THE EFFECTS OF SEXUALIZED VERSUS PERFORMANCE IMAGES OF FEMALE
ATHLETES ON SELF-OBJECTIFICATION

A Thesis
by
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Abstract

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Self-objectification theory (SO; Fredrickson & Roberts, 1997) suggests that through

the internalization of societal standards of beauty, women begin to view themselves as

objects for the purpose of others' gratification rather than a person with physical capabilities.

The present study focused on addressing methodological issues of previous research

exploring SO and reproducing findings that suggest sexualized images of female athletes led

to higher levels of state SO in women than performance images (Daniels, 2009). It was also

intended to determine whether levels of state SO in women mediated the relationship

between type of female-athlete image exposure and exercise behaviors, specifically,

preference of exercise locale. Using a between-subjects design, 239 college women were

randomly assigned to one of three image conditions (sexualized, performance, and neutral).

A one-way ANCOVA was conducted with number of beauty statements (SO) as the

dependent variable, type of media image (sexualized, performance, control) as the

independent variable, and total number of statements, trait SO and weekly energy

expenditure as the covariates. Results did not support Daniels' (2009) original findings, as

women exposed to performance and sexualized images focused on physical competence

equally, and women exposed to sexualized images self-objectified marginally more than

women exposed to performance images of athletes. An exploratory measure of state SO (the amount of self-reflection on appearance relative to physical competencies) was examined to address these issues. The inclusion of this difference score demonstrated that women exposed to sexualized images self-reflected on appearance relative to physicality in greater proportions than women exposed to performance images. Addressing methodological issues also proved to be more difficult than anticipated. Implications of these contradictory findings and limitations of this study are also discussed.

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This journey could not have been completed without the motivation and support of my parents, Lisa and Jerry Pepper. Thank you for making me believe I could be anything I wanted to be. Last but not least, Les, thank you for your patience and devoted support during every step of the way.

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Foreword

This thesis is written in accordance with the style of the *Publication Manual of the American Psychological Association (6th Edition)* as required by the Department of Psychology at Appalachian State University

The Effect of Sexualized Versus Performance Images of Female Athletes

on Self-Objectification

Copious amounts of research show regular exercise significantly benefits physical

and psychological health. Among the mental health benefits, physical activity is related to

decreases in anxiety and symptoms of depression (Ramos, Torralba, Gómez, Alquézar, &

Bernardos, 2011), improved physical self-esteem (Altintas & Aşçi, 2008), sustained

cognitive functioning, and increases in motivation, self-control, and self-efficacy (Ramos et

al., 2011). The National Heart, Lung and Blood Institute (U.S. Department of Health and

Human Services, [U.S. DHHS], 2010a) states that exercise helps individuals relax and cope

with stress, and relates to an increase in energy and better sleeping habits. It has also been

shown that exercising for reasons such as health and fitness result in improved body

satisfaction and self-esteem (Heinberg, Thompson, & Matzon, 2001; Strelan, Mehaffey, &

Tiggemann, 2003). Regular exercise has also been linked to a greater degree of physical

health. By strengthening the heart, lungs, muscles, bones, and joints, regular exercise leads

to a decreased risk of heart attack, heart disease, cancer, and conditions associated with

obesity (Marieb & Hoehn, 2007; U.S. DHHS, 2010c; Ramos et al., 2011).

On the other hand, many risks are associated with an inactive lifestyle. For example,

adults and children who do not engage in regular exercise are at higher risk of becoming

obese, which is related to the development of numerous diseases and conditions (U.S.

DHHS, 2010b). According to the Centers for Disease Control and Prevention (CDC, 2011),

33.8 % of adults and 17 % of adolescents between the ages of 2 and 19 years old in the U.S.

are obese, and these numbers are rising. Obesity is accompanied by many social and

economic disadvantages, as well as adverse health effects such as Type 2 diabetes, metabolic

syndrome, hypertension, heart disease and some forms of cancer (Marieb & Hoehn, 2007; U.S. DHHS, 2010b).

According to the World Health Organization (WHO, 2011), physical inactivity may be due to an increase in sedentary behaviors that manifest daily occupational and domestic activities. For example, playing video games is a sedentary behavior that has become a prevalent form of entertainment for people of all ages. The development of interactive gaming has reduced some sedentary behavior found in traditional video games, but the effects on energy expenditure are very small (Lyons et al., 2012; Maddison et al., 2011). Urbanization has also been attributed to declines in physical activity for reasons such as pollution, safety issues and lack of resources (WHO, 2011). Furthermore, the amount of time dedicated to a fitness regimen may be perceived as cumbersome, implausible, and inconvenient for many employed individuals or those with childcare responsibilities (Booth, Bauman, Owen, & Gore, 1997). Individuals can also perceive workout routines to be physically uncomfortable and difficult to maintain.

It may not be surprising that individuals experience conflict between the desire to remain sedentary, avoiding the effort of exercise, and the consistent cultural messages that elevate the importance of exercise for well-being, as well as the appearance-oriented images promoting desired physique and appearance standards. Media, for example, has been heavily criticized for being a top advocator of "ideal" body standards for women (Martin Ginis, Prapavessis, & Haase, 2008; Strahan, Lafrance, Wilson, & Ethier, 2008). Women are continuously portrayed as being exceptionally thin and fit, implying that this is the ideal standard for female beauty when it is unattainable for most women. Women are also portrayed by the media in a sexual manner more often than men (Fredrickson & Roberts,

1997). Several studies show that exposure to these "thin-is-beautiful" and sexual ideals is

associated with negative self-perceptions (Martin Ginis et al., 2008), increased social

physique anxiety (Smith, Wright, Ross, & Warmington, 2006), and higher self-

objectification (Bissel & Zhou, 2004; Fredrickson & Roberts, 1997). Interestingly, it has

been found that some women exercise mainly for appearance-based reasons such as

controlling weight, body tone, and attractiveness (Furia, Lee, Strother, & Huang, 2009;

Heinberg et al., 2001; Kilpatrick, Hebert, & Bartholomew, 2005; Strelan et al., 2003).

Exercising for these reasons has been found to be related to body dissatisfaction, body image

disturbance and disordered eating (Heinberg et al., 2001; Strelan et al., 2003).

Self-objectification Theory

Self-objectification theory, as proposed by Fredrickson and Roberts (1997), has

received a substantial amount of empirical support (Calogero, Tantleff-Dunn, & Thompson,

2011). According to Fredrickson and Roberts, bodies exist in not only a biological context,

but in social and cultural contexts as well. In Western culture, women are often objectified

by being portrayed as bodies to be observed and used for pleasure, instead of a body with

capabilities. These portrayals focus on specific parts of the female body, and even include

instances of dismemberment where the head is completely left out of the picture. This type

of portrayal is accompanied by what Fredrickson and Roberts call an "objectifying gaze,"

which women can experience in various situations. For example, women may witness other

individuals (often men) gawk at images of women, or experience actual encounters in which

others are heckling or verbally expressing their opinions of a woman's appearance.

Women in Western culture are constantly faced with the thin-is-ideal beauty standard,

as well as an emphasis on sexual appeal to a greater extent than men (Fredrickson & Roberts,

1997). Consequently, some women internalize this information and begin to look at their

bodies from an external, objectified point of view. Fredrickson and Roberts proposed this

type of self-monitoring begins around adolescence, when females begin to go through major

physical and hormonal changes due to puberty. The authors suggest that this internalization

occurs as a result of socialization: women comply with the external pressures they experience

through various daily encounters, ending with the adoption of these socialized values as a

sense of self. Self-objectification can be conceptualized as two constructs. Trait self-

objectification occurs when a person chronically focuses on physical appearance, whereas

state self-objectification refers to a temporary focus on personal appearance (Daniels, 2009;

Fredrickson & Harrison, 2005; Fredrickson & Roberts, 1997). Trait self-objectification, in

particular, can be detrimental because it occupies cognitive resources the individual could

use for other tasks. Thus, a woman's attention can be seized by potential surveyors of her

appearance, whether they are real or imagined, present or anticipated (Fredrickson &

Roberts, 1997).

Consequences of self-objectification include shame, anxiety, and the surrender of

peak motivational states (Fredrickson & Roberts, 1997). Shame occurs when individuals

evaluate themselves against an established societal norm and come up short. In the case of

self-objectification, women who compare themselves to the unattainable ideal that is

commonly portrayed in mainstream media will more than likely experience shame. In

addition, self-objectification can lead to appearance anxiety, where individuals are afraid of

being negatively evaluated and constantly monitor their own appearance. For example,

Roberts and Gettman (2004) examined the negative effects of self-objectification by having

participants complete a sentence scramble task that contained subtle primes of self-

objectifying, body-competence based, or neutral terms. The researchers found that when

primed with self-objectifying terms (i.e., *posing, sexiness, beauty, physique, shapely,*

desirable), women between the ages of 17 and 30 reported higher ratings of shame, disgust,

and appearance anxiety in comparison to women primed with competence-based words (i.e.,

fitness, playing, coordinated, wellness, durable, balanced, endurance, strong, health,

stamina, powerful; Roberts & Gettman, 2004).

Finally, self-objectification can lead to a disruption in peak motivational states, also

known as flow (Fredrickson & Roberts, 1997). As stated previously, self-objectification

occupies cognitive resources that could be used for other tasks. During states of flow,

individuals are alleged to lose self-consciousness and become fully absorbed in the activity

being performed (Csikszentmihalyi, 1997). Self-objectification results in a level of self-

consciousness that purportedly disrupts this state of flow (Fredrickson & Roberts, 1997).

Overall, self-objectification has been associated with negative effects on girls' and

women's mental and physical health. Specifically, it has been associated with increased risks

of disordered eating, negative body esteem, and negative effects on psychological wellbeing

(Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). Therefore, the development of a

better understanding of the potential negative side effects of popular mainstream media is

important for reducing their impact on women.

Media Images and Self-Objectification

While most of the mainstream media contains visual depictions that can lead to self-

objectification, not all media portrayals of women result in negative effects. Studies have

shown that exposure to certain kinds of female sport media may result in a more positive

attitude about the body, leading girls and women to think about physical capabilities instead

of appearance (Bissell & Zhou, 2004; Daniels, 2009; Harrison, & Fredrickson, 2003). For

example, Daniels (2009) examined the effects of disparate media representations of female

models and athletes on self-objectification in adolescent girls and college women. Daniels

exposed participants to different images of female athletes or models and then had them

complete a self-description task after viewing each image. In each condition, Daniels had

participants view five different photographs from one of the following conditions: (a)

sexualized athlete, (b) performance athlete, (c) sexualized model, or (d) nonsexualized

model. Sexualized models posed in bathing suits or lingerie, and nonsexualized models were

depicted in semi-casual clothing. Sexualized athletes were depicted in bathing suits, whereas

nonsexualized athletes included images of athletes performing in their sport. The researchers

conducted a pilot study using male and female college students as subjects to make certain

the photographs were alike across conditions on levels of attractiveness, affect, and age.

Images of athletes in each condition were chosen based on how they were most commonly

portrayed in the media in order to increase ecological validity. So, athletes used in the

sexualized condition were not the same athletes used in the nonsexualized condition. For

example, images of Anna Kournikova were used in the sexualized athlete condition and not

in the nonsexualized athlete condition because much of her notoriety was gained as "a sex

object" rather than as a tennis player (Daniels, 2009, p. 408).

After viewing the images, participants respond to statements that prompted them to

think about the self (e.g., "I am _____"; see Fredrickson et al., 1998 for greater detail on the

revised version of the Twenty Statements Test [TST]; Kuhn & McPartland, 1954). She then

categorized self-statements into six categories of: (a) body shape and size, (b) appearance, (c)

physicality, (d) traits, abilities, hobbies, political affiliation, (e) states and emotions, and (f)

uncodable (Daniels, 2009). As predicted, Daniels found that women in the performance

athlete image (nonsexualized athlete) condition used more physicality statements ("I am

good in some sports"), and fewer beauty statements ("I am beautiful"), and non-body

statements ("I am friendly") to describe themselves, indicating that participants in this

condition exhibited a more instrumental view of their bodies than an appearance-based view.

Also, in comparison to participants in the sexualized athlete, sexualized model, and

nonsexualized model conditions, participants in the performance athlete condition used

significantly more physicality statements to describe themselves. Furthermore, participants

in the performance image condition provided fewer beauty statements than participants in the

sexualized athlete and sexualized model conditions. As predicted, individuals in the

sexualized athlete and sexualized model conditions used higher proportions of beauty

statements to describe themselves than physicality or nonbody statements. When compared

to other groups, participants in the two sexualized conditions used more beauty statements to

describe themselves than participants in the performance image and nonsexualized model

conditions, who did not differ in number of beauty statements used (Daniels, 2009).

Participants in the sexualized athlete condition used the same number of physicality

statements as those in the nonsexualized model and sexualized model conditions, but used

fewer physicality statements than those in the performance athlete group, as previously

stated.

        Overall, the findings suggest that females will experience less self-objectification

when exposed to performance images of other women than when exposed to sexualized

images of other women. Of particular importance to the present study are the findings

related to exposure to sexualized athletes, which coincides with findings from other research

suggesting that exposure to this type of media can be problematic for viewers (Daniels, 2009; Groesz, Levine, & Murnen, 2002; Holmstrom, 2004). Images of sexualized athletes and models seem to encourage self-objectification, which may be problematic for girls and women who look at athletes as role models. Daniels (2009) goes on to suggest that those who experience higher self-objectification and do not participate in a sport or regular physical activity may avoid exercise altogether, missing out on the positive psychological and physical effects.

Interestingly, individual differences in levels of self-objectification have been linked to actual sports performance. Fredrickson and Harrison (2005) used self-objectification theory in an attempt to explain sex differences between throwing tasks. Participants included 202 girls ranging from the ages of 10 – 17 years old. Using a pretest-posttest format, participants met first to complete questionnaires assessing degree and type of sport participation and trait self-objectification (as measured by the Trait Self-Objectification Questionnaire developed by Noll and Fredrickson, 1998).

One week later, participants met again to complete questionnaires assessing state-objectification, and then proceeded to a gymnasium to complete a throwing task. State-objectification was measured using procedures suggested by Fredrickson et al. (1998) that were outlined in the description of Daniels' (2009) study above. For the throwing task, each participant was instructed to "throw the ball as hard as you can" three times against a wall that was approximately 50 feet away (Fredrickson & Harrison, 2005 p. 89). These tasks were videotaped and coded by an advanced kinesiology student using a system developed by Robertson and Halverson (1984) to evaluate distinct components of the throwing motion.

The participants also completed two short questions immediately following the throwing task.

Results from a series of hierarchical linear regressions indicated that age and softball participation predicted throwing performance, whereas race did not. These results are not surprising given that motor skills progress with age (Halverson, Robertson, & Langendorfer, 1982), as well as with experience in regards to this task. State and trait self-objectification combined predicted more variance than age and participation, indicating that those with higher self-objectification also performed worse at the throwing task. Fredrickson and Harrison suggested that those who tend to self-objectify more, may be limited in how physically effective their bodies are due to the constant monitoring of their appearance. Furthermore, emphasis on female beauty and bodies-as-objects may reinforce women to not only feel "physically ineffective," but also be "physically inactive" (Fredrickson & Harrison, 2005, p. 93; see also Daniels, 2009; Fredrickson & Roberts, 1997).

Exercise Behavior and Self-Objectification

Regrettably, research assessing the prediction of exercise behaviors varies and has been met with some difficulty (Eklund & Crawford, 1994; Melbye, Tenenbaum, & Eklund, 2008; Prichard & Tiggemann, 2008). Furthermore, research exploring the relationship between self-objectification and exercise behaviors has also been limited and contradictory (Melbye et al., 2008). For example, previous research has suggested that women with a tendency to self-objectify do not participate in exercise as often as women who do not self-objectify (Greenleaf, 2005; Melbye et al., 2008). Additionally, it has also been found that physical activity is associated with reduced self-objectifying thoughts due to increased perceptions of physical competence and satisfaction with one's body (Aşçi, 2003; Williams

& Cash, 2001). However, Wolfe (1999) found that self-objectifying thoughts were triggered during exercise, and women were particularly susceptible to self-objectifying thoughts while exercising.

Taking more specific exercise behaviors into consideration, such as preference of exercise locale, may shed some light on these contradictory findings. Previous research by Martin Ginis, Jung, and Gauvin (2003) found that sedentary women felt worse following a 20-minute exercise bout in an environment containing mirrors than sedentary women who exercised for the same amount of time in a non-mirrored environment. In reference to active individuals, Prichard and Tiggemann (2005) found that aerobics instructors exhibited lower levels of self-objectification compared to aerobics participants, who reported relatively higher levels of self-objectification. Prichard and Tiggemann (2008) later found that time spent exercising in fitness centers related positively to levels of self-objectification and disordered eating, and negatively to body esteem and time spent exercising outside of the fitness environment. Due to the correlational nature of the study, Prichard and Tiggemann brought attention to the possibility that instead of characteristics of the fitness environment leading to higher levels of self-objectification, those who already have higher levels of self-objectification may choose to exercise in fitness center environments. Choosing to exercise in this type of environment may "reinforce, increase, and maintain [women's] level of self-objectification" (Prichard & Tiggemann, 2008, p. 864).

However, Melbye et al. (2008) found a more complicated view of self-objectification's relationship to exercise behavior in a study of women ages 18 to 76. Dispositional levels of self-objectification did not relate to forms of exercise, with whom they exercised, or exercise duration. They did find that women's trait self-objectification

negatively correlated with exercise adherence and preference to exercise outdoors. However, trait self-objectification was positively correlated with preference for using cardio machines (although this was a trend) and preference for exercising in a public facility. This latter finding was unanticipated given that the researchers expected women with more trait self-objectification to prefer to exercise in private settings. They suggested that women who report high levels of self-objectification may still desire to exercise in public facilities, but choose to exercise in inconspicuous places (Melbye et al., 2008). This type of behavior has been noted in individuals who report higher levels of social physique anxiety (Brewer, Diehl, Cornelius, Joshua, & Van Raalte, 2004), which incidentally was positively correlated with self-objectification in Melbye et al.'s (2008) study. It may also be that those with lower self-objectification are more willing to exercise outdoors, where they are less likely to experience negative consequences of being on display to those passing by (Melbye et al., 2008). Note that the results of this study could be limited due to the nature of the survey measuring exercise behaviors. Participants were only allowed to select one answer for each question pertaining to preference of exercise locale. Therefore, they may have been pressured to provide an answer that did not fully reflect their preferences. For that reason, a measure exploring preference of exercise location should be constructed so that participants have the option of choosing more than one location.

The Current Study

Both Daniels (2009) and Fredrickson and Harrison (2005) present an interesting juncture for research on exposure to sports media portraying female athletes. On the one hand, elite performance in many sports would require a woman to be both lean and appropriately muscular, or in other words, to embody the thin ideal (Harrison & Fredrickson,

2003). Exposure to these images would arguably induce self-objectification in a female viewer. Inducement of self-objectification may consequently lead women to feel more self-conscious and less physically competent, potentially influencing their exercise behaviors. Furthermore, those who self-objectify may exercise for appearance-based reasons rather than health-based reasons, which have been associated with negative effects on mental and physical health (Prichard & Tiggemann, 2005; Prichard & Tiggemann, 2008; Strelan et al., 2003). On the other hand, sports images of women engaging in their sport might emphasize "what a body can do," and lead to an instrumental view rather than an objectified view of the body (Harrison & Fredrickson, 2003).

Although Daniels (2009) assessed self-objectification after exposure to female athlete images, preference of exercise locale was not assessed following exposure. Furthermore, Daniels did not adequately control for type of sport across the images that were used. For example, an image of Anna Kournikova (tennis) was used in the sexualized athlete condition and not in the performance condition because her notoriety was associated with her sex appeal, popularized by the media, and not her tennis performance. By contrast, an image of Mia Hamm (soccer) engaged in her sport was used in the performance condition and not in the sexualized condition because she was not normally portrayed in that manner. Use of the same athletes across conditions in the present study provided a stricter control for levels of attractiveness as well as variance that could occur due to different types of sports. In addition, Daniels (2009) did not include a control condition where athletes were portrayed neither sexually nor performing in their sport. The control condition in the present study includes images of female athletes wearing athletic clothing in neutral poses, meaning they are not posing in bathing suits or performing a sport. The inclusion of this type of control

condition allows for accurate comparisons between the experimental groups and a baseline, providing more insight on the effects of exposure to sexualized images and performance images. Finally, this study also addresses limitations of research by Melbye et al. (2008), whose measure of exercise behaviors was self-limiting. Participants in the present study had the ability to select more than one response to questions addressing exercise behaviors, providing responses that fully reflect their preferences of exercise locale.

Thus, the purpose of the present study was to examine (1) whether sexualized and performance-based images of the *same* female professional athlete influence levels of self-objectification; and (2) to utilize an experimental manipulation of self-objectification to examine its potential influence on reported exercise behaviors using a measure that fully reflected participants' responses.

In accordance with findings by Daniels (2009), it was expected that female participants exposed to sexualized images would report higher levels of state self-objectification than participants in both the performance image and control groups by using more beauty statements than participants in other conditions. Since there was no control group provided in previous literature discussed (Daniels, 2009), no prediction was made pertaining to the relationships between participants in the performance image group and full-body neutral image group. Given that the association between the self-objectification and exercise behaviors is unclear, the relationship between the experimental manipulation of self-objectification and exercise behaviors (specifically exercise locale) was explored without a directional hypothesis. Additional exploratory measures include participant BMI, exercise participation, and Social Physique Anxiety Scale, which explores how anxious an individual becomes while being evaluated by others (Hart, Leary, & Rejeski, 1989).

Method

Participants

Two-hundred-thirty-nine women between the ages of 18 and 48 ($M = 19.86$, $SD = 3.01$) were recruited from introductory and lower-level psychology courses at a mid-sized Southeastern, comprehensive University. Participants completed the study online, and were offered extra credit for participation. Approval was granted by the Institutional Review Board on October 31, 2012 (Appendix A) and all procedures complied with APA (2013) ethical standards. One subject was excluded from the initial sample due to suspicion of the hypotheses. Seven participants were excluded from analyses because their ages were more than three standard deviations above the mean. Further evidence supporting this exclusion is research that suggests older women report lower levels of self-objectification than younger women (Greenleaf, 2005; Tiggemann & Lynch, 2001). Eight additional subjects were excluded from analysis because self-reported measures of weekly energy expenditure (GEQ, Godin & Shephard, 1985) were greater than three standard deviations from the mean.

Materials

Images of Professional Athletes. Images of five female professional athletes were used for this study. A pilot study was conducted to determine which photographs to include in each condition based on how sexual or powerful participants perceived the images to be. In an online study constructed using irSurvey (a survey service provided by Appalachian State University), participants first viewed an informed consent form (see Appendix B) prior to agreeing to participate. Once the participants agreed, they were exposed to a total of 45 images of the following athletes: Jennie Finch (softball), Anna Kournikova (tennis), Maria Sharapova (tennis), Leryn Franco (javelin thrower), and Alex Morgan (soccer). For each

athlete, three types of images were presented. In the sexual photo condition, athletes were depicted posing in a bikini. In the performance condition, they were depicted engaged in their sport. In the control condition, a neutral photo of the athlete was presented. In some neutral photos, athletes appeared in athletic clothing, but were not depicted performing their sport. For each image, participants were asked to indicate if they considered the photo to be sexual, powerful, or neither. Next, participants responded to five items asking them to indicate the extent to which they agreed with the following statements on a scale of 1 (*strongly disagree*) to 5 (*strongly agree)*: (a) this person appears powerful, (b) this person is attractive, (c) this person appears masculine, (d) this person appears sexual, (e) this person appears feminine.

As criteria for selection into the primary study, photos representing each category were selected as *sexual, powerful,* or *neutral* by a significant majority of raters. Then, within categories, the photographs with the highest mean ratings for the category-specific trait (e.g., *this person appears sexual* for the sexual photo condition) were selected for the primary study. Ratings of attractiveness, masculinity, and femininity were relatively equal across photo types. This selection process resulted 15 stimulus photos, five of each female athlete depicted in a sexualized posed, five of each depicted in a performance pose, and five of each depicted neutrally.

Measures

Exercise Participation. Exercise participation was measured using the Godin Leisure-Time Exercise Questionnaire (Godin & Shephard, 1985). This is a brief, four-item questionnaire assessing exercise habits carried out during leisure time (see Appendix C). Participants were asked to indicate how many times during a seven-day period they

participate in strenuous exercise, moderate exercise, and mild exercise for at least 15 minutes during their free time. Responses to these items were used to calculate *total energy expenditure*, in METs, over a seven-day period. Weekly frequencies of strenuous, moderate, and light activity were multiplied by nine, five, and three METs, respectively. These values were then summed to generate total weekly energy expenditure during leisure time. A final item assesses how often individuals report participating in regular activity enough for them to build up a sweat over a seven day period. Participants are given the option to select 1 (*often*), 2 (*sometimes*), or 3 (*never/rarely*; Godin & Shephard, 1985). The Godin Leisure-Time Exercise Questionnaire has demonstrated high test-retest reliability ($r = .74$; Godin & Shephard, 1985) and moderate validity ($r = .32$) when validated against other activity measures (Sallis, Buono, Roby, Micale, & Nelson 1993).

Trait Self-objectification. Trait self-objectification was measured using a modified version of the Self-Objectification Questionnaire (Noll & Fredrickson, 1998). This measure, modified by Wagner Oehlhof, Musher-Eizenman, Neufeld, and Hauser (2009), required respondents to rank a list of 10 body attributes in order of how important each is to one's physical self-concept (see Appendix D). Assigning a rank value of 0 indicates the attribute has the least amount of impact on physical self-concept, while assigning a rank value of 9 indicates that attribute has the highest impact on physical self-concept. Five body attributes are appearance based and include: physical attractiveness, weight, sex appeal, measurements, and muscle tone. The remaining five attributes are competence based and include: muscular strength, physical coordination, health, physical fitness, and physical energy level (e.g. stamina). Scores range from -25 to 25, with higher scores indicating higher levels of self-objectification (Noll & Fredrickson, 1998; Wagner Oehlhof et al., 2009). This measure has

demonstrated adequate construct validity (Noll & Fredrickson, 1998; Wagner Oehlhof et al.,

2009) by positive correlations with scores on (a) the Appearance Anxiety Questionnaire

(Dion, Dion, & Keelan, 1990; $r = .52, p < .01$); and (b) the Body Image Assessment

(Williamson, Davis, Bennett, Goreczny, & Gleaves, 1989; $r = .46, p = < .01$). These

correlations show that the Self-Objectification Questionnaire emphasizes the fixation on

appearance, but it is not akin to appearance anxiety or body image.

State Self-objectification. Participants completed a modified version of the Twenty

Statements Test (Kuhn & McPartland, 1954) to measure state self-objectification, which is a

method that has been used in previous studies (Daniels, 2009; Fredrickson & Harrison, 2005;

Fredrickson et al., 1998; Quinn, Kallen, Twenge, & Fredrickson, 2006). This exercise

prompted individuals to think about the self in response to viewing the images. Participants

were asked to complete 20 sentences beginning with "I am _____" (see Appendix E). To be

consistent with the method employed by Daniels (2009), independent coders (one female,

one male) were used to code responses into one of the following six categories: (a) body

shape and size (e.g., "I am too thin," "I am overweight"); (b) appearance (e.g., "I am pretty,"

"I am ugly"); (c) physicality (e.g., "I am good at sports," "I am weak"); (d) traits, hobbies,

abilities, political affiliation (e.g., "I am a democrat," "I am nice," "I am into acting"); (e)

states or emotions (e.g., "I am hungry," "I am happy"); and (f) uncodable or illegible. The

physicality category was modified similarly to the method used by Daniels (2009), in that

statements included encompassed not only physical competencies but physical activity as

well (e.g., "I am a volleyball player," "I am a cheerleader"). For each participant, the total

number of statements in each category was recorded. Approximately 20% of participants'

responses were selected to calculate inter-rater reliability. Inter-rater agreement for each

thematic category was as follows: body shape and size, κ = .78; appearance, κ = .73;

physicality, κ = .64; traits, abilities, hobbies, political affiliation, κ = .34, states and emotions,

κ = .29; and uncodable, κ = .42. Validity of the TST for the use of examining state self-

objectification has not been extensively examined. However, it has been used for this

purpose in previous research (Daniels, 2009; Fredrickson & Harrison, 2005; Fredrickson et

al., 1998; Quinn et al., 2006).

Exercise Behaviors Survey. A modified version of the Exercise Behaviors Survey

constructed by Melbye et al. (2008) was used to assess the participants' exercise behaviors

(see Appendix F). This questionnaire asked participants to indicate preferences pertaining to

exercise locale (1 = *gym/public facility,* 2 = *outdoors,* or 3 = *at home*), type of exercise

apparel (1 = *sports bra and spandex,* 2 = *don't care,* 3 = *baggy t-shirt and shorts),* company

(1 = *group, not necessarily friends*, 2 = *with friends*, 3 = *alone*), and mode of exercise

(*weight training, ball sports, aerobic classes, running/walking, yoga/pilates, karate/martial

arts, cardio machines, swimming*, *outdoor sports, dance, gymnastics,* and other modes

specified by the participant). As in Melbye et al. (2008), scores for all responses were

summed. Lower scores indicate self-permissive behaviors: behaviors that are likely to place

the individual in situations that could produce anxiety. Higher scores on the other hand,

indicate self-protective behaviors: actions taken so that one could avoid potential anxiety-

inducing situations (Melbye et al., 2008).

Four items, each on a 5–point scale (1 = *disagree*, 5 = *agree*), were created to

measure preferred exercise locale in a more continuous fashion. Two items assess the degree

to which a person desires exercising privately or publically in an indoor setting: *I most

prefer to exercise alone in an indoor setting (i.e., in your home); I most prefer to exercise*

publically in an indoor setting (i.e., public facility). The other two items assess the degree to

which a person desires exercising privately or publically in an outdoor setting: *I most prefer*

to exercise alone in an outdoor setting; I most prefer to exercise publically in an outdoor

setting.

        Social Physique Anxiety. Social physique anxiety (SPA, see Appendix G) was

measured by the Social Physique Anxiety Scale (SPAS; Hart, Leary & Rejeski, 1989). The

SPAS is a 12-item self-report scale indicating how anxious people become while being

observed or evaluated by others. Each participant indicated the extent to which each item

applied to them on a scale of 1 (*not at all*) to 5 (*extremely characteristic*). Higher scores

indicate the individual experiences greater anxiety when being evaluated by others. This

scale has demonstrated high test-retest reliability ($r = .82$) and high inter-item reliability ($r =

.90$; Hart et al., 1989). The SPAS has also demonstrated significant correlations with public

self-consciousness ($r = .30$), demonstrating construct validity (Hart et al., 1989). Overall,

Hart et al. (1989) demonstrated that the SPAS is both a reliable and valid measure of social

physique anxiety.

        Manipulation Check. As described previously, participants responded to a

manipulation check (see Appendix H) for the stimulus materials, where they were asked to

recall the five photographs shown at the beginning of the study and indicate which of the

following terms best described them: *sexualized, performance*, or *neutral*. It was required

that each participant correctly identify the descriptive word for the condition for which they

were randomly assigned. With each image, participants rated the athlete's attractiveness

using a scale from 1 (*very* unattractive) to 7 (*very* attractive) which demonstrated relatively

high internal consistency, $\alpha = .813$. Ratings of attractiveness for each athlete were examined

to ensure athletes were found equally attractive across each condition.

Procedure and Design

Participants completed the study online. In a between-subjects design, participants

were randomly assigned to one of three media conditions: (1) sexualized images, (2)

performance images, or (3) control condition containing neutral photos. Random assignment

was accomplished by asking participants to indicate the range of time (10 minute intervals

within the hour) in which they began the survey. If participants indicated they began the

survey within minutes zero through nine of the hour, or within minutes 30 through 39 of the

hour, they were directed to an informed consent form (see Appendix I) containing a link to

the survey for the sexualized image condition. If participants indicated they began the survey

between minutes 10 through 19, or 40 through 49 of the hour, they were directed to the same

informed consent form, instead with a link to a survey containing the control image

condition. Finally, if participants indicated they began the survey between minutes 20

through 29 or 50 through 59 of the hour, they were directed to the informed consent page

containing a link to the performance image condition.

At the beginning of the survey, participants were asked to complete basic

demographic measures (age, race, gender, sexual orientation, academic major, height and

weight for BMI, current and relative clothing size, and current athlete status (see Appendix

J), as well as a measure of exercise participation. Participants then viewed the five images

included in their condition, rating the athlete's attractiveness in each image. The athlete's

name and sport were identified on each image. Subsequently, participants completed

questionnaires measuring state self-objectification, reasons for exercise, exercise behaviors,

trait self-objectification, social physique anxiety, socio-cultural attitudes towards appearance, and the manipulation check item in that order. Following completion of the questionnaires, participants were directed to a second survey that collected information necessary to award Experiential Learning Credits. At the completion of the procedure, participants were thanked for participating.

Results

Manipulation check

Based on participants' responses to the manipulation check identifying the type of images to which they were exposed – sexual, performance, or neutral – 86 participants failed to correctly identify the condition to which they were randomly assigned (10 from the performance condition, 8 from the sexualized condition, and 67 from the control condition). For the control condition, 62% of those participants identified these images as performance images rather than neutral images. Twenty-five percent identified the photos as sexual, and 13% identified them as neutral in the control condition. One participant did not provide a response to the manipulation check.

With each image, participants rated attractiveness of the athlete. See Table 1 for descriptive statistics for ratings of attractiveness for each athlete across condition. As seen in Table 2, further exploration of attractiveness ratings revealed differences across condition for images of Leryn Franco and Maria Sharapova. Tukey's post-hoc comparisons of the three image conditions indicated that participants in the sexualized image condition gave significantly higher attractiveness ratings for images of Leryn Franco than participants in the performance image condition ($p = .038$). Furthermore, participants in the control condition rated the neutral image of Maria Sharapova as significantly less attractive than participants

who viewed either the sexualized image ($p = .003$) or the performance image ($p = .009$) of

Maria Sharapova.

The nature of responses to the manipulation check revealed ambiguity regarding how

to categorize these images. Therefore two sets of analyses (Sample 1, Sample 2) are

presented. Sample 1 includes only those 143 participants between the ages of 18 and 23 who

answered the manipulation check correctly. Sample 2 includes participants from the

performance and sexualized condition who answered the manipulation check correctly, and

eliminated the control condition entirely. This was done due to the fact that this condition

was most dramatically influenced by misidentification of the category (only 10 participants

remained using the manipulation check criterion – and could be considered outliers in the

group). The second sample contains 133 females between the ages of 18 and 23. See Table

3 for descriptive statistics for demographic information on participants used in analyses by

condition.

Planned Analyses

To test predictions exploring levels of state self-objectification across three levels of

the independent variable, media image (sexualized, performance, control), a one-way

ANCOVA with number of beauty statements as the dependent variable was conducted.

Follow-up 1 (sexualized) vs. 2 (performance and neutral) planned comparisons were

proposed for beauty statements. Total weekly energy expenditure, trait self-objectification,

and total number of statements made served as covariates. To investigate the possible

influence of an experimental manipulation of state self-objectification on the preference of

exercise locale, a meditational analyses following a four-step criterion proposed by Baron

and Kenny (1986) was conducted. Further exploratory analyses included measures of social physique anxiety and participant BMI.

Sample 1

      Preliminary analyses. When asked to complete self-descriptive statements, participants made an average of 17 statements ($M = 16.95$, $SD = 5.85$). Distribution of statements in the six categories was as follows: 10.97% physicality; 13.53% body shape and size; 12.38% appearance; 45.71% traits, abilities, hobbies, political affiliation; 12.05% states and emotions; 5.36% uncodable. Refer to Table 4 for descriptive statistics for self-descriptions by thematic category for each condition.

      In concordance with Daniels (2009), some categories were further combined into *nonbody-related* and *beauty-related* categories to explore the differences between the numbers of statements made pertaining to "how the body looks" versus "what it can do." The beauty-related category included statements from the body shape and size and appearance categories, while the nonbody-related category included statements from the states and emotions category, and the traits, abilities, hobbies, and political affiliation category. The uncodable category was not included in analyses. Within the sexualized condition, there was a significant positive relationship between the number of physicality statements and number of beauty statements made, $r(71) = .270$, $p = .021$. There was no relationship between the number of beauty statements and physicality statements within the performance group, $r(58) = .213$, $p = .102$, and control group, $r(8) = .458$, $p = .183$. Refer to Table 3 for descriptive statistics for the number of beauty and physicality statements made by participants in each condition. See Table 5 for proportions of statements in these categories by condition.

Participants responded to both categorical and continuous measures of preference of exercise locale. Results from continuous measures were used in exploratory analyses. The categorical measure allowed participants to indicate preference of exercise locale by selecting one or more of the following options: gym/public facility, outdoors, private facility (i.e. dance studio), at home, or other. Only three participants selected more than one option, and none of the participants selected the preference to exercise at home; thus these two categories were excluded. Refer to Table 6 for descriptive statistics for the categorical measure of exercise locale preferences by condition. Refer to Table 7 for descriptive statistics for continuous measures of exercise locale preferences by condition.

Hypothesis Testing. It was predicted that participants in the sexualized image condition would report higher levels of self-objectification by using more beauty statements than those in the performance image condition and control image condition. Number of beauty statements was submitted to a one-way ANCOVA analysis across levels of type of image (sexualized, performance-oriented, or neutral) with trait self-objectification, weekly energy expenditure, and the total number of statements included as covariates. Neither trait self-objectification ($F[1, 136] = 2.05$, $p = .155$, *partial η^2* $= .015$) nor total weekly energy expenditure were significant covariates, $F(1, 136) = .014$, $p = .906$, *partial η^2* $= .000$. The covariate total number of statements made was significantly related to number of beauty statements, $F(1, 136) = 14.10$, $p < .001$, *partial η^2* $= .094$. See Table 8 for descriptive statistics for covariates used in analysis. Although the omnibus ANOVA was not significant across the three image conditions, $F(2, 136) = 1.70$, $p = .186$, *partial η^2* $= .024$, a one-versus-two a priori comparison indicated a marginally significant difference, $t(136) = 1.71$, $p = .089$, $d = .29$ for the number of beauty statements made between participants in the sexualized

condition ($M = 4.90$, $SD = 4.17$) and participants in the performance and control conditions ($M = 3.86$, $SD = 3.05$). This is consistent with predictions. See Table 3 for descriptive statistics for number of beauty statements, and Table 8 for descriptive statistics for covariates.

To explore the relationship between the number of physicality statements (dependent variable) and image condition (independent variable), a one-way ANCOVA analysis was used covarying trait self-objectification, total weekly energy expenditure, and total number of statements. Neither trait self-objectification ($F[1, 136] = .384$, $p = .536$, $partial\ \eta^2 = .003$) nor total weekly energy expenditure ($F(1, 136) = 2.50$, $p = .116$, $partial\ \eta^2 = .018$) were significant covariates. The covariate total number of statements was significantly related to number of physicality statements, $F(1, 136) = 13.72$, $p = .037$, $partial\ \eta^2 = .032$. The effect of image condition on total number of physicality statements was not statistically significant, $F(2, 136) = 2.27$, $p = .107$, $partial\ \eta^2 = .032$, after accounting for trait self-objectification, total weekly energy expenditure, and total number of statements made. A Helmert contrast (conducted because this was not a priori planned contrast) revealed a statistically significant difference, $t(136) = -2.06$, $p = .042$, $d = .35$, in the number of physicality statements between the sexualized condition ($M = 1.59$, $SD = 1.42$) and the performance and control conditions ($M = 2.14$, $SD = 2.09$). There was no statistically significant difference, $t(136) = -.76$, $p = .448$, $d = .13$, in the number of physicality statements between the performance condition and control condition. See Table 3 for descriptive statistics for number of physicality statements, and Table 8 for descriptive statistics for covariates for each condition.

Consistent with Daniels' (2009) analyses, beauty versus physicality statements were compared within conditions. Participants in the sexualized condition made significantly

more beauty statements than physicality statements, $t(72) = -7.04$, $p < .001$, $d = 1.06$. Unlike

Daniels, however, within the performance condition, participants also made significantly

more beauty statements than physicality statements, $t(59) = -4.25$, $p < .001$, $d = .70$. Within

the control condition, beauty and physicality statements did not differ, $t(9) = -1.31$, $p = .222$,

$d = .44$. It is important to note the small sample size of this condition reduces the probability

of detecting a statistically significant difference ($\beta = .53$). Refer to Table 3 for descriptive

statistics for number of number of beauty and physicality statements by condition.

      Exploratory Analyses. A series of Pearson correlations were conducted exploring

the relationships among the following dependent measures: BMI, SPA, number of beauty

statements, number of physicality statements, and preferences to exercise alone indoors,

publicly indoors, alone outside, and publicly inside. See Table 9 for correlation coefficients

between these measures. Of primary interest was the relationship between the independent

variable (type of image), state self-objectification, and exercise locale preference, given that

a meditational function of self-objectification between image condition (causal variable) and

exercise locale (outcome variable) had been proposed.

      A mediational analysis using regression based on four-step criterion proposed by

Baron and Kenny (1986) was utilized to explore whether state self-objectification mediates

the relationship between type of image (sexualized, performance, neutral) and preference of

exercise locale. The first step required showing that type of image was related to preference

of exercise locale. The next step required demonstrating a relationship between type of

image and state self-objectification, and the third step involved using multiple regression to

show that preference of exercise locale was influenced by state self-objectification and type

of image. The final step illustrates complete mediation if the effect of type of image on

preference of exercise locale was diminished after controlling for state self-objectification.

As shown in Table 9, however, the absence of a significant relationship between the number

of beauty statements (state self-objectification) and preference of exercise locations indicated

mediation analyses would be inappropriate.

Additional relationships between dependent measures were discovered and can be

found in Table 9. Specifically, the number of physicality statements made by participants

was negatively related to BMI. Also, levels of social physique anxiety were positively

related to BMI and number of beauty statements made, and negatively related to the

preference to exercise publicly outdoors. Refer to Table 3 for descriptive statistics for SPA,

BMI, and number of beauty statements. Relationships between preferences of exercise locale

were also discovered, such that the preference to exercise publicly indoors was negatively

related to the preference to exercise both alone indoors and alone outside; and the preference

to exercise alone outside was positively related to the preference to exercise publicly outside.

Refer to Table 7 for descriptive statistics for continuous measures of exercise locale

preferences.

An assessment of state self-objectification (SSO) was generated for exploratory

analyses by subtracting the number of physicality statements from the number of beauty

statements. This value took into consideration the number of beauty statements made

relative to number of physicality statements. Higher values for SSO indicate higher levels of

state self-objectification. To explore a relationship between this new measure of state self-

objectification and image condition, a one-way ANCOVA analysis was used covarying trait

self-objectification, total weekly energy expenditure, and total number of statements made.

Neither trait self-objectification ($F[1, 136] = 2.95$, $p = .088$, *partial η^2 = .021*) nor total

weekly energy expenditure were significant covariates, $F(1, 136) = .44$, $p = .509$, *partial* $\eta^2 =$ .003. The covariate total number of statements was significantly related to SSO, $F(1, 136) =$ 7.10, $p = .009$, *partial* $\eta^2 = .050$. The effect of image condition on SSO was statistically significant, $F(2, 136) = 4.10$, $p = .019$, *partial* $\eta^2 = .057$, after accounting for trait self-objectification, total weekly energy expenditure, and total number of statements. A Helmert contrast revealed a statistically significant difference, $t(136) = 2.70$, $p = .008$, $d = .46$, in SSO between the sexualized condition ($M = 3.32$, $SD = 4.02$) and the performance and control conditions combined ($M = 1.71$, $SD = 3.22$). There was no statistically significant difference, $t(136) = .82$, $p = .411$, $d = .14$, in SSO between the performance condition and control condition. See Table 8 for descriptive statistics for covariates for each condition, and Table 10 for descriptive statistics for SSO.

To further investigate this exploratory measure of state self-objectification, relationships between SSO, number of beauty statements, number of physicality statements, BMI, SPA and exercise locale were examined. Pearson correlations indicated SSO to be positively related to SPA and number of beauty statements, and negatively related to number of physicality statements. Exercise locale and BMI were not related to SSO. See Table 9 for correlation coefficients and Table 3 for descriptive statistics for number of beauty statements, number of physicality statements, SPA and BMI. Refer to Table 7 for descriptive statistics for preference of exercise locale and Table 10 for descriptive statistics for SSO.

Sample 2

Preliminary analyses. As stated previously, Sample 2 includes only participants from the sexualized image and performance image conditions who answered the manipulation check item correctly. Participants in this sample made an average of close to 17

statements ($M = 16.85$, $SD = 5.89$). Distribution of statements in the six categories was as follows: 10.75% physicality; 13.70% body shape and size; 12.58% appearance; 46.10% traits, abilities, hobbies, political affiliation; 11.38% states and emotions; 5.49% uncodable. The beauty-related category and nonbody category was created in the same way as Sample 1. Participants across both conditions made an average of four beauty statements ($M = 4.43$, $SD = 3.70$), close to two physicality statements ($M = 1.81$, $SD = 1.73$), and close to 10 nonbody statements ($M = 9.68$, $SD = 5.90$). The uncodable category was not included in analyses. Refer to Table 3 for descriptive statistics for the consolidated categories by condition, and see Table 5 for proportions of statements in these categories by condition.

Hypothesis Testing. The number of beauty statements was submitted to a one-way ANCOVA analysis across levels of type of image (sexualized or performance) with trait self-objectification, weekly energy expenditure, and the total number of statements included as covariates. Neither trait self-objectification ($F[1, 127] = 1.77$, $p = .186$, *partial* $\eta^2 = .014$) nor total weekly energy expenditure were significant covariates $F(1, 127) = 0.21$, $p = .648$, *partial* $\eta^2 = .002$. The covariate total number of statements was significantly related to number of beauty statements, $F(1, 127) = 13.15$, $p < .001$, *partial* $\eta^2 = .094$. The effect of image condition on total number of beauty statements made was not statistically significant after accounting for trait self-objectification, total weekly energy expenditure, and total number of statements made, $F(1, 127) = 2.40$, $p = .124$, *partial* $\eta^2 = .019$. See Table 3 for descriptive statistics for number of beauty statements, and Table 8 for descriptive statistics for covariates.

Number of physicality statements was submitted to a one-way ANCOVA analysis across image condition with trait self-objectification, total weekly energy expenditure, and

total number of statements made included as covariates. Trait self-objectification was not

significantly related to number of physicality statements, $F(1, 127) = 0.29$, $p = .590$, *partial*

$\eta^2 = .002$. Furthermore, total weekly energy expenditure was not significantly related to

number of physicality statements, $F(1, 127) = 2.01$, $p = .159$, *partial* $\eta^2 = .016$. The covariate

total number of statements was significantly related to number of physicality statements, $F(1,$

$127) = 4.32$, $p = .040$, *partial* $\eta^2 = .033$. Participants in the sexual condition made marginally

fewer physicality statements than those in the performance condition, $F(1, 127) = 3.03$, $p =$

$.084$, *partial* $\eta^2 = .023$, after accounting for trait self-objectification, total weekly energy

expenditure, and total number of statements made. See Table 3 for descriptive statistics for

number of physicality statements, and Table 8 for descriptive statistics for covariates.

As with Sample 1, beauty versus physicality statements were compared within

conditions. For the sexualized condition, participants made significantly more beauty

statements than physicality statements, $t(72) = -7.04$, $p < .001$, $d = 1.06$. Unlike Daniels,

however, within the performance condition, participants also made significantly more beauty

statements than physicality statements, $t(59) = -4.25$, $p < .001$, $d = .70$. See Table 3 for

descriptive statistics for the number of physicality statements and beauty statements for each

condition.

Exploratory Analyses. Pearson correlations for Sample 2 revealed the same pattern

of relationships as seen in Sample 1 when examining relationships between BMI, SPA,

number of beauty statements, number of physicality statements, and exercise locale

preferences. Refer to Table 3 for descriptive statistics for BMI, SPA, number of beauty

statements and number of physicality statements, and Table 7 for descriptive statistics for

continuous measures exercise preferences. See Table 11 for the correlation matrix among

these measures for Sample 2. Again, the absence of a relationship between the number of

beauty statements and preference of exercise locale indicated meditational analyses would be

inappropriate.

Relationships between dependent measures similar to Sample 1 were discovered and

can be found in Table 11. Specifically, the number of physicality statements made by

participants was negatively related to BMI. Also, levels of social physique anxiety were

positively related to BMI and number of beauty statements made, and negatively related to

the preference to exercise publicly outdoors. Refer to Table 3 for descriptive statistics for

SPA, BMI, number of beauty statements and number of physicality statements.

Relationships between preferences of exercise locale were also discovered, such that the

preference to exercise publicly indoors was negatively related to the preference to exercise

both alone indoors and alone outside; and the preference to exercise alone outside was

positively related to the preference to exercise publicly outside. Refer to Table 7 for

descriptive statistics for continuous measures of exercise locale preferences.

As with Sample 1, a difference score (SSO) was computed as an exploratory measure

of state self-objectification that considered the number of beauty statements relative to the

number of physicality statements. To explore a relationship between SSO and image

condition for Sample 2, a one-way ANCOVA analysis was used covarying trait self-

objectification, total weekly energy expenditure, and total number of statements made.

Neither trait self-objectification ($F[1, 136] = 2.42$, $p = .123$, *partial η^2* $= .019$) nor total

weekly energy expenditure were significant covariates, $F(1, 136) = .05$, $p = .826$, *partial η^2* $<$

.01. The covariate total number of statements was significantly related to SSO, $F(1, 136) =$

6.58, $p = .011$, *partial η^2* $= .049$. After accounting for trait self-objectification, total weekly

energy expenditure, and total number of statements made, the effect of image condition on SSO was statistically significant such that, women exposed to sexualized images had significantly higher SSO scores than women exposed to performance images, $F(2, 136) = 5.45$, $p = .021$, *partial η^2 = .041*. Refer to Table 10 for descriptive statistics for SSO and Table 8 for descriptive statistics for covariates.

When only sexualized and performance conditions were considered, SSO was positively related to SPA and number of beauty statements, and negatively related to physicality statements. As with Sample 1, SSO was not related to BMI nor exercise locale. See Table 11 for correlation coefficients and Table 3 for descriptive statistics for number of beauty statements, number of physicality statements, SPA and BMI. Refer to Table 7 for descriptive statistics for preference of exercise locale and Table 10 for descriptive statistics for SSO.

Discussion

Objectification theory, according to Fredrickson and Noll (1997), suggests that women internalize media messages that reduce them to their body or body part(s), highlighting them as a means of gratification for others rather than a human being with capabilities. Based on Daniels (2009), who found that performance images of female athletes decreased state self-objectification in girls and women while sexualized images of female athletes and models increased state self-objectification, the current study attempted to establish a control condition that would be neither explicitly sexual in its portrayal of the female athlete nor sexual. Concurrently, this study attempted to hold constant the specific athletes used across the varying conditions.

The study's first goal proved to be more difficult than anticipated. Results demonstrated that the alleged "neutral" images of the female athletes were described later by the majority of the respondents (62%) as "performance oriented." This may have been due to the fact that, although none of the female athletes were shown performing their sport, some were depicted in performance attire, potentially highlighting their athletic status. Furthermore, the athletes used in this study are relatively popular and well accomplished in their sport, so exposure to these images could have activated previously constructed schemas associated with these women as strong athletic performers.

Given that so few participants remained in the control condition (only 13%) after exclusion by the failed manipulation check, it was decided that the analyses would be divided in two categories – one that kept the remaining participants who saw neutral images in the comparisons (Sample 1) and one that did not, only comparing those who saw sexualized images or performance images (Sample 2). Across both samples, the prediction that women exposed to sexualized images of female athletes would experience higher levels of self-objectification than women who saw performance or neutral images of female athletes was partially supported.

Resembling Daniels' (2009) investigation, self-objectification was first assessed by examining the number of beauty statements (e.g., "I am beautiful," "I am chubby") made by participants. Unlike Daniels, women who saw sexual images of female athletes self-described with marginally more beauty statements than those who viewed neutral images of athletes or performance images of athletes (Sample 1). Furthermore, when neutral images were not considered, women who viewed sexualized versus performance images described themselves in terms of appearance equitably (Sample 2). Interestingly, these results imply

that when state self-objectification is defined by the amount of beauty self-descriptions, women who viewed performance images self-objectified similarly to women who viewed sexualized images, suggesting that exposure to images of female professional athletes provoke a state of self-objectification regardless of whether those images are performance or sexually oriented. This may be the case because the athlete's physical fitness, muscle tone, and other appearance-relevant aspects of the woman are accentuated, possibly invoking some level of body comparison to the target for the average female consumer. On the contrary, Lennon, Lillethun, and Buckland (1999) found that participants exposed to mock advertisements containing models that fit societal standards of beauty (idealized models) reported less comparison than those exposed to "normative models." When considering the general population and how they are affected by exposure to images of female professional athletes, it is possible that exposure to images of elite athletes provokes less comparison against physical capabilities than exposure to images of active females who are not known for their athletic accomplishments.

On the other hand, the extent to which women described themselves with instrumental statements (e.g., "I am strong;" "I am athletic") was defined as a converse of state self-objectification (Daniels, 2009; Fredrickson et al., 1998). Comparisons across groups showed that women who viewed sexualized images described their physicality less than women who viewed performance or neutral images (Sample 1). When only performance or sexualized images were considered, however, the amount of physical self-descriptions did not vary (Sample 2). These findings are contrary to those of Daniels (2009), suggesting that images of physically active female professional athletes do not reliably lead to greater self-reflection on physical competence.

Exposure to neutral images of female athletes did not appear to induce as much self-objectification as the images in the other conditions; given that when these women were included in the sample (i.e., those who appropriately labeled this condition) the comparison to those who viewed the sexual images was more dramatic. It is important to note that these images generally showed less of the female athletes' body than those in the other two groups. Consequently women exposed to neutral images were not exposed to body parts that are commonly highlighted as contributing to the ideal standard of beauty for women. For example, the performance image of Leryn Franco depicted her throwing a javelin in a sports bra and tight exercise bottoms, exposing her abdomen and providing a revealing profile of her lower body. The neutral image of Leryn Franco did not reveal her abdomen, nor did it highlight any other physical attributes. Limiting exposure to these body parts could limit the opportunity for women to internalize these characteristics as ideal, and to reflect on their own bodies in an objectified way.

One critical difference between the current study and Daniels' (2009) investigation were the athletes used to create the comparison groups. Recall that Daniels did not hold athlete constant, but did "control for attractiveness" in order to ensure "ecological validity." In other words, Daniels' selection of female athletes for the sexualized and performance conditions was based on how these women were "typically" portrayed in the media. Most of the female athletes used in this study, specifically, Anna Kournikova (tennis), Maria Sharapova (tennis), Jenny Finch (softball), and Leryn Franco (javelin), have been commonly portrayed sexually in the media. On the other hand, Alex Morgan (soccer) has not been portrayed in this manner as often. It is possible that women in the present study who viewed performance images used fewer instrumental self-descriptions as a result of the salient "sex

symbol" reputations accompanying a majority of the female athletes they were exposed to. In other words, the notoriety associated with the athletes' physical appearance may have outweighed their physical accomplishments when viewing these images, thus leading women to focus on their own appearance rather than physical capabilities. Therefore, it is possible that images of female athletes who are normally portrayed sexually by the media induce a state of self-objectification both because of how they appear in the image, and because of these preceding reputations.

It seems reasonable that a relative comparison of beauty and physicality descriptors might be a more comprehensive assessment of state self-objectification rather than examining each individually. Given that women are continuously exposed to messages defining standards of beauty, they may be likely to reflect on their appearance regardless of whether an image is performance-oriented or sexual in nature. This may be particularly the case if a sport is more identified and visually focused on an athlete being "lean" as compared to being "powerful." For example, Harrison and Fredrickson (2003) found that for white women, exposure to lean sports (sports that focus heavily on body weight and appearance) led to higher levels of state self-objectification than exposure to non-lean sports (sports that do not focus on weight and appearance). The important difference in individual levels of state self-objectification could lie in whether a woman focuses on instrumental attributes in addition to appearance-related attributes. Such a focus would be less typical from mainstream media's appearance-centered messages targeting women (Aubrey, 2010; Jung & Lee, 2009; Krassas, Blauwkamp, & Weaseling, 2001)

When self-objectification was defined as the difference between beauty and physicality statements (SSO), the hypothesis that women viewing sexualized images would

experience greater state self-objectification than women viewing performance images of female athletes was supported. This was the case for both Samples 1 and 2. Though Daniels did not create a comparative index of beauty versus physicality descriptors across conditions, these findings are similar to her proportion analyses that were computed within conditions. That is, when women viewed performance athletes in her study, Daniels found that a greater number of the self-descriptions were instrumentally oriented as compared to appearance oriented. By contrast, when women viewed sexualized images the pattern was reversed. Findings regarding this relative difference in self-objectification in the present study suggest that women who viewed sexualized, neutral or performance-oriented images of female athletes thought more of their beauty than their physical competence indicated by the fact average values were positive across all conditions. Despite the fact that women who viewed performance images did not describe their physicality more than personal appearance (SSO was not negative), values were lower for these women as opposed to women who sexualized images of female athletes. In other words, women who viewed performance images thought more of their physicality relative to personal appearance in comparison to women who viewed sexualized images of female athletes, who thought less of their physicality relative to personal appearance.

In spite of the interesting implications regarding the computed difference scores, the present study failed to replicate findings from Daniels (2009); specifically, that exposure to sexualized images of female athletes led to a greater state self-objectification (defined by number of beauty self-descriptions) in comparison to exposure to performance images of female athletes. Upon reviewing the method of Daniels, it was discovered she explicitly prompted women to describe two of the photos to which they were exposed and to think

about how the images made them feel after the exposure. In order to conserve time, the women were instructed to give the three remaining photos a title that captured the theme of the image. It is arguable that although Daniels' method helped to create a state of SO, it deviates fairly dramatically from the external validity of the exposure. That is, women generally do not do this when they view media images. The present study provided no such prompt, other than the instructions for the Twenty Statements Test which state "Think about how viewing these images makes you feel about yourself and identity. Then complete the following statements." The additional prompts by Daniels have not been used in previous research when examining states of self-objectification (Fredrickson et al., 1998). If participants were instructed to describe the photos or produce titles that captured its theme, the nature of self-descriptions may have been different.

The positive relationship between the number of physicality statements and beauty statements in women who viewed sexualized images of female athletes suggests that exposure to these images was associated with self-reflection on their bodies involving both physical appearance and physical capabilities. Previous research suggests that appearance and weight loss are stronger motivators for exercise than physical health, emotional regulation and social involvement (Cash, Novy, & Grant, 1994), and women have reported being more likely to attend fitness centers for appearance-based reasons than for health and enjoyment (Strelan et al., 2003). Additionally, given that women are often exposed to thin-ideal standards accompanied by prompts to participate in dieting and exercise, it is possible that women believe being physically capable and sexually appealing occur mutually. On the other hand, the relationship between physical and appearance-oriented self-descriptions was

not observed in participants exposed to performance images and neutral images, suggesting that these images were not associated with as much body-centered self-reflection.

Image Type, State Self-objectification, and Exercise Locale

Along with exploring how images of female athletes influenced state self-objectification in women, the study was intended to assess whether state self-objectification mediated the relationship between type of image and preference of exercise locale. However, levels of state self-objectification were not related to preference of exercise locale, and the type of images women were exposed to did not influence preference of exercise locale. These findings are contrary to findings by Melbye et al. (2008), who unexpectedly found that women who reported higher levels of self-objectification preferred to exercise in a gym or public facility, while women who reported lower levels of self-objectification preferred to exercise outdoors. The dissimilarity in these findings may be attributed to the difference in how preferences were measured. Rather than asking women to choose only one preferred exercise locale (as done by Melbye et al.), the present study allowed women to express on an interval scale the extent to which they preferred to exercise either alone or publicly in various areas (alone inside, publicly inside, alone outside, publicly inside). Therefore, these responses provided greater preference variability and detail into the desired locations for exercise.

It has also been suggested that exercise behaviors are complicated to predict since there are many factors that influence them (Eklund & Crawford, 1994; Melbye et al., 2008). As not every possible factor that could sway preference of exercise locale was considered, it is likely that levels of state self-objectification and limited exposure to images of female athletes was enough to persuade these preferences. Accessibility to exercise locales could

influence preferences as well. For example, this sample contained primarily college students

who have unlimited access to public exercise facilities on campus, and limited access to

exercise alone indoors if they reside in a dorm room. Also, the environment surrounding

campus promotes and provides many opportunities for outdoor activities, making this locale

more accessible and familiar to women in this sample. The types of physical activities

preferred were also not considered in analyses, which could influence preference of exercise

locale.

Exploratory findings

Relationships between social physique anxiety, BMI, exercise locale, and state self-

objectification were also explored. As demonstrated in previous research, women with

higher BMI's expressed levels of social physique anxiety (Hausenblas & Fallon, 2002). It

was also found that higher levels of social physique anxiety were associated with a lesser

preference to exercise publicly outside. This observation is likely due to the fact that

exercising outdoors in public provides many opportunities for the body to be observed by

others, which women with high social physique anxiety normally aim to avoid (Hausenblas,

Brewer, & Van Raalte, 2004). Furthermore, when state self-objectification was defined as

the amount of appearance-oriented self-descriptions, higher levels of social physique anxiety

were associated with higher levels of state self-objectification, which has been observed in

previous research (Melbye et al., 2008). This positive relationship between social physique

anxiety and state self-objectification was also seen when state self-objectification was

defined as the composite difference between beauty and physicality statements described

earlier.

The exploratory measure of SSO (difference score) was further explored to see how it compared to state self-objectification when it was defined as the amount of appearance-oriented self-reflection. As with women who self-reflected heavily on their physical appearance, women who self-reflected on personal appearance more than physical competence, and had the greatest disparity between these two types of self-reflection (higher SSO scores), displayed greater tendencies to become anxious about their bodies being observed by others. Also, SSO was not related to BMI or preference of exercise locale for college women. Keep in mind that BMI was not associated with self-reflection on personal appearance, but was negatively related to self-reflection on physical competence.

Limitations and Future Research

Limitations. A primary purpose of this study was to replicate Daniels' (2009) findings while using the same athletes across all three conditions, thus controlling for the athlete used and allowing for the focus on the nature of the image as being performance-oriented, sexual or neither. Furthermore, it was intended to establish a control condition using images that portrayed these female athletes as neither sexual nor performance-oriented. However, results from the manipulation check indicated that a majority of the participants in the control condition perceived those images to be performance-oriented. The manipulation check was completed at the end of the study after all other questionnaires had been answered. By asking participants to think about the images as a whole, it became impossible to discern how participants perceived each image individually. Furthermore, while the neutral images did not portray the athletes performing their sport, some athletes were depicted in performance-oriented attire. If the manipulation check had been present with each image, it

would have been possible to determine if the images of athletes portrayed in performance attire influenced the participants to rate the entire group of images as performance-oriented.

Participants were exposed to five images, one at a time, at a self-regulated pace. This means that participants spent as much or as little time as desired when viewing each image. It is important to consider that this exposure is very limited in comparison to what college women encounter on a daily basis. Results may have led to findings contradictory to the present study if participants were exposed to this type of media over a longer period of time. Moreover, the type of media these women are normally exposed to was not taken into consideration. The tendency to reflect on physical competence in addition to personal appearance could be affected by the prevalence or absence of everyday exposure to performance-oriented images.

Future research. Future research could explore whether the reputation of a female athlete relative to her "public sexual appeal" influences the degree to which state self-objectification occurs in women. Those recognizable as being commonly sexualized might impact a female observer differently than an athlete more associated with her sport and performance accomplishments solely. Further differences in self-objectification may be observed with the use of female athletes who have yet to achieve celebrity status when exposing women to these image types, though this might present the difficulty of finding both sexual and performance images of these women. To resolve this issue, researchers could consider using unknown models to depict performance-oriented, sexualized, and neutral images. This research would likely produce findings with greater disparity from the present study given that schemas associating the women as either elite or sexualized professional athletes would not be activated. Future investigation should also contemplate

other variables such as the tendency to compare against and internalize ideal standards of beauty commonly presented in the media. For example, it has been demonstrated that college women with low self-esteem reported higher social comparison and dissatisfaction with their bodies than women with high self-esteem (Lennon et al., 1999), suggesting that individual levels of self-esteem should also be taken into consideration. Self-reflection on appearance or physical capabilities may differ in individuals who are less likely to compare themselves against images of female professional athletes, or less likely to internalize the ideal standards they portray.

Conclusion

Women are relentlessly exposed to images in popular media that represent society's standards for female beauty. Among these images are depictions of female athletes, which, according to the present study's findings, can be portrayed in ways that elicit greater instrumental self-focus relative to appearance-based self-focus. The fact that women exposed to such performance-oriented images behaved more like those exposed to neutral images in the use of objectifying statements, and less like those exposed to sexual images suggests that portrayals of strong, competent women can potentially counter the stereotype-consistent, appearance-oriented images so commonly portrayed of women in the media. This research suggests that promoting physical competence rather than sexual appeal to women is an important step in creating healthier societal models for women.

On the other hand, when female athletes are depicted sexually, their bodies are separated from the skill and talent they hold, and are instead highlighted as objects for observance and gratification. In fact, Harrison and Secarea (2010) found that in comparison to performance and neutral images, women who viewed "tawdry" images of female

basketball players expressed greater feelings of disapproval and derision towards their athletic ability. It is also possible that repeated exposure to this type of media may lead women to feel that they have to be sexy or beautiful in order to be successful athletes, which could deter physical activity if a woman does not believe she is able to attain these standards of beauty.

Given that some of the current findings are contradictory to previous research, future exploration on self-objectification and images of female professional athletes is warranted before it can be determined whether these images impact physical activity and other healthy behaviors. Specifically, one's state of self-objectification may involve examining physical competence relative to personal appearance, rather than considering them separately. Furthermore, the ecological validity concerning how particular female athletes are commonly portrayed may be of greater importance than anticipated. The present findings have implications for popular media outlets such as magazines, websites, and advertisements for fitness-related products targeting women. Particularly, marketers may aim to increase the consumption of fitness tips and products by including more images of physically active, professional female athletes who are not commonly portrayed as sex objects. The difficulty in determining what motivates physical activity takes much more than understanding the effects of exposure to a few images of physically active women. Nevertheless, increasing the abundance of images that highlight a woman's physical skill and powerfulness may be one of many methods needed to encourage the consideration of physical activity, which is vital to a society that suffers from sedentary behavior, increasing obesity rates, and the negative consequences that accompany it.

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Table 1

Descriptive Statistics of Ratings of Athlete Attractiveness by Condition

Athlete	Condition	*N*	*M*	*SD*	95% CI
Jennie Finch	Sexualized	73	5.64	1.27	[5.35, 5.94]
	Performance	60	5.75	1.16	[5.45, 6.05]
	Control	10	6.10	0.74	[5.57, 6.63]
	Total	143	5.72	1.20	[5.52, 5.92]
Leryn Franco	Sexualized	73	6.03	1.24	[5.74, 6.32]
	Performance	60	5.48	1.23	[5.17, 5.80]
	Control	10	5.10	1.60	[3.96, 6.24]
	Total	143	5.73	1.29	[5.52, 5.95]
Anna Kournikova	Sexualized	73	5.84	1.18	[5.56, 6.11]
	Performance	60	5.57	1.10	[5.28, 5.85]
	Control	10	5.60	0.70	[5.10, 6.10
	Total	143	5.71	1.12	[5.52, 5.89]
Alex Morgan	Sexualized	73	5.78	1.28	[5.48, 6.08]
	Performance	60	5.65	1.36	[5.30, 6.00]
	Control	10	5.20	0.92	[4.54, 5.86]
	Total	143	5.69	1.30	[5.47, 5.90]
Maria Sharapova	Sexualized	73	5.85	1.21	[5.57, 6.13]
	Performance	60	5.72	1.17	[5.42, 6.02]
	Control	10	4.50	1.18	[3.66, 5.34]
	Total	143	5.70	1.23	[5.50, 5.90]

Table 2

Summary of ANOVA for Ratings of Athlete Attractiveness across Condition

Athlete		df	Mean Square	*F*	ω^2
Jennie Finch	Between groups	2	0.96	0.67	.01
	Within groups	140	1.44		
Leryn Franco	Between groups	2	7.04	4.44*	.05
	Within groups	140	1.58		
Anna Kournikova	Between groups	2	1.25	1.00	< .01
	Within groups	140	1.25		
Alex Morgan	Between groups	2	1.55	5.67	< .01
	Within groups	140	1.68		
Maria Sharapova	Between groups	2	8.02	0.92**	.06
	Within groups	140	1.41		

**$p < .01$
*$p < .05$

Table 3

Descriptive Statistics for Demographics and Dependent Measures

		Age	BMI	SPA	TST Statements		
					Beauty	Physicality	Nonbody
Condition	n	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Sexualized	73	19.3 (1.34)	22.8 (4.91)	39.6 (11.21)	4.9 (4.17)	1.6 (1.42)	9.3 (5.79)
Performance	60	19.7 (1.43)	23.4 (4.54)	38.3 (9.53)	3.9 (2.97)	2.1 (2.03)	10.2 (6.04)
Control	10	19.1 (0.99)	24.8 (6.76)	40.5 (8.62)	3.9 (3.67)	2.5 (2.55)	11.2 (5.83)
Sample 1 Total	143	19.5 (1.37)	23.2 (4.89)	39.2 (10.33)	4.4 (3.69)	1.9 (1.80)	9.8 (5.89)
Sample 2 Total	133	19.5 (1.39)	23.1 (4.74)	39.0 (10.47)	4.4 (3.70)	1.8 (1.73)	9.7 (5.90)

Table 4

Descriptive Statistics for TST Statements by Image Condition

Image Condition	n	Body shape/size M (SD)	Appearance M (SD)	Physicality M (SD)	Traits, abilities, hobbies, political affiliation M (SD)	States and emotions M (SD)	Uncodable M (SD)
Sexualized	73	2.4 (2.77)	2.5 (2.08)	1.6 (1.42)	7.2 (5.26)	2.1 (2.49)	1.0 (1.48)
Performance	60	2.2 (1.96)	1.7 (1.69)	2.1 (2.03)	8.5 (5.82)	1.7 (1.90)	0.9 (1.25)
Control	10	2.1 (2.18)	1.8 (1.62)	2.5 (2.55)	7.5 (5.95)	3.7 (4.37)	0.7 (1.25)
Total	143	2.3 (2.41)	2.1 (1.92)	1.9 (1.80)	7.8 (5.55)	2.0 (2.47)	0.9 (1.36)

Table 5

Proportions of Self-Description Statements by Image Condition

	Image Condition		
	Sexualized	Performance	Control
Beauty statements	.31	.24	.24
Physicality statements	.10	.13	.12
Nonbody statements	.59	.63	.64
Total	1.00	1.00	1.00

Table 6

Descriptive Statistics for a Categorical Measure of Exercise Locale Preferences by Condition

Condition		Place of Exercise			
		Gym/public facility	Outdoors	Private facility	Total
Sexualized	Count	48	23	1	72
	% within Condition	66.7	31.9	1.4	100.0
	% within Place of Exercise	53.3	57.5	11.1	51.8
Performance	Count	33	17	7	57
	% within Condition	57.9	29.8	12.3	100.0
	% within Place of Exercise	36.7	42.5	77.8	41.0
Control	Count	9	0	1	10
	% within Condition	90.0	0.0	10.0	100.0
	% within Place of Exercise	10.0	0.0	11.1	7.2
Total	Count	90	40	9	139
	% within Condition	64.7	28.8	6.5	100.0
	% within Place of Exercise	100.0	100.0	100.0	100.0

Table 7

Descriptive Statistics for Continuous Measures of Exercise Locale Preferences

		Exercise Locale Preferences			
		Alone inside	Publicly inside	Alone outdoors	Publicly outdoors
Condition	*n*	M *(SD)*	M *(SD)*	M *(SD)*	M *(SD)*
Sexualized	73	2.85 (1.31)	3.78 (1.19)	3.42 (1.20)	3.49 (1.16)
Performance	60	3.10 (1.47)	3.51 (1.15)	3.50 (1.33)	3.38 (1.26)
Control	10	3.30 (1.34)	3.70 (1.34)	2.70 (0.95)	2.80 (1.32)
Sample 1 Total	143	2.99 (1.38)	3.66 (1.18)	3.41 (1.25)	3.39 (1.22)
Sample 2 Total	133	2.96 (1.38)	3.66 (1.18)	3.46 (1.26)	3.44 (1.21)

Table 8

Descriptive Statistics for Covariates

		Trait self-objectification	GEQ	Total TST statements
Condition	*n*	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Sexualized	73	2.34 (14.15)	58.27 (28.32)	16.73 (5.97)
Performance	60	0.73 (13.01)	52.10 (25.26)	16.95 (5.86)
Control	10	10.40 (10.33)	45.90 (23.55)	18.30 (5.38)
Total	143	2.24 (13.58)	54.77 (26.80)	16.95 (5.85)

Table 9

Sample 1: Correlation Coefficients for Dependent Measures

		BMI	SPA	SSO	TST Statements		Alone Indoors	Exercise locale preferences		
					Beauty	Physicality		Publicly indoors	Alone outside	Publicly outside
	BMI	1	.353**	.102	.006	-.199*	.022	-.034	.025	-.136
	SPA		1	.225**	.221**	-.013	.139	-.044	-.095	-.197*
	SSO			1	.882**	-.263**	-.016	.070	-.066	-.137
TST Statements	Beauty				1	.222**	-.018	.109	-.105	-.111
	Physicality					1	-.004	.079	-.078	.055
Exercise Locale Preferences	Alone indoors						1	-.265**	.156	-.090
	Publicly indoors							1	-.236**	-.004
	Alone outside								1	.362**
	Publicly outside									1

$**p < .01$
$*p < .05$

Table 10

Descriptive Statistics for Exploratory Measure of State SO: Difference Scores between the Number of Beauty Statements and Physicality Statements

	n	Min.	Max.	*M*	*SD*
Sexualized	73	-3	17	3.32	4.02
Performance	60	-7	14	1.77	3.22
Control	10	-2	10	1.40	3.37
Sample 1 Total	143	-7	17	2.53	3.73
Sample 2 Total	133	-7	17	2.62	3.75

Note. Positive values indicate women described themselves in terms of their personal appearance more than their physical competence while negative values indicate women described themselves in terms of physical competence more than personal appearance.

Table 11

Sample 2: Correlation Coefficients for Dependent Measures

		BMI	SPA	SSO	TST Statements		Exercise locale preferences			
					Beauty	Physicality	Alone Indoors	Publicly indoors	Alone outside	Publicly outside
	BMI	1	.323**	.101	.020	-.177*	.006	.012	.023	-.163
	SPA		1	.219*	.238**	.033	.134	-.009	-.102	-.206*
	SSO			1	.892**	-.259**	-.013	.133	-.075	-.136
TST Statements	Beauty				1	.205*	-.019	.156	-.101	-.100
	Physicality					1	-.013	.044	-.054	.081
Exercise Locale Preferences	Alone indoors						1	-.253**	.151	-.086
	Publicly indoors							1	-.237**	.000
	Alone outside								1	.347**
	Publicly outside									1

** $p < .01$
* $p < .05$

Appendix A
Pilot Study IRB Approval

To: Amanda
Pepper
Psychology
CAMPUS MAIL

From: Robin Tyndall, Institutional Review Board
Date: 8/22/2012
RE: Notice of IRB Exemption
Study #: 12-0313

Study Title: Depictions of Female Professional Athletes
Exemption Category: (2) Anonymous Educational Tests; Surveys, Interviews or
Observations

This submission has been reviewed by the IRB Office and was determined to be
exempt from further review according to the regulatory category cited above under
45 CFR 46.101(b). Should you change any aspect of the proposal, you must
contact the IRB before implementing the changes to make sure the exempt status
continues to apply. Otherwise, you do not need to request an annual renewal of
IRB approval. Please notify the IRB Office when you have completed the study.

Best wishes with your research!

CC:
Doris Bazzini, Psychology

Appendix B
Informed Consent for Pilot Study

Depictions of Female Professional Athletes
Principal Investigator: Amanda Pepper
Department of Psychology
Contact Information: Dr. Doris Bazzini bazzinidg@appstate.edu, 262-2733

Purpose:
The purpose of this survey is to determine which images of female professional athletes are perceived as a performance image, a sexual image, or neither. Participation in this study will aid further research in how people view various depictions of female professional athletes.

Procedure:
Your participation in completing this survey is voluntary and you may decide to stop at any time for any reason with no penalty, or you may choose not to answer any of the survey questions. All responses will be kept anonymous- and will not be linked to you in any way. You will be asked to indicate your gender, and then view 46 images of female professional athletes. For each image, you will be asked to complete six questions. This process should not take more than 30 minutes.

Potential risks or discomforts:
Discomfort or harm for participating in this study is minimal, or no more than one would experience in everyday life. Some psychological discomfort may occur while viewing some of these images. If you experience any discomfort while completing this study, we will be happy to direct you to resources that can help.

Compensation:
You will not be paid for your time spent volunteering for this study. Participants will receive one Experimental Learning Credit (ELC) for completing this study.

Protection of confidential information:
Your responses will be combined with responses from other participants who have completed the study. Results of this study will be combined and described as a whole. Individual participants will not be identified in any published or presented materials. In order to give you one ELC, the research team must be able to see that you have completed the study. However, the research team will not be able to identify which responses are yours

If you have any questions or concerns about the nature of this research or the survey please contact Amanda Pepper, Primary Investigator, Depictions of Female Professional Athletes,

ap71358@appstate.edu, Dr. Doris Bazzini, bazzinidg@appstate.edu, 262-2733 or
irb@appstate.edu.

By continuing to the survey, I acknowledge that I am at least 18 years old, have read the above information, and provide my consent to participate under the terms above.

Depictions of Female Professional Athletes
Principal Investigator: Amanda Pepper
Department of Psychology
Contact Information: Dr. Doris Bazzini bazzinidg@appstate.edu, 262-2733

Appendix C
Godin Leisure-Time Exercise Questionnaire

Considering a 7-Day period (a week), how many times on the average do you do the following kinds of exercise for more than 15 minutes during your free time (write on each line the appropriate number).

a) STRENUOUS EXERCISE

   (HEART BEATS RAPIDLY)

   (i.e. running, jogging, hockey,   _____

   football, soccer, basketball, cross

   country skiing, judo, vigorous

   swimming,

   vigorous long distance bicycling)

b) MODERATE EXERCISE (NOT

   EXHAUSTING)

   (i.e. fast walking, baseball, tennis,   _____

   easy bicycling, volleyball,

   badminton, easy swimming,

   alpine skiing, popular and folk

   dancing)

c) MILD EXERCISE (MINIMAL

   EFFORT)   _____

   (i.e. yoga, archery, fishing from

   river band, bowling, horseshoes,

   golf, easy walking)

2. Considering a 7-Day period (a week), during your leisure-time, how
   often do you engage in any regular activity long enough to work up a
   sweat (heart beats rapidly)?

	SOMETIMES	OFTEN	NEVER/RARELY
	☐	☐	☐

Appendix D
The Self-Objectification Questionnaire

We are interested in how people think about their bodies. The questions below identify 10 different body attributes. We would like you to *rank order* these body attributes from that which has the *greatest impact* on your physical self-concept (rank this a "9"), to that which has the *least impact* on your physical self-concept (rank this a "0").

Note: It does not matter *how* you describe yourself in terms of each attribute. For example, fitness level can have a great impact on your physical self-concept regardless of whether you consider yourself to be physically fit, not physically fit, or any level in between.

Please first consider all attributes simultaneously, and record your rank ordering by writing the ranks in the right most column.

IMPORTANT: *Do NOT assign the same rank to more than one attribute!*

9 = greatest impact
8 = next greatest impact

1= next to least impact
0 = least impact

When considering your *physical self-concept…*

1.   .what rank do you assign to *physical coordination?*   _____
2.   .what rank do you assign to *health?*   _____
3.   .what rank do you assign to *weight?*   _____
4.   .what rank do you assign to *strength?*   _____
5.   .what rank do you assign to *sex appeal?*   _____
6.   .what rank do you assign to *physical attractiveness?*   _____
7.   .what rank do you assign to *energy level (e.g., stamina)?*   _____
8.   .what rank do you assign to *firm/sculpted muscles?*   _____
9.   .what rank do you assign to *physical fitness level?*   _____
10.   .what rank do you assign to *measurements (e.g., chest, waist, hips)?*   _____

Appendix E
State Self-Objectification Questionnaire
Twenty Statements Task

Think about how viewing these images makes you feel about yourself and identity. Then complete the following statements:

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

I am _____.

Appendix F
Exercise Behavior Survey

Please answer the following questions by marking which answers most fit your behaviors when you exercise or participate in athletic situations. If you mark other, please fill in what the situation is in the space provided. Thank you.

1. When I exercise, the type of clothing I typically wear is:

_____Baggy t-shirt and shorts   _____Sports bra and spandex   _____Don't care

2. I prefer to exercise:

_____Alone   _____With friends   _____In a group setting, but not
                                                                        necessarily with friends

3. When I exercise, my favorite place to work out is:

_____At home   _____Outdoors   _____At the gym/in public
_____Other: _____

4. The type of exercise that I typically do (mark as many as apply):

_____ Weight training   _____ Running/Walking   _____Cardio Machines

_____ Ball Sports   _____Yoga/Pilates   _____Swimming

_____ Aerobic Classes   _____ Karate/Martial Arts   _____Dance

_____Outdoor sports   _____Gymnastics   _____Track
(rock climbing, kayaking,
bouldering, snowboarding,
skiing, etc)

_____Other: _____

Indicate the degree to which you agree with each statement:

5) I most prefer to exercise alone in an indoor setting (i.e., in your home).

1	2	3	4	5
Disagree	Somewhat disagree	Neutral/don't care	Somewhat agree	Agree

6) I most prefer to exercise publically in an indoor setting (i.e., public facility).

1	2	3	4	5
Disagree	Somewhat disagree	Neutral/don't care	Somewhat agree	Agree

7) I most prefer to exercise alone in an outdoor setting, assuming good weather.

1	2	3	4	5
Disagree	Somewhat disagree	Neutral/don't care	Somewhat agree	Agree

8) I most prefer to exercise publically in an outdoor setting, assuming good weather.

1	2	3	4	5
Disagree	Somewhat disagree	Neutral/don't care	Somewhat agree	Agree

Appendix G
Social Physique Anxiety Scale

1. I am comfortable with the appearance of my physique/figure.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

2. I would never worry about wearing clothes that might make me look too thin or overweight.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

3. I wish I wasn't so uptight about my physique/figure.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

4. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

5. When I look in the mirror I feel good about my physique/figure.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

6. Unattractive features of my physique/figure make me nervous in certain social settings.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

7. In the presence of others, I feel apprehensive about my physique/figure.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

8. I am comfortable with how fit my body appears to others.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

9. It would make me uncomfortable to know others were evaluating my physique/figure

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

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

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

11. I usually feel relaxed when it is obvious that others are looking at my physique/figure.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

12. When in a bathing suit, I often feel nervous about the shape of my body.

1	2	3	4	5
Not at all characteristic	Slightly	Moderately	Very	Extremely characteristic

Appendix H
Manipulation Check for Stimulus Materials

Think back to the five photographs that were shown at the beginning of the study. Indicate which of the following terms best describes those photographs:

- ☐ Sexualized
- ☐ Performance
- ☐ Neutral

Appendix I
Informed Consent for Thesis

Perceptions of female professional athletes among college-age females

Principal Investigator: Amanda Pepper
Department: Psychology
Contact Information: Doris Bazzini, PhD, (828) 262-2733

What is the purpose of this research?
You are being invited to take part in a research study exploring how college-aged females react to popular media images of female professional athletes. If you take part in this study, you will be one of about 300 people to do so. By doing this study we hope to learn about how individuals response to depictions of female professional athletes.

What will I be asked to do?
This is an online research study. You will need to complete two surveys. The first survey will involve providing information about your reactions photos of female professional athletes. First, you will be asked to provide some basic information about yourself. Then you will be asked to view a total of five images of female professional athletes. Following the images, you will be asked to provide information pertaining to your reactions to the photos. This section takes most participants 20-30 minutes. The second survey will be used to collect information needed to award your Experimental Learning Credits. This section takes most participants about one minute.

You should not volunteer for this study if you are less than 18 years of age.

What are possible harms or discomforts that I might experience during the research?
To the best of our knowledge, the risk of harm for participating in this research study is no more than you would experience in everyday life. However, you may experiences some psychological discomfort while viewing the images of female athletes. If so, we will be happy to tell you about some resources who may be able to help.

What are the possible benefits of this research?
There may be no personal benefit from your participation, but the information gained by doing this research may help others in the future. This study should help us learn about how college-age females react to depictions of female professional athletes in the popular media.

Will I be paid for taking part in the research?
We will not pay you for the time you volunteer while being in this study. We will give you one Experimental Learning Credit (ELC) for your participation in this study.

How will you keep my private information confidential?
Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about the combined information. You will not be identified in any published or presented materials.

This study is anonymous. That means that no one, not even members of the research team, will know that the information you gave came from you.

Our research team will be able to see that you have taken the survey, but your responses will not be linked to your information. The only reason we need to see that you have taken the survey is to give you your ELC.

The data will be kept for a maximum of 7 years after it is collected. After 7 years, the data will be destroyed. Your responses to the second survey (the part we will use to give you ELCs) will be deleted after we have given you your ELC and we have stopped collecting data.

Who can I contact if I have questions?
The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator at 262-2733. If you have questions about your rights as someone taking part in research, contact the Appalachian Institutional Review Board Administrator at 828-262-2130 (days), through email at irb@appstate.edu or at Appalachian State University, Office of Research and Sponsored Programs, IRB Administrator, Boone, NC 28608.

Do I have to participate? What else should I know?
Your participation in this research is completely voluntary. If you choose not to volunteer, there will be no penalty and you will not lose any benefits or rights you would normally have. If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. There will be no penalty and no loss of benefits or rights if you decide at any time to stop participating in the study.

If you decide you do not want to participate part-way through the study you can still receive your ELC. Simply click the next button until you reach the final screen and then follow the link to the second survey where you can enter you information to receive your ELC.

All professors who require ELC's for class credit or accept ELC's as extra credit offer an alternative assignment. This assignment does not require you to participate in research, and it is worth the same amount of course credit or extra credit as the ELC assignment. For more information about an alternative to participating in research you can contact your professor or look at your class syllabus.

This research project has been approved, as required, by the Institutional Review Board of Appalachian State University. This study was approved on 10/31/2012. This approval will expire on 10/30/2013 unless the IRB renews the approval of this research.

I have decided I want to take part in this research. What should I do now?
The online informed consent form will ask you to read the following and if you agree, you should indicate your agreement:
- I have read (or had read to me) all of the above information.

- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I understand that I can stop taking part in this study at any time.
- I understand I am not giving up any of my rights.
- If you wish to have a copy of this form you may copy or print it now. Or you can contact the Principal Investigator Amanda Pepper (ap71358@appstate.edu) for a hard copy.

If you change your mind about participating in the survey at any time you can simply click to the end of the survey without answering any more questions and we will delete your responses.

By continuing to the next page you are consenting to participate in this research study. (Electronic copy will be linked to the first survey)

Appendix J
Demographic Information

Please answer the following questions about yourself

1. Age: _____

2. Race:

    ☐ White

    ☐ African American

    ☐ Asian

    ☐ Native American/Alaskan Native

    ☐ Hispanic

    ☐ Pacific Islander

    ☐ Multiracial

3. Gender:

    ☐ Male

    ☐ Female

    ☐ Other: _____

4. Sexual orientation: _____

5. Major: _____

6. Height: _____ft _____in

7. Weight: _____lbs

8. What dress size of clothing do you usually wear? *(Select one.)*

    0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32

9. What dress size would you ideally like to be? *(Select one)*

    0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32

10. Are you involved in college athletics? _____yes _____no

      If yes, do you play for an ASU team? _____yes _____no

      If yes, do you play for an ASU club team? _____ yes _____ no

      If yes, do you play intramural sports? _____yes _____no

Vita

Amanda Dawn Pepper was born in Glen Dale, West Virginia to Lisa Pepper, and moved to North Carolina at a young age. She graduated from Wake Forest-Rolesville High School in North Carolina where she was a successful student athlete with special interests in athletic training. She entered Appalachian State University in the fall of 2005, becoming the first person in her family to attend college. Amanda originally intended to study Exercise Science; however, her path quickly changed after being introduced to the field of Sport and Exercise Psychology. She was awarded her Bachelor of Science degree in Psychology with a concentration in Health Studies and a minor in Exercise Science. In the fall of 2011, she continued her studies at Appalachian State University working towards a Master of Arts degree in General Experimental Psychology. She had the privilege of teaching two semesters of an introductory psychology class and had the opportunity to present her research at the Society for the Psychological Study of Social Issues in Charlotte, NC and Portland, OR; the Southeastern Psychological Association in Atlanta, GA; and the Academy of Women's Health in Washington, D.C.

The experimental program was essential in providing the research experience needed to reach her goal of attending a doctoral program in Sport and Exercise Psychology. Following her doctoral studies, Amanda plans to divide her time counseling athletes and teaching in a university's psychology department. Her ultimate goal is to lead the effort of starting a program of study in Sport and Exercise Psychology at a university in North Carolina.