of this, but I think that everybody thinks that I need to be perfect. It's not true but it's just the way I'm thinking most of the time.

Clothing Choices Made to Present a Certain Physique Appearance. Mentioned by three out of four interview participants, this theme emerged as a result of feeling anxious regarding displaying one's physique while wearing certain clothing. Ideal clothing choices were said to be those that were not too tight or revealing, and that made the body appear to be slimmer and toned. When wearing a more conservative outfit, participants noted this increased their confidence and comfort level with their physique.

Surroundings Impact Comfort Level of Displaying Physique. All four participants mentioned feeling uncomfortable when displaying their physique in certain settings. Specific settings mentioned were while exercising at the gym, going to the beach, or being in public university settings. Participants mentioned feelings of being judged negatively based on appearance, which decreased their confidence of being present in those particular settings.

Low SPA Participant Results

Pleased with Physique. All participants in this category mentioned being pleased with their current body image. Common trends included mentions of the body appearing "physically appealing, or in-shape." It was also mentioned that participants have worked to improve their physique in the past in order to reach the level they are at now.

Individual Ideal Physique Qualities. Each of the four participants mentioned this theme in their interviews. Responses included wanting to be physically fit and able to engage in various exercise activities without fatigue. Particular physique qualities of importance to participants included muscle tone, a slim build, and an athletic body image.

Lack of Concern with how Physique Appears to Others. Three out of four participants identified showing a lack of concern with how their body image appears to other people. This characteristic is consistent of those with lower levels of SPA, as they do not have the tendency to be overly concerned with influencing the perceptions of others. One participant noted:

I don't really care to think what others think of my physique. It's just all the thoughts of my physique are specifically mine. I try not to feel pressured by what other people think.

Societal and Cultural Pressures Surrounding Physique Expectations. Reported by three out of four interview participants, this theme focused on participants' perceptions of physique from the lens of societal and cultural aspects. It was mentioned that participants felt those who have a larger physique are negatively judged in the eyes of society, along with the feeling that having a more attractive physique leads to increased attention from peers of the opposite sex.

Family Views Impact Physique Evaluation. Three out of four participants reported the sub-theme of family views impacting physique evaluation. Responses included both positive and negative feelings regarding familial expectations of physique. In contrast, another participant noted his father being a positive role model for living a healthy lifestyle through diet and exercise. For example, one participant noted:

In my family, because all of them are really obese, they always makes jokes about how little I am and how I need to eat more. It doesn't really bother me, they're obese so I wouldn't take advice from them anyway.

Concern with Overall Health as Opposed to Physique Appearance. This main order theme emerged from the replies of three out of four participants. Common responses included emphasizing overall health as opposed to physique appearance. Multiple participants alluded to

importance of being physically active and healthy for increasing one's physical abilities and longevity of life.

Clothing Choices Made to Present a Certain Physique Appearance. Three out of four participants fit into this main theme category. As opposed to feeling overly self-conscious about displaying one's physique by wearing revealing clothing, low SPA participants noted that "modestly showing off" was acceptable. Participants felt that having an attractive physique encouraged them to wear clothing allowing certain physique aspects to be emphasized, such as muscle tone for males or a curvy figure for females.

Physique Impacts Personal Body Satisfaction. Reported by three out of four participants, this main order theme focused on the emphasis participants place on having an attractive physique for the purpose of personal body satisfaction as opposed to wanting to please others. A notable response included, "I like to be able to look in the mirror and say, 'This is how I want to look,' not how somebody else wants me to look. It's specifically for my own personal satisfaction." Another participant stated, "People are going to make their own decision anyway, but any time I do go out in a social situation, I'm trying to look good for me, not anyone else."

Surroundings Impact Comfort Level of Displaying Physique. Consistently reported among three out of four participants was the main order theme of comfort level displaying physique in certain settings. Participants reported feeling comfortable displaying their physique when at the beach or while exercising. Having a physique they perceive to be attractive increased confidence level of having their body image on display.

CHAPTER 4

Discussion

The primary purpose of the present study was to analyze the prevalence of statistical differences and the association between SPA, gender, and self-efficacy levels among college-aged students partaking in physical activity courses requiring exercise. A secondary purpose of this study was to qualitatively examine specific perceptions about physique among those with particularly high or low levels of SPA. Results of this study show that significant differences were found regarding the presence of SPA and self-efficacy among males and females. Each of the three hypotheses posed by the researcher were therefore satisfied throughout this process, that those with higher self-efficacy would display lower levels of SPA and vice versa, that women would display higher SPA than men, and both self-efficacy and gender would account for a significant proportion of SPA variance.

Statistical analysis of the quantitative survey data supports the first hypothesis that there would be significant differences between levels of self-efficacy and SPA. It was found that individuals with higher self-efficacy displayed lower levels of SPA, and the reverse was also true. This finding supports previous research conducted by Katula and colleagues (1998) who also found a negative correlation between level of self-efficacy and amount of SPA experienced by individuals. The present study also found self-efficacy to be the strongest predictor of SPA among participants due to the emergence of a strong negative correlation between the two variables.

The second research hypothesis was also supported given the significant differences that were found among males and females with regards to prevalence of SPA. Females experienced higher levels of SPA than males, thus supporting the findings established by the previously

existing body of research (Crawford & Eklund, 1994; Hart et al. 1989; Russell & Cox, 2003).

The third hypothesis was also supported, as both gender and self-efficacy accounted for a significant portion of SPA variance. While gender accounted for less of the variance than did self-efficacy in the model for predicting SPA, the proportion was still found to be significant. These findings confirmed the third posed hypothesis stating that self-efficacy and gender would account for a significant proportion of SPA variance. The model including both variables was accepted due to the fact that this presented the most parsimonious representation of SPA variance.

This study added methodological support to the existing body of research with the use of quantitative and qualitative data collection. Crocker et al. (2006) and Hagger et al. (2010) found that SPA was inversely linked to physical self-perception, as those who perceived themselves as attractive experienced less SPA and vice versa. The present study confirmed these results with quantitative data, and additionally added qualitative support which Crocker et. al (2006) defined as a limitation to their respective study. Interviews from the present study identified themes supporting this inverse relationship between SPA and physical self-perception, specifically indicating high levels of SPA leading to negative self-perceptions, a need for physique improvement, and decreased self-confidence and comfort level of displaying physique. Similar findings surfaced in the work by Hausenblas et al. (2004) and Leary (1992), as higher levels of SPA led to decreased confidence and unease of displaying one's physique in exercise settings among college-aged students.

The findings of the present study may be linked to the thematic structure of self-presentation theory (Schlenker & Leary, 1982). A basic premise of this theory is seen when individuals place emphasis on positive self-aspects while attempting to mask negative self-

aspects (Schlenker & Leary, 1982). Qualitative themes for high SPA participants elicited a need to influence the perceptions of others to see their physique as leaner, more muscular, or athletically fit in efforts to deemphasize those parts of their physique they may find less desirable (such as the stomach, thighs, or “love-handles”). Similar results were found in the work of Castonguay, Gilchrist, Mack, and Sabiston (2013) regarding a sense of pride in displaying one’s body in social settings. Individuals felt proud to display their physique socially when they perceived the comparison of their body image to others was superior. In the current study, both high and low SPA participants indicated feeling more comfortable when they recognized their physique to be more attractive than those surrounding them.

A further trend seen in the qualitative interviews regarded the affect of participants as demonstrated by their nonverbal communication from both high and low SPA groups. For example, those with high SPA displayed a slouched posture, spoke softly, and averted eye contact with the interviewer, thus correlating with the high levels of anxiety experienced when discussing physique perceptions. Contrarily, low SPA participants sat with an upright posture and spoke in a louder tone of voice while making frequent eye contact with the interviewer affirming the sense of body pride they feel when recalling thoughts about physique (Castonguay et al., 2013).

Schlenker and Leary (1982) found that individuals are more likely engage in positive goal-oriented actions, such as those to increase self-confidence, in situations where one feels in control. This correlates with interview themes found in low SPA participants who were apathetic towards the others’ perceptions of their physique and had the goal of maintaining overall health as opposed to presenting an ideal body image.

A second notable theoretical connection is found within social cognitive theory and the work of Bandura (2004), specifically surrounding social and situational impediments. Bandura suggested that individuals avoid behaviors leading to self-dissatisfaction in which he or she does not perceive to have feelings of control. A theme of social and cultural influence emerged from the responses of both high and low SPA participants. The influences of society impacted how one viewed his or her body image, particularly through the lens of one's culture or family structure. Particular behaviors such as being sedentary or wearing provocative clothing were avoided not only in efforts to evade personal dissatisfaction, but also to appease cultural standards and family members. This provides insight regarding the importance of social influences on one's physique perceptions using social cognitive theory as a guide.

Limitations

Three key limitations surfaced throughout the course of this study. The first limitation is the lack of true participant randomization due to the use of convenience sampling. A second limitation closely tied to this is the use of a college-aged population. These two limitations pose threats to external validity, as the sample used in this study may not be representative of a greater population due to its limited geographic, cultural, and age representation. A third limitation of the present study was found in the use of self-report questionnaires for quantitative data collection. The potential for social desirability poses a threat here, as participants may have made an attempt to present themselves more positively while responding to the surveys, thus not accurately reflecting the prevalence, or lack thereof, of SPA or self-efficacy. Therefore, future work in this area may want to focus on encompassing a larger and more representative sample that may generalize to a greater population and include more objective measures to assess the presence of these variables.

Future Directions and Implications

Results of the present study indicated there may be a need for further exploration of the effects of culture and ethnicity with regards to SPA and self-efficacy. A more comprehensive understanding of the prevalence of SPA and its effects in a diverse population may provide insight for helping to decrease the prevalence of SPA across cultures. From a qualitative perspective, integrating the use of data coding for verbal and nonverbal communication trends may also aid in the thematizing process and provide additional insight into the cognitive and affective responses of interview participants (Onwuegbuzie, Leech, & Collins, 2010). Future studies should also consider implementing an intervention program including exercise and education in efforts to reduce the prevalence of SPA and increase exercise self-efficacy among participants.

Conclusions

The present study examined the link between social physique anxiety and self-efficacy among college-aged students participating in physical activity course requiring exercise. Utilizing a mixed-methodological approach to examine these two constructs added to the previously existing body of research by enhancing the statistical evidence of the link between SPA and self-efficacy among college students along with providing a rich, qualitative description into individuals' perceptions of physique. This data may be used in efforts to create interventions aimed at decreasing the prevalence of SPA while increasing the prevalence of exercise-related self-efficacy and exercise adherence among college-aged students.

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APPENDICES

APPENDIX A

RESEARCH PURPOSE, RESEARCH QUESTIONS, RESEARCH HYPOTHESES,
LIMITATIONS, DELIMITATIONS, ASSUMPTIONS, AND OPERATIONAL DEFINITIONS

Research Purposes

Primary purpose: To analyze the association between SPA, gender, and self-efficacy levels among college-aged students partaking in physical activity courses requiring exercise.

Secondary purpose: To qualitatively examine specific perceptions of physique among those with particularly high or low levels of SPA.

Research Questions

1. Are there significant differences in SPA between those with higher self-efficacy versus those with lower self-efficacy?
2. Are there significant differences in SPA between males and females?
3. Which variables (i.e. self-efficacy and gender) are most strongly associated with predicting SPA?
4. What are the specific perceptions related to one's physique among those with particularly high and low levels of SPA?

Research Hypotheses

1. It is hypothesized that there will be significant differences in SPA between those with higher self-efficacy and those with lower-self efficacy, specifically that those with higher self-efficacy will exhibit lower SPA and vice versa.
2. It is hypothesized that there will be significant differences in SPA between males and females, with females displaying more SPA than males.
3. The variables of self-efficacy and gender will account for a significant proportion of the variance associated with SPA.

Limitations

1. Participants for this study were not randomly selected as they were currently enrolled in a physical activity class.
2. Participants were of college-aged population, so therefore external validity may be limited.
3. The potential for social desirability exists, as participants may alter survey or interview responses in efforts to make themselves feel more self-confident.

Delimitations

1. This study only utilized participants from a Southeastern university.
2. The physical activity classes involved in this study were aerobic in nature (i.e. aerobics, body conditioning, jogging, and yoga) in efforts to control for SPA prevalence (Scott, 2005).
3. Both men and women were involved in this study.

Assumptions

1. Participants responded honestly to the SPA-7 and PSE questionnaires.
2. Participants did not discuss the content of the questionnaires with anyone else.
3. Participants who took part in the qualitative interviews did not discuss this information with one another outside of the interview itself.

Operational Definitions

1. Social Physique Anxiety - the anxiety and/or fear associated with one's physique being evaluated. (Hart, Leary, & Rejeski, 1989)
2. Physique - "one's body form and structure, specifically body fat, muscle tone, and general body proportions." (Hart et al., 1989)

3. Self-presentation theory - the idea that people make an attempt to influence the perceptions of those around them. (Schlenker & Leary, 1982)
4. Self-efficacy – the belief that one has the skills and resources to be successful in certain situations. (Bandura, 1977)

APPENDIX B
ANOTATED LITERATURE REVIEW

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior*, 31, 143.

This article is an extension of Bandura's original theory on self-efficacy (formed in 1977), which states that individuals have a tendency to pursue activities that make them feel competent and shy away from those that cause anxiety or decreased confidence. This directly relates to my study as I am examining the relationship between SPA and self-efficacy among college students.

Bandura, A., Adams, N. E., & Beyer, J. (1977). Cognitive processes mediating behavioral change. *Journal of Personality and Social Psychology*, 35, 125-139.

This article provides the theoretical framework of self-efficacy theory. Albert Bandura pioneered the concept of self-efficacy, which is one's feeling confident and competent when it comes to completing tasks. Individuals have a tendency to pursue tasks in which they may feel they are able to succeed while avoiding those that make them feel uneasy or inferior. One's perceptions of self-efficacy not only relate directly to the kinds of activities one chooses to engage in, but also tie into the coping strategies used to overcome stressful or anxiety provoking situations.

Chu, H. W., Bushman, B. A., & Woodard, R. J. (2008). Social physique anxiety, obligation to exercise, and exercise choices among college students. *Journal of American College Health*, 57, 7-14.

This study explored the correlation between SPA and obligation to exercise, along with the relation of these factors to choice of exercise. Participants included 370 students from a Midwestern university, who completed the SPAS, Obligatory Exercise Questionnaire, and Physical Activity Specification Survey. It was found that women reported higher levels of SPA than men, and felt more obligated to exercise and diet in order to lose weight. Results also showed that women with higher commitment to exercise experienced lower levels of SPA. Obligations to exercise scores were not significantly different among men and women.

Crawford, S., & Eklund, R. C. (1994). Social physique anxiety, reasons for exercise, and attitudes toward exercise settings. *Journal of Sport and Exercise Psychology*, 16, 70-84.

An analysis was performed to examine whether certain factors of exercise had an influence on SPA. Specific factors included frequency and duration of exercise, attitudes regarding exercise environments, self-perception and satisfaction regarding body size and weight, and reasons for exercising. Participants included 104 college-aged women who completed a series of questionnaires (including SPAS) assessing the aforementioned variables. Two videos were shown depicting an aerobic dance class, one video with the exercisers in tight fitting clothing to enhance physique and the other with shorts and t-shirts, which were not form fitting. Results indicated that SPA might have an effect on exercise behaviors, as exercise settings, which emphasized physique, caused higher amounts of SPA. SPA scores were also positively correlated with reasons for exercising such as physical attractiveness, body tone, and weight control.

Crocker, P. R. E., Sabiston, C. M., Kowalski, K. C., McDonough, M. H., & Kowalski, N. (2006). Longitudinal assessment of the relationship between physical self-concept and health-related behavior and emotion in adolescent girls. *Journal of Applied Sport Psychology, 18*, 185-200.

This study was a three-year longitudinal analysis to determine if a relationship exists between the health behaviors (diet and activity level), emotions and perceptions (SPA and self-perception), and body composition (BMI) of adolescent females. Participants were 501 Canadian females aged between 14-17 over the course of the three-year study. Questionnaires were used to assess all variables at three different time points throughout the study. SPA scores remained relatively consistent throughout the study, and the predictor variable most highly correlated with SPA was physical self-perception. Therefore, changes in SPA score were linked to changes in one's perception of body image and attractiveness. Future directions for this study included adding a qualitative component to examine psychological aspects of the relationship between these variables.

Czech, D. R., Wrisberg, C. A., Fisher, L. A., Thompson, C. L., & Hayes, G. (2004). The experience of christian prayer in sport: An existential phenomenological investigation. *Journal of Psychology & Christianity, 23*, 3-11.

Qualitative research techniques are discussed in this article. Of particular importance are the use of bracketing, or an initial interview conducted with the researchers themselves in order to identify possible biases that may arise throughout the course of the interview which could potentially impact the results. The data analysis process is also key in this article, and includes complete interview transcription along with coding to identify main themes. Sub-themes were also created underneath main themes if the researchers felt it was necessary. Triangulation was also used in efforts to provide a comprehensive and cohesive understanding of the created data themes. I plan to use a similar approach in the qualitative portion of my work.

Focht, B. C., & Hausenblas, H. A. (2004). Perceived evaluative threat and state anxiety during exercise in women with social physique anxiety. *Journal of Applied Sport Psychology, 16*, 361-368.

This study aimed to examine whether environmental perceptions increased state anxiety in women with high SPA. Thirty female college students from a southeastern university took part in this study, and were chosen based on their physical activity level (less than two moderate/vigorous exercise sessions per week) to ensure all participants had high SPA. Participants completed two 20-minute sessions of exercise on a stationary bike located in front of a full-length mirror. One session was in a naturalistic environment (university gym) while the other was completed in a laboratory setting. Participants completed a series of inventories (including SPAS and SAI) as well as had their anxiety assessed before, during, and after each exercise session. It was found that the naturalistic environment created significantly higher levels of anxiety (perceived evaluative threat) as compared to the laboratory environment, indicating that public settings for exercise cause distress among those with high levels of SPA.

Fox, K. R., & Corbin, C. B. (1989). The physical self-perception profile: Development and preliminary validation. *Journal of Sport & Exercise Psychology, 11*, 408-430.

Self-presentation reflects the process of observing and reacting to the perceptions of others. This describes the development of an instrument used to assess self-esteem in relation to self-perception theory, based on the work of Harter, which proposes that self-esteem is largely influenced by physical self-perceptions. The measurement of physical self-worth was broken down into four subscales, which were designed to measure perceived bodily attractiveness, sports competence, physical strength, and physical conditioning. This measure has been tested as both reliable and valid.

Hagger, M. S., Stevenson, A., Chatzisarantis, N. L. D., Gaspar, P. M. P., Ferreira, J. P. L., & Ravé, J. M. G. (2010). Physical self-concept and social physique anxiety: Invariance across culture, gender and age. *Stress & Health: Journal of the International Society for the Investigation of Stress*, 26, 304-329.

This study aimed to analyze the effects of gender, age, and culture on levels of Physical Self-Concept (PSC) and SPA in adolescents from Spain and Portugal. Participants included 3,528 adolescent students aged 12-18 from public schools in the Coimbra region of Portugal and Castilla-La Mancha region of Spain. Varying ethnic backgrounds were also included. These constructs were measured using questionnaires, the SPAS and PSPP respectively. Significant results were found among various relationships. Overall, a SPA score increased, PSC decreased. SPA levels were higher among the Spanish (females born in 1992), female, and younger students. Males exhibited higher levels of PSC than females, and PSC decreased with age as well. Culture did not exhibit a significant effect in either the Portuguese or Spanish sample, except for Spanish females born in 1992 that experienced higher levels of SPA. Adds to previous research because it examines the effects of gender, age, and culture on SPA levels.

Hart, E. A., Leary, M. R., & Rejeski, W. J. (1989). The measurement of social physique anxiety. *Journal of Sport & Exercise Psychology*, 11, 94-104.

Social Physique Anxiety (SPA) is defined as the anxiety people feel as a result of having their physique assessed by others. This article describes the scale that was developed to assess SPA. It has been tested numerous times and reports to be both reliable and valid. The original scale consists of 12 items aimed to assess personal affect in situations where others may evaluate physique.

Hausenblas, H. A., Brewer, B. W., & Van Raalte, J. L. (2004). Self-presentation and exercise. *Journal of Applied Sport Psychology*, 16, 3-18.

This is a literature review analyzing the links between self-presentation and exercise, emphasizing exercise behavior, physical activity motives, exercise environment characteristics, responses to acute exercise, and the effects of exercise interventions on self-presentational concerns. Major findings of numerous studies are reported; this will be very useful when writing up the literature review. Future directions to be taken into consideration include examining the relationship between self-presentation and exercise cognitions, attitudes, and behaviors as well as assessing SPA prevalence among minorities.

Hausenblas, H. A., & Downs, D. S. (2001). Comparison of body image between athletes and nonathletes: A meta-analytic review. *Journal of Applied Sport Psychology, 13*, 323-339.

This is a meta-analysis of the literature (78 sources) regarding body image differences between athletes and non-athletes. A secondary purpose of analyzing possible moderating variables of sport type, gender, body composition, publication status, competitive level, and ethnicity regarding body image perceptions was also established. A large effect was found indicating that athletes exhibit a more positive body image compared to non-athletes (control groups). It was also found that college athletes perceived their bodies more positively than recreational athletes.

Hu, L., McAuley, E., & Elavsky, S. (2005). Does the physical self-efficacy scale assess self-efficacy or self-esteem? *Journal of Sport & Exercise Psychology, 27*, 152.

This work discusses the Physical Self-Efficacy scale (PSE) and its two subscales, the Perceived Physical Ability (PPA) and Physical Self-Presentation Confidence (PSPC) scale. The PSE as a whole is scored in a Likert-type fashion scaled from 1 (strongly disagree) to 6 (strongly agree). Scores may be summed to represent the two subscales and entire PSE respectively. Internal consistency values were found to be relatively strong with alpha values greater than .78.

Hu, L., Motl, R. W., McAuley, E., & Konopack, J. F. (2007). Effects of self-efficacy on physical activity enjoyment in college-aged women. *International Journal of Behavioral Medicine, 14*, 92-96.

This study examined the relationship between self-efficacy levels and exercise enjoyment among moderately active college-aged women. Self-efficacy levels were assessed pre-and post-exercise session. It was found that those with higher levels of self-efficacy had a tendency to enjoy exercise more than those with lower self-efficacy levels.

Katula, J. A., McAuley, E., Mihalko, S. L., & Bane, S. M. (1998). Mirror, mirror on the wall...exercise environment influences on self-efficacy. *Journal of Social Behavior & Personality, 13*, 319-332.

This study examined whether environmental factors of exercise had an effect on exercise self-efficacy with regards to physical, social, and cognitive constructs. Participants took part in a series of exercise sessions in different settings, including in a laboratory, in front of a mirror in a laboratory, and in a location in which the participant would naturally exercise. The Physical Self-Efficacy (PSE) scale and two subscales (PPA and PSPC) was used, and internal consistency values were calculated at PSE = .92, PPA = .91, PSPC = .78. Social Physique Anxiety (SPA) levels were also assessed. Results indicated that exercising in front of the mirror-influenced self-efficacy levels relative to exercise but varied by gender, with men reporting higher self-efficacy than women. It was also found that those with higher levels of SPA experienced lower levels of perceived physical ability, self-presentation confidence, exercised less vigorously and were in poorer physical shape.

Koyuncu, M., Tok, S., Canpolat, A. M., & Catikkas, F. (2010). Body image satisfaction and dissatisfaction, social physique anxiety, self-esteem, and body fat ratio in female exercisers and nonexercisers. *Social Behavior & Personality: An International Journal*, 38, 561-570.

This study primarily focused on the effects that body image satisfaction/ dissatisfaction, self-esteem, and body fat ratio have on SPA. Athletic status was considered as a secondary purpose. 290 female exercisers and non-exercisers aged 18-60 took part in this study at Ege University in Izmir, Turkey. They were divided up into four groups depending on their exercise frequency. Each group took a series of assessments (SPAS, body image satisfaction questionnaire [BISQ], and self-esteem scale), as well as had their body fat ratio assessed through a skinfold measurement. It was found that those who exercised less had higher SPA levels and lower self-esteem and body image satisfaction in conjunction with a higher body fat percentage. Female college athletes were found to have the highest self-esteem and body image satisfaction scores and lower SPA. Related to Hasenblas and Downs (2001) saying, “the possibility that athletes, because of their high physical activity levels, may more closely resemble the current aesthetic ideal of a thin/lean and fit physique for females.”

Leary, M. R. (1992). Self-presentational processes in exercise and sport. *Journal of Sport & Exercise Psychology*, 14, 339.

This article looks at Schlenker’s self-presentation theory (1980) in the context of sport and exercise. Motivation for physical activity participation, choice of activity, and affect regarding participation in sport and exercise are discussed. It has been found that when individuals are in situations where they feel pressured to present themselves to others in a certain way, they may feel a degree of social anxiety. This specifically relates to Hart, Leary, and Rejeski’s theory of Social Physique Anxiety (SPA) (1989). Experiencing SPA can lead to engaging in exercise for certain motives such as wanting to enhance one’s physical appearance to avoid negative self-presentation. SPA may also influence choice of physical activity, as those who feel overly anxious about their physique may choose not to engage in certain activities in which their body will be on constant display (such as swimming or aerobics classes).

Motl, R. W., & Conroy, D. E. (2000). Validity and factorial invariance of the social physique anxiety scale. *Medicine & Science in Sports & Exercise*, 32, 1007-1017.

Motl and Conroy (2000) examined the validity of the Social Physique Anxiety scale, developed by Hart et al. (1989) on a population of male and female college-aged students. The original 12-item along with modified 9-item, and 7-item SPA scales was assessed to determine validity of the overall measure. After testing, it was determined that internal consistency values for the 9-item and 7-item scales were .67 and .72, deeming the 7-item scale the most reliable. This 7-item scale proposes to be the most accurate and valid method of measuring SPA and will therefore be used as the method of assessment in the current study.

Motl, R. W., & Conroy, D. E. (2001). The social physique anxiety scale: Cross validation, factorial invariance, and latent mean structure. *Measurement in Physical Education & Exercise Science*, 5, 81-95.

This work by Motl and Conroy (2001) examines the Physical Self-Efficacy scale in efforts to determine validity and internal consistency values for the entire scale and two subscales respectively when being used with a male and female college-aged sample. An internal consistency value of .79 was found for the entire PSE, along with subscale values of .78 for the PPA and .63 for the PSPC. The researchers determined that this scale may not be the best fit to use on a college-aged population, depending on the question of study

Nehl, E. J., Blanchard, C. M., Kupperman, J., Sparling, P., Rhodes, R., Torabi, M. R., & Courneya, K. S. (2012). Exploring physical activity by ethnicity and gender in college students using social cognitive theory. *ICHPER -- SD Journal of Research in Health, Physical Education, Recreation, Sport & Dance*, 7, 11.

This study examined the use of Social Cognitive Theory, especially self-efficacy, as a predictor the likelihood of exercise among college-aged students of differing genders and ethnicities. Physical activity and self-efficacy levels were assessed over a two-month period to determine if differences would arise between those who participated in exercise and those who did not. It was found that the self-efficacy levels of those who participated in exercise were higher than in those who did not. There were no significant differences noted among gender or ethnicity.

Niven, A., Fawcner, S., Knowles, A., Henretty, J., & Stephenson, C. (2009). Social physique anxiety and physical activity in early adolescent girls: The influence of maturation and physical activity motives. *Journal of Sports Sciences*, 27, 299-305.

This study explored the effects of maturation on SPA with regard to amounts of and motives for engaging in physical activity in adolescent girls. Initial participants included 204 fifth grade girls, and 162 of these girls were part of a follow-up study six months later. The first session included assessments used to measure amount of physical activity, SPA, physical activity motives, and maturation. During the follow-up session, the physical activity questionnaire was completed. Results indicated that physical activity level decreased between the two data collection sessions. Higher motivation was positively correlated with SPA level, as those who matured at a later age had higher levels of SPA. There was also a negative correlation found between SPA and physical activity level. This suggests that as girls mature, SPA levels increase.

Russell, W. D. (2002). Comparison of self-esteem, body satisfaction, and social physique anxiety across males of different exercise frequency and racial background. *Journal of Sport Behavior*, 25, 74-90.

This study examined self-esteem, body satisfaction and SPA in college males with differing racial backgrounds. A total of 557 college-age African-American and Caucasian males from three Midwestern universities participated in this study. Participants were assessed on SPA, self-esteem, and body satisfaction. Frequency of aerobic exercise and resistance training were also accounted for. Results indicated that males scoring high in body dissatisfaction reported significantly higher SPA than those with low body dissatisfaction. Caucasian males also reported higher levels of SPA and lower levels of self-esteem than did their African-American

counterparts with similar BMI levels. Exercise frequency did not have an effect on body dissatisfaction or SPA levels in this study.

Russell, W. D., & Cox, R. H. (2003). Social physique anxiety, body dissatisfaction and self-esteem in college females of differing exercise frequency, perceived weight discrepancy, and race. *Journal of Sport Behavior, 26*, 298-318.

Russell and Cox (2003) explored the relationship of SPA, body dissatisfaction, and self-esteem with regard to race. Participants included 168 African-American and Caucasian college-age females. A series of questionnaires were used to assess these constructs, including SPAS, Rosenberg's Self-Esteem Scale, the Body Cathexis Scale (measuring body image satisfaction). Data was collected regarding the participants' actual and perceived weights along with exercise frequency (aerobic exercise and resistance training specifically). It was found that African-American females had higher actual and perceived weight, but lower levels of SPA and body dissatisfaction and slightly higher levels of self-esteem than Caucasian females.

Ryckman, R. M., Robbins, M. A., Thornton, B., & Cantrell, P. (1982). Development and validation of a physical self-efficacy scale. *Journal of Personality and Social Psychology, 42*, 891-900.

Ryckman, Robbins, Thornton, and Cantrell (1982) worked to develop the Physical Self-Efficacy scale (PSES) in efforts to measure Bandura's (1977) concept of self-efficacy in relation to the body in physical and developmental contexts. A 22-item scale was created containing two subscales, a 10-item Perceived Physical Ability (PPA) subscale and 12-item Physical Self-Presentation Confidence (PSPC) subscale. Items are scored on a 6-point Likert-type scale with anchors including 1 (strongly agree) to 6 (strongly disagree). Higher scores on the PPA and PSPC subscales indicate higher levels of perceived physical ability and physical self-presentation confidence respectively. Higher scores on the overall PSES indicate higher levels of physical self-efficacy among participants. Internal consistency values were established to be .81 for the overall PSE, along with .84 and .74 for the PPA and PSPC.

Sabiston, C. M., & Chandler, K. (2009). Effects of fitness advertising on weight and body shape dissatisfaction, social physique anxiety, and exercise motives in a sample of healthy-weight females. *Journal of Applied Biobehavioral Research, 14*, 165-180.

This study assessed the correlation between fitness-related magazine advertisements and perceptions of body image in females with a healthy weight. Participants included 211 female undergraduate students from a university in southern Ontario. Body image was assessed cognitively (Figure Rating Scale), affectively (SPAS), and behaviorally (Reasons for Exercise Inventory) in a pre-test/post-test design. Subjects were shown advertisements from female fitness magazines with a focus on athletic footwear. They were asked to rate 15 advertisements in regards to their focus on the human model and focus on the athletic shoe. Body image perceptions were tested before and after viewing the advertisements. Results indicated that the affective domain of body image perception (SPA) was influenced the most by viewing fitness advertising, as SPA levels increased as a result of seeing fitness related advertisements.

Sabiston, C., Sedgwick, W., Crocker, P., Kowalski, K., & Mack, D. (2007). Social physique anxiety in adolescence: An exploration of influences, coping strategies, and health behaviors. *Journal of Adolescent Research, 22*, 78-101.

This study took a qualitative approach to explore adolescent female coping strategies for SPA. The sample for this study included 45 adolescent females who took part in 45-60 minute semi-structured interviews in Vancouver, British Columbia, Canada. Participants were asked to explain thoughts and feelings about body shape and appearance, potential situations regarding body-related cognition and affect that would cause discomfort, and strategies to manage social physique anxiety. Results indicated that common coping strategies for SPA include avoidance, appearance management, social support, dietary behavior, physical activity, cognitive reappraisal seeking sexual attention, cognitive deflection and comparison to others, and substance use. Coping strategies are used to avoid situations, which may create anxiety, managing SPA, and seeking social situations, which make one feel more comfortable with her body image.

Schlenker, B. R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization model. *Psychological Bulletin, 92*, 641-669.

Schlenker and Leary (1982) introduced self-presentation theory, or the idea that people make an attempt to influence the perceptions of those around them. Individuals may bring special attention to certain aspects of the self that they are fond of (personality aspects or accomplishments) while deemphasizing others that cause particular amounts of stress or anxiety (i.e. physique or body image). Cognizance of the perceptions others have of us can often cause anxiety of behavior or performance in social settings, which may lead to feelings of inferiority thereby decreasing one's self-esteem.

Self-presentation is often a goal-oriented action, as those who present themselves to others are typically aware that they are doing so and therefore take specific actions in attempts to form a particular impression in the minds of those surrounding them. Specific motivations behind the actions of achieving one's goal of a positive self-presentation include the longing for confirmation of one's own self-perceptions, peer approval, respect, fear of the negative perceptions of others, or seeking a sense of autonomy. The awareness of the interaction between one's own self-perceptions and the perceptions of those around them in a social setting can cause feelings of anxiety to occur and elicit the response of having self-presentational apprehensions.

Scott, L. A. (2005). Effects of exercise and a brief education intervention on social physique anxiety in college students. (Unpublished master's thesis). Georgia Southern University, Statesboro.

This unpublished master's thesis examined the prevalence of SPA in college students as well as designed an intervention to explore the effectiveness of education about body image, body dissatisfaction, media influences on body image, building self-esteem, exercise behavior, nutrition, and building social support networks would have on SPA levels. Participants included 213 students taking Physical Activity classes at GSU and were then divided into two groups, exercise only and behavioral education plus exercise. All participants completed the SPAS-7 at the beginning, after three weeks, and at the conclusion (after six weeks) of the study. Results indicated that a six-week education plus exercise intervention may decrease SPA among college

students as those who received the intervention reported lower levels of SPA than those in the exercise only group.

Scott, L. A., Burke, K. L., Joyner, A. B., & Brand, J. S. (2004). Examining the stability of the 7-item social physique anxiety scale using a test-retest method. *Measurement in Physical Education and Exercise Science*, 8, 57-62.

This study used a test-retest method to assess the strength of the SPAS-7. The SPAS was initially a 12-item self-report questionnaire (Hart et al., 1989) but was modified to a 7-item SPAS by Motl and Conroy (2000). The new model was found to be consistent with the SPAS-12 and therefore gained both validity and reliability as a measure.

APPENDIX C
INSTRUMENTATION

Participant # _____

Demographic Questionnaire

Class participating in _____

Please complete the following demographic information.

Gender (please circle): Male Female

Age: _____

Year in School (please circle):

Freshman

Sophomore

Junior

Senior

5th Year or Graduate

Ethnicity (please circle):

Caucasian

African-American

Asian-Pacific Islander

Hispanic/Latino

Multi-racial

Other _____

7-item Social Physique Anxiety Scale
(Hart, Leary, & Rejeski, 1989)

The following questionnaire contains statements concerning your body physique or figure. By physique or figure we mean your body's form and structure; specifically, body fat, muscular tone, and general body proportions.

Instructions: Read each item carefully and indicate how characteristic it is of you according to the following scale.

- 1 = Not at all characteristic of me
- 2 = Slightly characteristic of me
- 3 = Moderately characteristic of me
- 4 = Very characteristic of me
- 5 = Extremely characteristic of me

- _____ 1. I wish I was not so up-tight about my physique or 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 or 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 physique/figure.
- _____ 7. When it comes to displaying my physique or figure to others, I am a shy person.

Scoring:

The 7-item SPA scale measures the extent to which one feels anxiety relating to body image/physique perceptions in social situations. Each item is scored on a Likert-type scale from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). Responses are then summed to calculate an overall score ranging from 7-35, with higher scores indicating higher levels of SPA. Note that item 5 is reverse scored.

**The Physical Self-Efficacy Scale
(Ryckman et al., 1982)**

Instructions: Below is a list of statements dealing with how confidently and how well you view yourself to be able to perform physical tasks. If you strongly agree with the statement, circle 1. If you agree, circle 2. If you agree somewhat, circle 3. If you disagree somewhat circle 4. If you disagree, circle 5. If you strongly disagree, circle 6.

- (R) 1. I have excellent reflexes. (1) 1 2 3 4 5 6
2. I am not agile and graceful. (1)..... 1 2 3 4 5 6
- (R) 3. I am rarely embarrassed by my voice. (2).....1 2 3 4 5 6
- (R) 4. My physique is rather strong. (1).....1 2 3 4 5 6
5. Sometimes I don't hold up well under stress. (2).....1 2 3 4 5 6
6. I can't run fast. (1).....1 2 3 4 5 6
7. I have physical defects that sometimes bother me. (2)..... 1 2 3 4 5 6
8. I don't feel in control when I take tests involving physical dexterity. (1)..... 1 2 3 4 5 6
- (R) 9. I am never intimidated by the thought of a sexual encounter. (2).....1 2 3 4 5 6
10. People think negative things about me because of my posture. (2)..... 1 2 3 4 5 6
- (R) 11. I am not hesitant about disagreeing with people bigger than me. (2)..... 1 2 3 4 5 6
12. I have poor muscle tone. (1)..... 1 2 3 4 5 6
13. I take little pride in my ability in sports. (1)..... 1 2 3 4 5 6
- (R) 14. Athletic people usually do not receive more attention than me. (2).....1 2 3 4 5 6
15. I am sometimes envious of those better looking than myself. (2)..... 1 2 3 4 5 6
16. Sometimes my laugh embarrasses me. (2)..... 1 2 3 4 5 6
- (R) 17. I am not concerned with the impression my physique makes on others. (2)..... 1 2 3 4 5 6

18. Sometimes I feel uncomfortable shaking hands because my hands are clammy. (2)..... 1 2 3 4 5 6
- (R) 19. My speed has helped me out of some tight spots. (1)..... 1 2 3 4 5 6
- (R) 20. I find that I am not accident prone. (2)..... 1 2 3 4 5 6
- (R) 21. I have a strong grip. (1)..... 1 2 3 4 5 6
- (R) 22. Because of my agility, I have been able to do things which many others could not do. (1)..... 1 2 3 4 5 6

The Physical Self-Efficacy Scale Scoring

The scale is a 22-item, 6-point Likert scale with items answered from strongly agree to strongly disagree. The scale consists of two subscales: Factor 1-Perceived Physical Ability (the number 1 in parentheses following questions indicates Factor 1) and Factor 2- Physical Self-Presentation Confidence (the number 2 in parentheses following questions indicates Factor 2).

Scoring:

1=1 point, 2=2 points, 3=3 points, 4=4 points, 5=5 points, 6 = 6 points.

Items with an (R) in front of them are reverse scored.

1=6 points, 2=5 points, 3=4 points, 4=3 points, 5=2 points, 6 = 1 point.

Sum the scores for the 22 items.

The higher the score, the higher the physical self-efficacy.

Initial Interview Guide

1. When you think about your physique or body image, what comes to mind?
2. When you think about others evaluating your physique, what comes to mind?
3. When you think about displaying your physique to others, what comes to mind?

APPENDIX D
TABLES AND FIGURES

Table 1
Descriptive Statistics of final sample

Variable			
	<i>M</i>	SD	N
SPA total score	17.97	8.01	106
PSE total score	87.47	21.77	106

Figure 1
High SPA Participant Themes

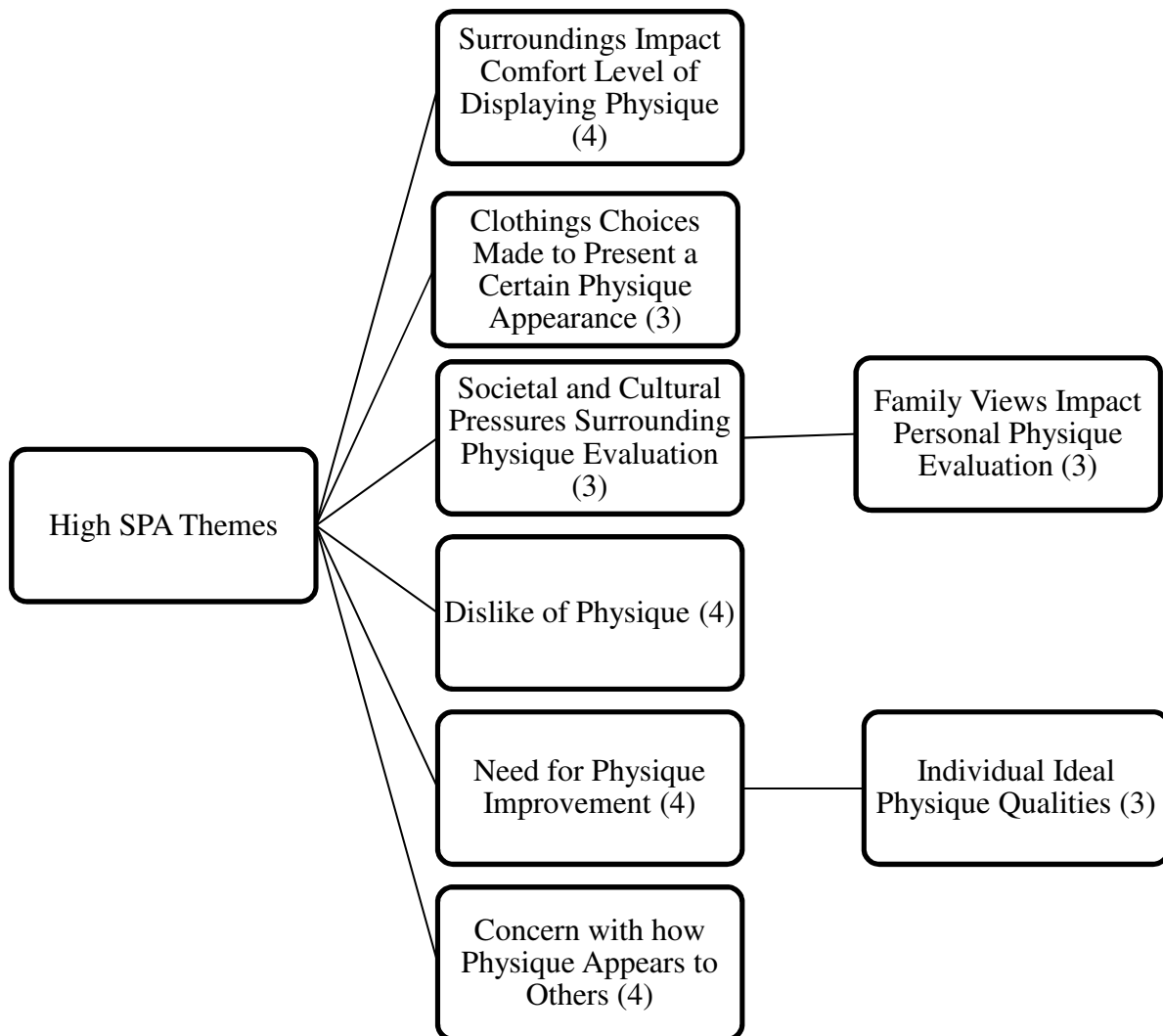


Figure 2
Low SPA Participant Themes

