

SELF-OBJECTIFICATION AND SPORT PARTICIPATION: DO THE GENDERED
MAKEUP AND COMPETITIVE LEVEL OF THE TEAM MATTER?

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The purposes of this study were to (a) investigate differences in self-objectification, self-surveillance, body shame, and flow among female athletes on all-women's and coed ultimate frisbee teams at different competitive levels, and (b) examine the objectification theory model across groups. Participants ($n = 112$) completed online surveys including a demographic questionnaire, trait and state versions of the Self-Objectification Questionnaire, Body Surveillance and Body Shame subscales of the Objectified Body Consciousness Scale, and the Flow State Scale. No differences in self-objectification, self-surveillance, or body shame were found, although highly competitive athletes experienced more flow than lower competitive teams. Relationships were found between self-objectification, self-surveillance, and body shame, but not for flow, partially supporting the objectification theory model.

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CHAPTER 1

INTRODUCTION

Many girls and women in the United States suffer from body image concerns (Clark & Tiggemann, 2007; Lowes & Tiggemann, 2003), to the extent that it has been termed “normative discontent” (Rodin, Silberstein, & Striegel-Moore, 1984). Normative discontent means that it is considered socially acceptable for women to feel badly and unhappy about their bodies, to the extent that feeling content with one’s appearance is the exception and not the norm. In general, women are more dissatisfied with their weight than with other aspects of their appearance (e.g., height, face, or hair; Cash & Henry, 1995). These feelings are supported and reinforced by the media and through relationships with significant others (Lowes & Tiggemann, 2003).

Body image can be defined as “how we see our own body, and how we think, feel, and act towards it” (Lox, Ginis, & Petruzzello, 2006, p.236). There are four different components of body image, including (a) perceptual, (b) cognitive, (c) affective, and (d) behavioral dimensions (Lox et al., 2006). The perceptual dimension includes what individuals think they look like, which may differ from how they actually look (e.g., thin, overweight, etc.). The cognitive dimension involves the evaluation of one’s appearance (e.g., satisfaction with the body or certain parts compared to an ideal standard). The affective dimension includes feelings about an individual’s own body, which can be positive or negative (e.g., shame or comfort). Finally, the behavioral dimension consists of actions individuals take in response to their feelings and perceptions (e.g., wear certain clothes or avoid situations drawing attention to the body). Those with a healthy body image will have positive feelings and accurate perceptions within the four dimensions. However, body image disturbances occur when individuals experience negative feelings or perceptions in any or all of the dimensions. Body image disturbances can be

damaging to one's well-being, as they may lead to psychological problems (e.g., depression, decreased self-esteem, and eating disorders; Lox et al., 2006).

Therefore, the present study will examine cognitive and affective body image concerns among female athletes using objectification theory (Fredrickson & Roberts, 1997) as a framework. Objectification theory (Fredrickson & Roberts, 1997) is beneficial in aiding our understanding of the relationship between cultural influences, body image disturbances, and psychological outcomes. Thus, the relationship between self-objectification and constructs of the objectification theory (Fredrickson & Roberts, 1997) model (see Figure 1) in different sport team environments is examined. Given these purposes, a thorough review of objectification theory and research is required. In the next section, different factors influencing body image are examined, followed by a review of research on objectification theory and athletes' body image concerns.

Factors Influencing Body Image

Demographic factors, such as gender, age, race, and socioeconomic status, are associated with body image. Women who are young, Caucasian, and live in more affluent areas experience more body image disturbances than other groups (Bessenoff & Del Priore, 2007; McLaren & Gauvin, 2002; Vaughan, Sacco, & Beckstead, 2008). In Western culture, there is a perception that women's worth is based on their appearance and ability to meet the cultural standard of a thin, toned body. The inability to meet this standard can result in body image disturbances (Strahan, Wilson, Cressman, & Buote, 2006). Women who do not meet this cultural ideal are often negatively stereotyped as lazy, unhappy, unpopular, and unattractive (Tiggemann & Wilson-Barrett, 1996). The desire to avoid those stereotypes may be one possible reason girls and women wish to be thinner than their current body shape (Tiggemann & Wilson-Barrett, 1996).

The media in particular celebrates young Caucasian women who fit the thin standard, and this cultural ideal has been demonstrated to be reinforced through comments and behaviors of parents (Lowe & Tiggemann, 2003) and peers (Clark & Tiggemann, 2006) starting at very young ages. Young Caucasian women internalize this ideal more so than minority groups (Vaughan et al., 2008) and older women (Bessenoff & Del Priore, 2007), and internalization of the ideal can lead to more body image disturbances (Clark & Tiggemann, 2008), particularly among those who place high importance on appearance (Clark & Tiggemann, 2007). Older women may be protected somewhat from sociocultural influences, as there are fewer older women portrayed in the media, and those that are depicted look heavier in pictures (Bessenoff & Del Priore, 2007). The media also displays a wider range of body types for women belonging to minority groups, although cultural acceptance of different standards does not completely combat the influence of the thin Western ideal, as many women still suffer from body image disturbances as they strive to attain the thin body standard (Viladrich, Yeh, Bruning, & Weiss, 2009).

Objectification Theory

One theory that seeks to explain the relationship between the cultural emphasis on a thin body ideal and women's risk of developing body image disturbances is objectification theory (Fredrickson & Roberts, 1997). According to objectification theory, women in Western culture are treated as objects to be evaluated by their appearance, thus girls and women are taught to internalize an observer's perspective of their bodies and become preoccupied with how they look (Fredrickson & Roberts, 1997). Consistent with other body image research, studies of self-objectification have shown that girls and women experience self-objectification more often than boys and men (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Grabe, Hyde, & Lindberg,

2007; Strelan & Hargreaves, 2005) and younger women experience more self-objectification than older women (Melbye, Tenenbaum, & Eklund, 2008; Tiggemann & Lynch, 2001).

The process of self-objectification is problematic, as it leads to constant monitoring and self-surveillance of one's appearance, which takes up mental resources that make it difficult to concentrate on other activities (e.g., cognitive or physical tasks), prevents the experience of optimal psychological states (i.e., flow), increases anxiety and body shame, and limits awareness of internal physiological states (e.g., hunger and fatigue; Fredrickson & Roberts, 1997). These experiences may then result in other negative consequences, such as eating disorders, sexual dysfunction, depression, and decreased life satisfaction (Fredrickson & Roberts, 1997; Grabe et al., 2007; Mercurio & Landry, 2008; Steer & Tiggemann, 2008).

Objectification Theory Model

Self-Objectification and Self-Surveillance

The model of objectification theory (see Figure 1) illustrates the relationship between self-objectification and negative mental health outcomes among women. The model begins with self-objectification, or the internalization of an observer's gaze, which then leads to self-surveillance. Although the two constructs are similar, self-objectification is defined as the extent to which women internalize an observer's perspective, and it is influenced by the objectification of women prevalent in the media and through interactions with others (Fredrickson & Roberts, 1997). Self-surveillance is the manifestation of self-objectification in the form of body monitoring, which takes attention away from other activities and instead keeps the focus on how one's body looks instead of how it feels or what it can do (Fredrickson & Roberts, 1997).

Psychological Consequences

There are several psychological consequences resulting from self-objectification and the

act of self-surveillance, including: (a) body shame, (b) anxiety, (c) fewer flow experiences, and (d) lack of awareness of internal physiological states (Fredrickson & Roberts, 1997). The first, body shame, occurs when women compare themselves to the thin standard put forth in Western culture and they perceive their bodies as inferior (Fredrickson & Roberts, 1997). Those who perceive their bodies to be further from the cultural ideal experience more body shame than those closer to the cultural ideal (Fredrickson et al., 1998). Bodies are viewed as malleable in Western culture, and women may feel that their inability to meet the thin cultural ideal is a personal flaw or weakness, which contributes to experiencing shame (Fredrickson & Roberts, 1997).

Along with body shame, Fredrickson & Roberts (1997) suggested that there are two types of anxiety that occur from self-objectification and self-surveillance: (a) appearance anxiety and (b) safety anxiety. Appearance anxiety occurs when individuals do not know how or when their bodies will be evaluated, leading women to constantly worry and fix parts of their appearance (Fredrickson & Roberts, 1997). Appearance anxiety is also related to safety anxiety, as women are afraid that dressing a certain way may leave them at risk for harassment or sexual violence, and they must be cautious and vigilantly monitor their appearance in the hope of reducing that risk (Fredrickson & Roberts, 1997).

The third consequence of self-surveillance is the experience of fewer flow states. Flow, also called optimal experience, is a psychological state “where one becomes totally absorbed in what one is doing, to the exclusion of all other thoughts and emotions” (Jackson & Csikszentmihalyi, 1999, p. 4). Csikszentmihalyi (1990) identified nine components that are necessary to experience flow: (1) balance between an individual’s perceived skills and the challenge of the task, (2) the merging of action and awareness (e.g., total absorption in the activity), (3) having clear goals, (4) unambiguous feedback (e.g., clear feedback from one’s own

movements or the environment), (5) total concentration on the task, (6) having a sense of control (e.g., feeling unbeatable), (7) loss of self-consciousness (e.g., no longer worrying about how others see you), (8) transformation of time (e.g., feeling as if time speeds up or slows down), and (9) the end result of these components, autotelic experience (e.g., an experience that is intrinsically rewarding). The seventh component, loss of self-consciousness, is particularly important in objectification theory (Fredrickson & Roberts, 1997). When individuals self-objectify and monitor their appearance, they become self-conscious and reduce the possibility of experiencing flow (Fredrickson & Roberts, 1997). Although research on the occurrence of flow is limited, Csikszentmihalyi (1990) suggests that flow is an important component in enjoyment and quality of life, and can be experienced in any activity (e.g., work, recreation, sport, etc.), thus it is beneficial to study factors that influence these experiences.

Lastly, self-objectification and self-surveillance lead to a lack of awareness of internal physiological states in the objectification theory model. Fredrickson and Roberts (1997) proposed that body monitoring takes up mental resources, which would then no longer be available for other activities, such as sensitivity to physiological cues (e.g., heart rate, hunger, fatigue, etc.). This lack of awareness of internal states may be one reason women are more dependent on environmental cues than physiological ones to gauge how they feel (Fredrickson & Roberts, 1997). Fredrickson & Roberts (1997) also suggested that women who diet reinforce the decreased awareness of physiological cues, as it may be difficult to ignore hunger without disregarding other cues as well.

Negative Mental Health Outcomes

The four psychological components in the objectification theory model mediate the relationship between self-objectification, self-surveillance, and psychological disorders

(Fredrickson & Roberts, 1997), although there is more support for the relationship between the first three components and negative mental health outcomes than for the awareness of internal physiological states (Syzmanski & Henning, 2006; Tiggemann & Kuring, 2004). The three main psychological disorders in the model include depression, eating disorders, and sexual dysfunction (Fredrickson & Roberts, 1997). Fredrickson and Roberts (1997) suggested that experiences stemming from body shame, anxiety, and lack of flow or awareness of internal states are very difficult to overcome, and the combination of these experiences contribute to depression. Shame, anxiety, and self-consciousness during sexual activity also are factors in sexual dysfunction and lack of enjoyment (Fredrickson & Roberts, 1997). Lastly, the objectification theory model provides a framework for understanding how body image disturbances are related to disordered eating among women. Disordered eating and dieting may be one method for coping with shame and anxiety, as women attempt to mold their bodies closer to the cultural ideal (Fredrickson & Roberts, 1997; Noll & Fredrickson, 1998). Mercurio and Landry (2008) also determined that the self-objectification model was related to a decrease in feelings of overall well-being (e.g., self-esteem and life satisfaction). The relationship between self-objectification and quality of life demonstrates the importance of studying the model of objectification theory.

Trait and State Self-Objectification

Within the objectification theory model, individuals can experience two types of self-objectification: trait and state. Trait self-objectification is stable over a long period of time, and the effect of certain experiences on self-objectification may last long after the experiences are over. Research on the television viewing habits of undergraduate college students has supported this idea, as students who watched television shows promoting sexually objectifying images

reported higher levels of trait self-objectification a year later (Aubrey, 2006). In Tiggemann and Slater's (2001) study of former ballet dancers and non-dancers, they also determined that former dancers reported greater levels of trait self-objectification, self-surveillance, and disordered eating than non-dancers, even though they no longer participated in ballet. Tiggemann and Slater (2001) suggested that the emphasis placed on dancers' bodies at a young age may have had long-term effects on their psychological well-being. These studies illustrate the importance of identifying cultural practices that influence self-objectification, as they can have long-term consequences.

In addition to trait self-objectification, state self-objectification is situation-specific, and can be prompted by certain environments (Fredrickson et al., 1998; Tiggemann & Boundy, 2008). Self-objectification can be manipulated by different environmental situations, particularly those in which there is an emphasis on the appearance of a woman's body. Certain cues in an environment (e.g., scales, mirrors, and fashion magazines) or exposure to media portraying women with the ideal thin body can increase state self-objectification for women who have higher levels of trait self-objectification (Harper & Tiggemann, 2008; Tiggemann & Boundy, 2008). The increases in self-objectification can remain for a time even after the situation is over (Quinn, Kallen, & Cathey, 2006).

State self-objectification can also increase when women experience the presence of observers, who may be real or imagined. For example, the participants in a study by Fredrickson et al. (1998) tried on either swimsuits or sweaters in front of a mirror, with the hypothesis that seeing one's body in revealing clothing such as a swimsuit would result in higher state self-objectification than a less revealing sweater. Women with high levels of trait self-objectification who tried on the swimsuits experienced more body shame than women with similar trait self-

objectification in the sweater condition. The women in swimsuits also experienced decreased cognitive performance on a math test, which Fredrickson et al. (1998) attributed to the consumption of mental resources by self-objectification and body shame.

Objectification Theory and Sport Participation

With all of the problems associated with self-objectification, Fredrickson and Roberts (1997) offered some suggestions to reduce self-objectification among girls and women. One suggestion is that girls and women should be involved in sports, particularly at young ages, to promote awareness of what their bodies can do instead of how they look. Research on body image and sport has supported this idea to a degree, as athletes in several studies have reported fewer concerns about their appearance than those who did not participate in sports (Fulkerson & Keel, 1999; Hausenblas & Symons Downs, 2001; Petrie, 1996; Rainey, McKeown, Sargent, & Valois, 1998; Richman & Shaffer, 2000). One possible explanation may be that athletes' bodies are closer to the ideal standard of a thin, toned female body, thus resulting in more positive feelings about their appearance (Hausenblas & Symons Downs, 2001). However, research in this area is conflicting, as female athletes in other studies have reported more body image disturbances than non-athletes (Ferrand, Magnan, & Philippe, 2005; Parsons & Betz, 2001). Thus, it is also possible that there are aspects to sport participation that contribute negatively to women's body image. One problem with sport and body image research is that a consistent theoretical framework has not been utilized, and studies have examined different constructs of body image (e.g., body dissatisfaction, social physique anxiety, body shame, etc.), which may be a potential reason for the inconsistent results.

Objectification theory is a beneficial framework to use when examining body image and women's sport participation. The relationships between self-objectification, self-surveillance,

body shame, and flow are particularly relevant within the context of sport, and understanding these relationships is crucial to creating the type of sport environment that would help reduce self-objectification and its consequences for female participants.

First, self-surveillance is an issue in a sporting environment, especially regarding the type of clothing associated with sports and exercise. Female athletes have reported being aware that others are evaluating their bodies, particularly among athletes who wear revealing uniforms (Krane, Waldron, Michalenok, & Stiles-Shipley, 2001). Revealing clothing can lead to constant body monitoring and self-surveillance (Fredrickson & Roberts, 1997), and wearing tight and revealing clothing has been related to higher levels of self-objectification in exercise environments (Prichard & Tiggemann, 2005). Female athletes pictured wearing revealing or provocative clothing have also been viewed as less intelligent or capable than when pictured in less-revealing clothing (Gurung & Chouser, 2007), and female athletes may internalize that type of objectification within their own sport participation. Wearing tight-fitting or revealing uniforms contrasts Fredrickson and Roberts' (1997) suggestion that sports participation may help reduce self-objectification. They proposed that loose-fitting clothing could act as a defense against objectification, and the types of revealing clothing worn in certain sports may be one reason that sport participation has not always been associated with the positive outcomes Fredrickson and Roberts (1997) had in mind.

Body shame is also important in sport, as athletes and coaches believe there are certain ideal body types for success in sport, and female athletes may experience shame when they perceive themselves as not meeting that ideal. Female athletes in a wide variety of sports (e.g., volleyball, soccer, ice hockey, running, ultimate frisbee, rock climbing, rugby, and swimming, among others) have reported receiving critical comments about their appearance from family,

friends, coaches, and trainers (Muscat & Long, 2008). Comments targeted the athletes' appearance, weight, and the discrepancy between their own bodies and the ideal for their particular sport (Muscat & Long, 2008). Athletes who experienced these critical comments reported feeling more body shame and anxiety than athletes who did not (Muscat & Long, 2008). Receiving comments about appearance, whether positive or negative, is also related to higher levels of self-surveillance among women, indicating that any comments about appearance encourages women to focus on their bodies as objects to be viewed instead of what they can do (Calogero, Herbozo, & Thompson, 2009).

Flow is also extremely important in sport participation. Jackson and Csikszentmihalyi (1999) suggested that experiencing flow allows athletes to test their limits and improves the quality and enjoyment of the sport experience. Experiencing flow is also related to positive perceptions of performance and viewing one's self as an athlete (Jackson, Thomas, Marsh, & Smethurst, 2001). Other research on exercise has supported the relationship between self-objectification and flow. Women higher in self-objectification have reported experiencing fewer flow states during physical activity, which may be due in part to certain aspects of exercise environments (Greenleaf, 2005). However, little is known about the relationship of sport environments and flow experiences, thus it is necessary to examine factors that may inhibit flow in sport participation.

Self-Objectification and Specific Sport Environments

The sport environment itself is a factor in female athletes' self-objectification. Parsons and Betz (2001) hypothesized that certain sports could be considered contexts for objectification if they focused on appearance and femininity (e.g., cheerleading, dance team, gymnastics, and synchronized swimming) and sports that did not focus on appearance would not create an

environment of objectification (e.g., golf, lacrosse, field hockey, crew, etc.). Other research on body image and sport has supported this idea, as athletes participating in sports that are considered feminine and place an emphasis on appearance or leanness (e.g., diving, cross-country, gymnastics) have reported more weight concerns than athletes in “nonlean” sports (e.g., softball, basketball, field hockey, etc.; Crissey & Honea, 2006; Ferrand, Magnan, & Philippe, 2005; Petrie, 1996). Even girls as young as 5 and 7 years old who participated in sports emphasizing appearance have experienced more weight concerns than girls their age who did not participate in sports or who participated in sports that did not focus on appearance (Davison, Earnest, & Birch, 2002). Female athletes in these sports also have reported more weight concerns than girls and women who are not athletes (Davis & Cowles, 1989; Parsons & Betz, 2001).

However, Parsons and Betz (2001) were unable to find support for their hypothesis, and they did not determine that the type of sport led to increased self-objectification. They reasoned that an objectified sports environment may have more of an impact at higher competitive levels, and suggested that future research would need to address that issue (Parsons & Betz, 2001).

Competitive Level

There is some support for the relationship between self-objectification and competitive level in sport. Muscat and Long (2008) determined that athletes who competed in more competitive sports (e.g., engaging in structured sport at international, national, or regional levels) received more critical comments about their appearance than athletes who participated in recreational sports. Davis (1992) has suggested that participation in competitive sports may lead women to focus on their bodies to a greater extent than non-athletes, resulting in body image concerns. However, research in the area of general body image and sport is conflicting, as a meta-analysis of existing literature determined that competitive college athletes experienced

more positive body image than club or recreational athletes (Hausenblas & Symons Downs, 2001). Wilkins and Boland (1991) also determined that students who participated in collegiate sports had a more positive body image than college students who were not athletes, regardless of competitive level or sport type. One problem with research on competitive level is that competitive and non-competitive athletes have not been consistently defined (e.g., high school, college, recreational, club, regional, national, international, etc.) and this makes research difficult to generalize.

Coed and Single-Gender Sports

When discussing the potential for objectified sports environments, Parsons and Betz (2001) did not consider the context of a coed sport environment. No research has examined the relationship between the gendered environment of sports teams and self-objectification among female participants, although some research has been conducted on the relationship between body image and physical activity in coed environments. Women have reported more social physique anxiety when faced with the prospect of exercising in coed or all-male environments than in an all-female setting (Kruisselbrink, Dodge, Swanburg, & MacLeod, 2004). However, male exercisers did not report the same anxiety when faced with the prospect of exercising with women (Kruisselbrink et al., 2004). Middle school girls have also reported more concern with their appearance when boys were present in their physical education classes (Taylor et al., 1999). This is consistent with other research, as men reportedly objectify women more often than other women do (Strelan & Hargreaves, 2005), and women may internalize that objectification more so in coed environments than in an all-female setting. The anticipation of interacting with men has been related to an increase in women's body shame and social physique anxiety (Calogero, 2004). Women who place high importance on romantic relationships with men have also

reported higher levels of body shame and lower self-esteem than women who do not (Sanchez & Kwang, 2007). As one of the central ideas of objectification theory is that women are socialized to adopt an observer's perspective on their bodies, the implication is that the perspective is one of a male observer, thus interactions with men may influence levels of state self-objectification among women.

There are certain sport environments for which these findings are important. Many university intramural programs, city leagues, and club sports teams offer opportunities for women to participate with men in coed settings for several sports (e.g., ultimate frisbee, softball, basketball, volleyball, etc.). One sport that has expanded in popularity over recent years is ultimate frisbee, providing opportunities for women's participation ranging from recreational leagues to international competition in both coed and women's divisions (Leonardo & Zagoria, 2005).

As self-objectification can be manipulated by environmental factors, especially interactions with others, the gendered makeup of the sport team itself may influence levels of self-objectification among female participants. Women with higher levels of self-objectification participate in less physical activity than those who do not self-objectify, particularly among younger women (Greenleaf, 2005; Melbye et al., 2008). Women who do exercise frequently are motivated to improve their appearance instead of exercising for enjoyment or health reasons (Prichard & Tiggemann, 2005). Self-objectification also impacts motor performance, as high levels of self-objectification are related to poor throwing performance among adolescent girls (Fredrickson & Harrison, 2005). Thus, the influence of the sport environment has implications for the long-term participation and the quality of the experience for women in these settings.

Study Purposes

The purposes of this study were to determine the extent to which levels of self-objectification differ among women who participate in single gender or coed sports teams, and to explore if and how self-objectification, self-surveillance, body shame, and flow are influenced by the specific sport environment (i.e., single gender versus coed). Specifically, the following research questions were addressed:

- (a) Do women who participate in single-gender versus coed ultimate frisbee teams differ in self-reported levels of state self-objectification, self-surveillance, body shame, and flow?
- (b) Do women in nationally or regionally competitive ultimate frisbee teams differ in state self-objectification, self-surveillance, body shame, and flow?
- (c) Does state self-objectification predict self-surveillance, body shame, and flow?

CHAPTER 2

METHODOLOGY

Procedure

Before the study began, approval was obtained from the Institutional Review Board for the Protection of Human Subjects of the University of North Texas. To recruit participants, coaches and/or team captains of 82 ultimate frisbee teams competing in the 2009 Ultimate Player's Association fall series were contacted via email. Those who were interested in participating were asked for practice schedules and individual email addresses of the female team members. Coaches and captains were also asked to let team members know they would be contacted and remind them to take the surveys within three hours of finishing a team practice. The time limit was necessary to assess the state constructs being measured. After the team contact provided the investigator with the email addresses, participants were emailed instructions and an individualized link to the online survey via SurveyMonkey to ensure that each participant completed the surveys only once. Participants were emailed reminder emails the day of each practice until they completed the survey or until the third practice session, whichever came first. See Figure 2 for a chart illustrating the procedure.

Teams were placed into categories based on competitive level and the division of their participation in the UPA club series (e.g., single-gender or coed). High competitive level was defined as playing on a team that has qualified for the national championships in the previous 3 years, and low competitive level was defined as playing on a team that has not qualified for the national championships in that time. This resulted in four categories: (a) single-gender and high competitive level, (b) single gender and low competitive level, (c) coed and high competitive level, and (d) coed and low competitive level.

Participants

The sample size was proposed to include 100 women, with 25 participants in each of the four categories. The sample size was chosen based on previous work by Tiggemann and Boundy (2008), who found significant differences ($p < .05$) in state self-objectification among women in different environments with a similar sample size. The sample size is also consistent with guidelines recommended by Thomas, Nelson, and Silverman (2005).

Overall, 82 ultimate frisbee teams were contacted, 44 agreed to participate, and 42 of those teams responded, 41 of which had usable responses. From the 44 teams, 279 women agreed to participate, and 116 responded to the survey, 113 of which had usable responses. Five participants opted out of participating, four of whom emailed messages explaining their reasons for opting out of the study (e.g., inability to practice due to injury, illness, or quitting the team). Incomplete surveys or those taken over 3 hours after practice were discarded ($n = 3$). The age range was also restricted to participants between 18 and 44 years of age, as women over 45 years are categorized as middle-aged (Centers for Disease Control and Prevention, 2005; Maiese, 2002), resulting in a total of 112 participants and an overall usable response rate of 40.14 %.

The final sample consisted of women aged 18 to 42 years ($M = 26.79$, $SD = 4.96$). Participants competed in all six of the geographic regions defined by the Ultimate Player's Association, consisting of the Central ($n = 35$), Mid-Atlantic ($n = 19$), Southwest ($n = 19$), Northeast ($n = 19$), Northwest ($n = 10$), and South ($n = 10$) regions. The majority indicated their ethnicity as not Hispanic/Latino ($n = 109$). Most reported their race as White ($n = 106$), followed by Asian ($n = 5$), and African-American ($n = 1$). No one was excluded on the basis of race. The number of participants in the four categories included: single-gender high competitive ($n = 28$), single gender low competitive ($n = 27$), coed high competitive ($n = 27$), and coed low

competitive ($n = 30$).

Measures

Participants completed online surveys including: (a) demographic questionnaire (see Appendix A), (b) trait and state versions of the Self-Objectification Questionnaire (Noll & Fredrickson, 1998), (c) Body Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996), (d) Body Shame subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996), and (e) Flow State Scale (Jackson & Marsh, 1996).

Demographic Questionnaire

Participants completed a questionnaire regarding demographic characteristics, previous sport experiences, and current ultimate frisbee participation. Demographic questions included age, gender, ethnicity, height, and weight. Sport experience questions included previous sports participation, years of ultimate frisbee participation, type of team (coed or single-gender), and type of coach (e.g., male, female, or no coach).

Self-Objectification Questionnaire (SOQ)

The SOQ (Noll & Fredrickson, 1998) measures self-objectification by asking respondents to rate ten body attributes in order of importance, which are either appearance-based (e.g., weight, sex appeal, physical attractiveness, firm/sculpted muscles, and measurements) or competence-based (e.g., physical coordination, health, strength, energy, and physical fitness level). The top-ranked attribute is given a score of 9 and the lowest-ranked attribute is given a score of 0. The sum of the competence scores are subtracted from the sum of the appearance scores, with total scores ranging from +25 to -25. Higher scores indicate higher levels of self-objectification. Participants completed two versions of the questionnaire, one assessing state self-objectification by asking them to think about how they felt at that moment, and one version

measured trait self-objectification by asking participants to answer how they felt in general.

There is convergent evidence for the construct validity of the SOQ, as Noll and Fredrickson (1998) found a moderate correlation ($r = .52$) with the Appearance Anxiety Questionnaire (Dion, Dion, & Keelan, 1990) and also with the Body Image Assessment ($r = .46$; Williamson, Davis, Bennett, Goreczny, & Gleaves, 1985). A moderate correlation between the scales indicated that the questionnaires are measuring similar, but not equal, constructs.

Body Surveillance Subscale of the Objectified Body Consciousness Scale (OBC)

The Body Surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996) assesses the extent to which women observe their own bodies from the perspective of an outside observer. It includes eight items measured with a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), and a possible answer of N/A if the item does not apply. The scores of the items answered are averaged and high scores indicate that the respondent often spends time examining her appearance and places a greater emphasis on how the body looks than how it feels.

The Body Surveillance subscale has demonstrated acceptable reliability and validity for undergraduate and middle-aged women. McKinley and Hyde (1996) found internal consistencies of .79 among undergraduate women and .76 for middle-aged women. For the current sample, the internal consistency of the Body Surveillance subscale was .84. The subscale also demonstrated convergent evidence of construct validity when compared with other measures of body image. McKinley and Hyde (1996) determined that the Body Surveillance subscale had a positive correlation ($r = .64$) with the Appearance Orientation Scale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash, 1994; Cash, Winstead, & Janda, 1986) and also a moderate positive correlation ($r = .46$) with the Public Body Consciousness Scale (Miller,

Murphy, & Buss, 1981).

Body Shame Subscale of the OBC Scale

The Body Shame subscale of the OBC questionnaire (McKinley & Hyde, 1996) assesses body shame, which includes negative feelings stemming from an individual's perception that he or she fails to live up to cultural standards of beauty. Similar to the Self-Surveillance subscale, the Body Shame subscale is composed of eight items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with N/A as a possible answer. The scores of the answered items are averaged to determine the overall score, and higher scores indicate higher levels of body shame.

The Body Shame subscale has demonstrated acceptable reliability and validity. McKinley and Hyde (1996) found internal consistencies of .68 for undergraduate women and .76 for middle-aged women. Internal consistency of the Body Shame subscale in the current sample was .84. McKinley and Hyde (1996) also provided convergent evidence of the subscale's construct validity, as it moderately correlated with questions related to importance placed on cultural standards of beauty among undergraduate women ($r = .51$) and middle-aged women ($r = .55$; McKinley & Hyde, 1996). The Body Shame subscale also correlated negatively ($r = -.46$) with the Body Esteem Scale (Franzoi & Shields, 1984). Body esteem involves feeling positively about one's body, and it is expected that body shame will be inversely related with body esteem.

Flow State Scale (FSS)

The FSS (Jackson & Marsh, 1996) is comprised of 36 items measuring the nine components of flow (balance between challenge and skills, merging of action and awareness, clear goals, feedback, task concentration, sense of control, loss of self-consciousness, transformation of time, and autotelic experience). Each item is scored on a 5-point Likert scale,

ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores are averaged for a total score, with higher scores indicating stronger experiences of flow.

The FSS has demonstrated acceptable reliability and validity among athletes 14 to 50 years of age in 41 different sports at various competitive levels (e.g., physical activity classes, sport clubs, recreational leagues, national teams, and college varsity teams; Jackson & Marsh, 1996). Reliabilities of each construct range from .80 to .86, with a mean reliability of .83 (Jackson & Marsh, 1996). Jackson and Marsh (1996) provided evidence of the scale's construct validity through confirmatory factor analysis and supported the division of the nine constructs of flow. In the current sample, the internal consistency of the overall FSS was .94, and internal consistencies for all subscales were .79 or higher (.79 for challenge-skills balance, .87 for action-awareness, .86 for clear goals, .83 for feedback, .92 for task concentration, .88 for sense of control, .84 for loss of self-consciousness, .86 for transformation of time, and .86 for autotelic experience).

CHAPTER 3

RESULTS

Demographic Information

Demographic information was analyzed using SPSS. Participants' self-reported heights ranged from 60 to 72 inches ($M = 65.72$, $SD = 2.63$), self-reported weights from 100 to 180 pounds ($M = 137.67$, $SD = 14.49$), and BMI, calculated based upon self-reported height and weight, from 18.29 to 28.71 ($M = 22.40$, $SD = 1.96$). Participants had played ultimate frisbee between 1 and 25 years ($M = 7.37$, $SD = 4.18$) and competed on their current team between 0.5 and 7 years ($M = 2.00$, $SD = 1.24$). Most planned on continuing with their current team in the future ($n = 91$) and would prefer to keep playing in their current division ($n = 95$). When asked to rate their enjoyment on a scale from 1 to 5, most indicated they enjoyed participating on their current team ($M = 4.42$, $SD = 0.71$). Twenty of the participants indicated they were team captains, and participants reported having no coach ($n = 78$), a male coach ($n = 25$), or a female coach ($n = 9$). Previous sports experience included track/cross-country ($n = 66$), soccer ($n = 63$), basketball ($n = 55$), swimming ($n = 39$), tennis ($n = 37$), gymnastics ($n = 31$), softball ($n = 19$), and volleyball ($n = 18$). Five participants had no previous sports experience besides ultimate frisbee. Demographic characteristics of participants were fairly consistent across the four categories, and Table 1 displays the demographic information of participants separated by group.

Group Differences

To address the first two research questions (“Do women who participate in single-gender versus coed ultimate frisbee teams differ in self-reported levels of state self-objectification, self-surveillance, body shame, and flow?” and “Do women in nationally or regionally competitive ultimate frisbee teams differ in state self-objectification, self-surveillance, body shame, and

flow?”), a 2x2 multivariate analysis of covariance (MANCOVA) was conducted to detect differences among the four groups. Competitive level (i.e., nationally or regionally competitive) and division (i.e., all-women’s or coed) were included as the independent variables, state self-objectification, self-surveillance, body shame, and flow subscales as the dependent variables, and body mass index (BMI) and trait self-objectification as the covariates. As BMI has been shown to be related to body image (Dalley, Buunk, & Umit, 2009; Gay, Monsma & Torres-McGehee, 2009; McLaren, Kuh, Hardy, & Gauvin, 2004), and trait self-objectification has been shown to influence state self-objectification (Harper & Tiggemann, 2008; Tiggemann & Boundy, 2008), both BMI and trait self-objectification were included in the analysis as covariates to ensure that they were not responsible for any of the variance in the dependent variables. Table 2 includes means and standard deviations of the four groups. The covariates of BMI and trait self-objectification were significant ($p < .05$), but no significant differences in state self-objectification, self-surveillance, body shame, or flow subscales were found between the groups ($p > .05$), as indicated in Table 3.

Exploratory univariate analyses were then conducted using a series of 2x2 ANCOVAs to assess differences in state self-objectification, self-surveillance, body shame, and overall mean flow score between the groups. Table 4 shows that there were no significant differences in state self-objectification, self-surveillance, and body shame ($p > .05$), but a main effect was found for competitive level in the overall flow scores ($p < .01$). Participants in the high competitive level group reported higher flow scores ($M = 3.66, SD = 0.53$) than participants in the low competitive level group ($M = 3.37, SD = 0.58$).

Objectification Theory Model

To address the third research question (“Does state self-objectification predict self-

surveillance, body shame, and flow?”), correlations were first used to determine the relationships between the four variables (see Table 5). Subsequently, regression analysis was conducted to determine if state self-objectification predicted self-surveillance, and if self-surveillance predicted body shame and flow.

State self-objectification was positively correlated with self-surveillance ($r = .33, p < .01$), and self-surveillance was positively correlated with body shame ($r = .41, p < .01$). State self-objectification was also positively correlated with body shame ($r = .22, p < .05$), although there was a stronger correlation between self-surveillance and body shame (see Figure 3). The strongest relationships occurred between state self-objectification and self-surveillance, and between self-surveillance and body shame, which provides support for the objectification theory model. However, one component of the objectification theory model was not supported, as state self-objectification and self-surveillance were not significantly correlated with flow ($p > .05$), suggesting that flow did not fit the model within this sample.

Partial correlation analysis was used to investigate the model further, assessing the correlation between state self-objectification and body shame while controlling for self-surveillance. The partial correlation was not significant ($p > .05$), and a decrease in correlation from the initial correlation between state self-objectification and body shame ($r = .22$ to $r = .10$) indicates that self-surveillance mediated the relationship between state self-objectification and body shame (see Figure 4). Body mass index was then controlled along with self-surveillance, resulting in another decrease in partial correlation between state self-objectification and body shame ($r = .10$ to $r = .08$) and was not significant ($p > .05$). Lastly, partial correlation analysis controlled for trait self-objectification and body mass index, resulting in a decrease in correlation between state self-objectification and body shame ($r = .22$ to $r = .12$). These analyses indicate

that along with self-surveillance, trait self-objectification and body mass index mediated the relationship between state self-objectification and body shame (see Figures 4 and 5).

Regression analysis was conducted to test the objectification theory model even further. To determine if state self-objectification predicted self-surveillance, and if self-surveillance in turn predicted body shame and flow, two sets of stepwise regression equations were conducted, one for body shame and one for flow. For each regression equation, variables were entered in the order dictated by the objectification theory framework. Trait self-objectification and body mass index were entered on the first step, state self-objectification was entered on the second step, and self-surveillance was entered on the third step. Trait self-objectification and BMI explained 14% of the variance (R^2) in body shame, the addition of state self-objectification explained 15.1% of the variance, and self-surveillance explained 22.8% of the variance. The change in variance (ΔR^2) increased between the second and third steps from .012 to .076, and was significant ($p < .05$), indicating that self-surveillance influences body shame more so than state self-objectification does (see Table 6). This provides support for the objectification theory model, indicating that self-surveillance acted as a mediating variable in the relationship between state self-objectification and body shame. However, trait self-objectification and BMI explained only 2.4% of the variance in flow, state self-objectification explained 2.8% of the variance, and self-surveillance explained 2.9% of the variance (see Table 7). The change in variance decreased between the second and third steps from .004 to .001, and was not significant ($p > .05$), indicating that self-surveillance was not a mediating variable between state self-objectification and flow. The beta weights were also not significant ($p > .05$), indicating there was not a relationship between flow and state self-objectification or self-surveillance.

CHAPTER 4

DISCUSSION

There are many factors in a sport environment that influence female athletes' body image, including type of sport, revealing uniforms, and receiving critical comments from others (Krane, Waldron, Michalenok, & Stiles-Shipley, 2001; Muscat & Long, 2008). According to the objectification theory framework (Fredrickson & Roberts, 1997), one specific type of body image disturbance, self-objectification, leads to negative psychological consequences such as body shame and decreased flow experiences. It is important to examine factors that influence those constructs so that coaches and athletes can cultivate positive and healthy team environments for women. Thus, the overall purpose of this study was to examine self-objectification, self-surveillance, body shame, and flow among women who participate in single-gender or coed sports teams at different competitive levels.

Research Questions 1 and 2: Group Differences

No differences were found in women's reported levels of state self-objectification, self-surveillance, and body shame based on the gendered makeup or competitive level of the team. Differences in flow were found between the high and low competitive groups, but there were no differences in flow based on the gendered makeup of the team. Body mass index (BMI) and trait self-objectification were also significant covariates in the analysis, indicating that they are important factors in the development of women's body image in a sport environment.

Little research has been conducted on the occurrence of flow at different competitive levels. Jackson et al. (2001) found that athletes who experienced flow had more positive perceptions of their performance than those who did not experience flow, but it was not necessarily indicative of superior performance outcomes. As the nationally-competitive athletes

in the current study experienced higher levels of flow than regionally-competitive athletes, it is possible that the relationship between flow and competitive level is reciprocal. Athletes who experience more flow may have higher perceptions of themselves as athletes, which could have given them the confidence to try out for the higher competitive teams. On the other hand, competing on a nationally-competitive team might positively influence participants' perceptions of themselves as athletes, which in turn could facilitate more flow experience among nationally-competitive than regionally-competitive participants.

Unlike flow, no differences in state self-objectification, self-surveillance, and body shame were found between groups. Although there were no differences in those particular variables, BMI and trait self-objectification were significant covariates in the multivariate analysis. This is consistent with previous research, as BMI has been positively correlated with body image disturbances such as social physique anxiety (Gay et al., 2009). Trait self-objectification is also an important factor, as women with high levels of trait self-objectification are more susceptible to factors influencing their state levels of self-objectification (e.g., presence of mirrors, fashion magazines, and scales; Tiggemann & Boundy, 2008), whereas women with lower levels of trait self-objectification have more stable levels of state self-objectification in different situations.

Although it is not known how BMI and trait self-objectification influenced the participants' body image in the current study, it is possible that those factors may impact each group differently. For example, a higher BMI may be valued on coed teams, as women are competing with heavier, taller men, whereas a smaller body may be the ideal on an all-women's team. As feelings of body shame can occur when there is a discrepancy between an individual's perceived body shape and an ideal standard (Fredrickson & Roberts, 1997), more research is

needed to understand the relationship between actual and ideal body types, BMI, and trait self-objectification in coed and all-women's environments, in order to find ways to reduce body shame among female athletes.

Although no differences were found in state self-objectification, self-surveillance, and body shame based on competitive level or gendered makeup of the team, there were several characteristics of the current sample that may have contributed to the lack of findings. The mean BMI scores of participants between the four groups were very similar, with the overall mean falling in the recommended range ($M = 22.40$). The scores of trait and state self-objectification were also very low, with overall means of -13.32 and -19.14, respectively. As the possible scores range from -25 to 25, with lower scores indicating lower levels of self-objectification, the low mean scores of the current sample suggest that participants had positive perceptions of their bodies overall. It is difficult to detect differences between groups when there is not much variation in body image disturbances among participants.

There are also characteristics unique to the sport of ultimate frisbee that could have contributed to the lack of differences between groups. Ultimate frisbee is one of the few sports that allows women to choose to participate in either an all-women's or coed division, and incorporates the exact same rules for men and women across all divisions, two steps that McDonagh and Pappano (2008) propose could help challenge the stereotype that female athletes are athletically inferior to male athletes. At the national championship tournament, the men's, women's, and coed finals games rotate time slots every year so that no particular division is prioritized over another, allowing participants in different gender divisions to feel equally important. Other sports incorporate different rules and equipment in men's and women's divisions (e.g., smaller basketballs for women, lower volleyball nets, shorter tennis matches,

etc.), which reinforces the assumption that female athletes are unable to play at the same level as male athletes (Sage, 1998).

Allowing female athletes the option to play with either men or women in a sport which treats all athletes equally regardless of gender may help female athletes feel that their athletic abilities are more valued, and they then can focus more on their physical abilities and less on their appearance while playing. Thus, the female athletes may view their male teammates as equals instead of observers, which could negate the differences in coed and all-women's sport environments.

Research Question 3: Objectification Theory Model

For the third research question (i.e., “does state self-objectification predict self-surveillance, body shame, and flow?”), the first three variables of state self-objectification, self-surveillance, and body shame provided support for the objectification theory model. State self-objectification was correlated with self-surveillance, and self-surveillance was correlated with body shame. State self-objectification predicted self-surveillance and body shame, and self-surveillance proved to be a mediating variable between self-objectification and body shame, which is consistent with previous research examining the model.

It is important to note that the relationship between self-objectification, self-surveillance, and body shame was supported across all four groups, indicating that participants who experienced higher levels of self-objectification also experienced more body shame, regardless of the gendered makeup or competitive level of the team. Finding ways to reduce self-objectification in all of these environments is necessary, as experiencing these feelings of shame can have serious consequences. Although the current study did not examine the relationship between body shame and the negative mental health outcomes posited in the objectification

theory model (i.e., depression, disordered eating, and sexual dysfunction), previous research has supported the relationship between body shame and disordered eating among athletes (Muscat & Long, 2008). It is important to seek out factors that influence feelings of shame among athletes, as well as the general population, so that those negative health outcomes may be prevented.

Previous research has examined some of these contributing factors among athletes. Specific ideal body types are associated with success in different sports, and female athletes often experience feelings of shame when they feel they are unable to attain that ideal. Muscat and Long (2008) determined that female athletes received critical comments about their appearance from coaches, teammates, and family members about their appearance, and the majority of the comments focused on the discrepancy between the athletes' appearance and the ideal body type for their sport. Athletes who reported receiving these comments experienced more shame than those who did not. As self-surveillance, trait self-objectification, and BMI accounted for 22% of the variance in body shame, other factors in the team environments such as critical comments may have also contributed to feelings of shame.

With the current study's support for the relationship between self-objectification, self-surveillance, and body shame in the objectification theory model across all team environments, interventions could be conducted to help reduce feelings of shame in a sport setting by working to improve female athletes' levels of self-objectification. Coaches and team members need to be educated that women of all body types can be successful in sport, and that healthy team environments focus on the physical abilities of the participants and not their appearance. Coaches may feel that they are helping female athletes by encouraging them to achieve the ideal body type for their sport, and they may not realize that their comments are contributing to negative psychological outcomes. Encouraging coaches and athletes to focus on the physical abilities

necessary for success in sport instead of appearance could potentially reduce the importance placed on trying to achieve an ideal body, and avoid the resulting feelings of shame when the ideal is not attained.

Although the current study supported part of the objectification theory model, the results did not support the flow component of the model. There was not a relationship between flow and state self-objectification, self-surveillance, or body shame among the female athletes in this study. Only one of the nine components of flow, loss of self-consciousness, was negatively correlated with self-surveillance ($r = -.302, p < .01$). It is not surprising that self-surveillance was negatively related with this particular component of flow, as monitoring one's body forces the athlete to focus on her appearance and become self-conscious. Even though the lack of a relationship between the overall flow score and self-surveillance or state self-objectification might imply that self-consciousness is not a major element of flow, Csikszentmihalyi (1990) suggested that loss of self-consciousness is important for the depth of the flow experience, and some athletes have reported that particular component as the most important part of flow (Jackson & Csikszentmihalyi, 1999). Although loss of self-consciousness is just one of the nine components of flow, it should not be overlooked as an important aspect of the flow experience.

The lack of support for the flow component of the objectification theory model is inconsistent with several previous studies. However, some research on flow has been conflicting, as Tiggemann and Slater (2001) determined that self-surveillance was related to flow among former dancers, but found no relationship between the two concepts among women who had no dance training. They suggested that the dancers were more familiar with flow due to their experience performing, and the non-dancers may not have had the opportunity to experience flow and might not be familiar with the concept. This suggests that previous experiences may

influence the relationship between self-surveillance and flow.

Unlike the dancers in Tiggemann and Slater's (2001) study, there were other factors that influenced flow among the ultimate frisbee players in this sample. Some exploratory analyses were conducted to determine why flow did not fit into the objectification theory model (see Table 8). One surprising finding is that flow scores correlated negatively with the number of female observers present at the practice ($r = -.46, p < .05$). Participants were asked to note the number and provide a description of male and female observers at their practice session. Observers described as children or pets were not included in the analysis, leaving only adult observers (e.g., family members, friends, husbands, girlfriends, boyfriends, and players from other teams). Although flow was related to the presence of female observers, there was no correlation between flow and the number of male observers or the number of total observers ($p > .05$). The number of observers also was not significantly correlated with any of the other variables in the model (see Table 8). These correlations, combined with low means of state self-objectification scores for the sample, suggest that as participants place more importance on their physical abilities than their appearance, they might also become more focused on how their peers view their athletic abilities instead of worrying about how their appearance looks to their male teammates. Thus, one possible explanation for the relationship between flow scores and female observers may be that the participants were concerned about trying to impress those particular observers instead of focusing on their practice, which would be distracting and could influence flow.

Other exploratory correlation analyses were conducted to determine if previous sports experiences were related to flow. Participants reported their previous sports participation, and all but five of the participants were involved in other sports before playing ultimate frisbee. Type of

previous sport participation was placed into three categories, based on Koivula's (2001) characterizations of sports stereotypically associated as appropriate for men and women: (1) traditionally masculine (e.g., football, rugby, soccer, lacrosse, squash, and water polo), (2) traditionally feminine (e.g., dance, gymnastics, figure skating, and horseback riding), and (3) gender-neutral (e.g., tennis, track/cross-country, basketball, swimming, softball, volleyball, field hockey, skiing, snowboarding, golf, and triathlon). The number of years of feminine sport participation was negatively correlated with flow ($r = -.364, p < .05$), and neutral sport participation was positively correlated with flow ($r = .221, p < .05$). Of the neutral sports, previous years of basketball participation was correlated with flow ($r = .431, p < .05$). None of the other correlations were statistically significant ($p > .05$), and number of years of previous ultimate frisbee experience was not correlated with trait self-objectification, state self-objectification, self-surveillance, body shame, or flow (see Table 8).

The correlations between neutral and feminine sport participation with flow suggest that previous sports experiences have an important relationship with an athlete's experiences during practice. As the majority of athletes in the current sample participated in other sports before they began playing ultimate frisbee, the skills they gained from those experiences could have provided the foundation needed to achieve the "optimal experience" of flow. Participants with a background in more feminine sports likely find it challenging to learn the skills needed to play a neutral sport like ultimate frisbee, as the characteristics of feminine sports (e.g., individual, non-contact activities emphasizing grace and beauty) are very different than those needed to be successful in a neutral sport like ultimate frisbee (e.g., team sports with offensive and defensive strategies).

In order to help athletes achieve flow during a practice session, coaches need to be aware

of athletes' previous sports experiences and tailor instruction and practices accordingly. The correlations between types of sports may also suggest a need to expose athletes to sports in each of the three categories (i.e., feminine, masculine, and neutral) throughout their careers to provide them with a variety of different skills.

Sport Implications

Although there were no differences found in self-objectification, self-surveillance, body shame, or flow between the four team environments, the lack of difference is an important finding. Fredrickson and Roberts (1997) proposed that participation in sport may help decrease self-objectification among women by providing them an opportunity to focus on their physical abilities instead of their appearance. If that proposal has merit, then it may not matter what type of team environment an athlete chooses, whether it be an all-women's or coed team at different competitive levels. What is important is that women are given the opportunities to participate and choose the type of team environment they prefer.

The results of the current study are also important in helping coaches understand how to cultivate positive and healthy team environments. Multiple times throughout each year, the Ultimate Player's Association sponsors workshops to educate and certify coaches. As part of that coaching education, it would be beneficial to include information relating to their athletes' well-being. Coaches and teammates need to be aware that drawing attention away from an athlete's physical abilities and focusing on appearance can result in negative feelings of shame, and should focus on improving an athlete's skills instead of encouraging her to attain an ideal body type. These coaching workshops can incorporate demonstrations and videos of successful female athletes of all body types as a method to challenge coach's views that their athletes need to attain a specific body type to be successful.

Although the flow component of the model was not supported in the current study, other factors that were found to influence flow experiences among female athletes (e.g., previous sports experience and the presence of female observers) can provide useful information for coaches. Understanding the influence of observers, being aware of each athlete's previous sports background, and tailoring training to an individual's strengths and weaknesses can be useful tools for coaches to create environments in practice and competitions that may help female athletes experience flow, and can improve the quality and enjoyment of the experience for women participating in sport.

Clinical Implications

The finding that body shame was related to self-objectification and self-surveillance across different team environments has important implications for exercise settings as well as sports teams. As body shame has consistently been linked with eating disorders in previous research, and with the prevalence of eating disorders estimated to occur among 3-5% of the United States population (Shisslak, Crago, & Estes, 1995), finding ways to reduce contributing factors to eating disorders such as body shame is an important public health issue.

Although the current study focused on athletes, there are connections between sport and exercise environments that allow exercise professionals to incorporate these findings to help reduce feelings of body shame among their clients. Similar to coaches, practitioners such as physical education teachers, personal trainers, and group exercise class leaders focus on improving the physical abilities and fitness of their clients and students. In doing so, there are several steps that can be taken towards reducing levels of self-objectification and body shame among students. Due to the finding that BMI was a significant covariate in the relationship between self-objectification, self-surveillance, and body shame, elementary and secondary

physical education teachers can use students of all body types to model different sport skills in class and demonstrate that athletes do not need to achieve a specific body type to be successful in sport. Personal trainers and group exercise class leaders can help their clients focus on exercise as a means to improve their health and physical abilities instead of their appearance. Gyms should also hire personal trainers embodying different body types, and can incorporate images of a variety of women in their advertising campaigns, to show that women do not need to meet a specific ideal standard to be healthy and fit. Moving away from a cultural emphasis on one specific ideal body standard can hopefully reduce the widespread prevalence of body image disturbances and disordered eating among women.

Limitations

There were several limitations in the current study. First, the sample included participants of only one sport, and the findings cannot be generalized to other types of sports, especially sports characterized as stereotypically feminine or masculine. The sample also was not very diverse in terms of race and ethnicity, as a large majority of participants were Caucasian ($n = 106$), which is not representative of adult sport participants in general. The participants in each of the four groups were also very similar in terms of their BMI and self-objectification scores, which makes it difficult to detect differences between groups.

Another limitation is that the participants chose to participate in their specific team environments. Manipulating environmental factors instead of examining an existing environment might have yielded different results. Previous studies that found differences in body image in coed or all-women's exercise settings did not allow participants to select their own groups (Kruisselbrink et al., 2004; Taylor et al., 1999). However, in actuality, people generally choose

the types of teams and sports they want to participate in, thus the design of the current study reflected a more realistic situation.

The current study also relied on self-reported data. Participants may have altered their responses to be socially desirable, and may not have responded honestly, even though the surveys were anonymous. Participants also reported their own height and weight, which could have resulted in inaccurate BMI scores. Previous research has determined that female athletes in a variety of sports tend to overestimate their height and underestimate their weight, although the resulting BMI scores based on self-reports were still mostly reliable and valid (Gay et al., 2009).

Finally, the current study examined only four of the components of the objectification theory model. As flow did not fit into the model, there may be other constructs that have a stronger relationship with flow within a sport environment, such as anxiety or awareness of internal physiological states (e.g., fatigue). Other variables that were not measured, such as sexual orientation, affect, or belief in ability may have influenced the scores as well.

Future Research Directions

The results of this study provide the foundation for potential future research opportunities. Due to the finding that flow did not fit into the objectification theory model, more research needs to be conducted on factors that influence the relationship between self-objectification, self-surveillance, and flow in a sport environment. Research could also examine the relationship between self-objectification, self-surveillance, and actual performance outcomes, to determine if higher levels of self-objectification and self-surveillance impact athletic performance during competition or practice.

It is also necessary to examine self-objectification among athletes competing in different types of sports. As one of the limitations of this study is that there was not much variability in

BMI among participants in the different groups, it would be helpful to examine other sports or exercise classes to include a wider range of body types. Softball is an example of another coed sport that is played at different competitive levels and incorporates different body types.

Researchers could also examine self-objectification among women who participate on mens' sports teams when there is no option of an all-women's team, such as football or wrestling. In a coed setting, it would also be helpful to examine male athletes' opinions of female athletes' abilities, as attitudes of the male athletes towards their female teammates could have been a factor in the results of this study.

Future research should also examine the influence of sport on self-objectification. Fredrickson and Roberts' (1997) proposal that sport participation is a potential way to decrease self-objectification among women should be tested. Due to the negative outcomes outlined in the objectification theory model (e.g., depression, disordered eating, anxiety, shame, and sexual dysfunction), it is important to examine any factors that may help reduce the likelihood of those outcomes among women.

Conclusions

Due to the prevalence of body image disturbances among women in Western culture (Clark & Tiggemann, 2007; Lowes & Tiggemann, 2003), it is important to examine factors that influence these disturbances and the negative psychological outcomes that result from them. One theory that is useful in understanding the relationship between cultural influences, body image, and negative mental health outcomes among women is objectification theory (Fredrickson & Roberts, 1997). The results of the current study extends previous research on body image and objectification theory by examining the constructs of self-objectification, self-surveillance, body shame, and flow among athletes participating in different team environments (i.e., all-women's

and coed teams at different competitive levels). These constructs are especially important in a sport environment, as female athletes are often encouraged to attain an ideal body type believed to be necessary for success in their sport, which places an emphasis on appearance over physical ability, and can result in feelings of shame (Muscat & Long, 2008). The current study provided support for the relationship between self-objectification, self-surveillance, and body shame, but did not find differences between those constructs based on the gendered makeup or competitive level of the team. This suggests that it may not matter what type of team environment a female athlete chooses when participating in sport, what is important is that women are encouraged to focus on their physical abilities over their appearance in each environment.

The flow component of objectification theory did not fit with the model, as flow was not related to self-objectification, self-surveillance, or body shame. Other factors were found to be related to flow, such as previous sports experience and the presence of female observers. Differences in flow were also found based on competitive level, as highly-competitive athletes reported experiencing more flow than lower competitive athletes. As flow is related to the quality and enjoyment of an experience, and has been related to performance outcomes (Jackson et al., 2001) it is important for coaches and athletes to understand factors that facilitate flow in practices and competitions, especially at lower competitive levels.

As participation in sport has the potential to result in numerous physical and mental health benefits for girls and women, it is necessary to further examine factors that contribute positively or negatively to women's experiences in sport. Thus, more research is needed to examine the relationships between body image and sport participation in order for coaches and athletes to fully understand how to cultivate positive and healthy team sport environments for women.

Table 1
Participant Demographic Information

	Total sample (<i>n</i> = 112)	Single gender high competitive (<i>n</i> = 28)	Single gender low competitive (<i>n</i> = 27)	Coed high competitive (<i>n</i> = 27)	Coed low competitive (<i>n</i> = 30)
Demographics	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Age	26.79 (4.96)	25.75 (4.04)	28.48 (5.94)	25.48 (3.85)	27.43 (5.30)
BMI	22.40 (1.96)	22.04 (1.84)	22.46 (2.35)	22.36 (1.67)	22.71 (1.97)
Years playing ultimate	7.37 (4.18)	7.88 (3.93)	7.59 (5.87)	6.70 (3.34)	7.28 (3.28)
Years on current team	2.00 (1.24)	2.21 (1.50)	1.57 (1.23)	2.22 (1.25)	1.97 (0.89)
Enjoyment	4.42 (0.71)	4.61 (0.63)	4.22 (0.85)	4.48 (0.70)	4.37 (0.61)
	%	%	%	%	%
More playing time					
Yes	39.29	46.43	25.93	40.74	43.33
No	60.71	53.57	74.07	59.26	56.67
Continue with team					
Yes	81.25	71.43	81.48	92.59	80.00
No	18.75	28.57	18.52	7.41	20.00
Different division					
Yes	15.18	7.14	14.81	22.22	16.67
No	84.82	92.86	85.19	77.78	83.33
Coach					
None	69.64	14.29	77.78	92.60	93.33
Male	22.32	67.86	7.41	7.41	6.67
Female	8.04	17.86	14.81	0.00	0.00
Sports participation					
Track/cross-country	58.93	46.43	51.85	66.67	70.00
Basketball	49.11	53.57	46.15	59.26	36.67
Soccer	56.25	53.57	37.04	77.78	56.67
Swimming	34.82	21.43	44.44	33.33	40.00

(table continues)

Table 1 (*continued*)

	Total sample (<i>n</i> = 112)	Single gender high competitive (<i>n</i> = 28)	Single gender low competitive (<i>n</i> = 27)	Coed high competitive (<i>n</i> = 27)	Coed low competitive (<i>n</i> = 30)
Demographics	%	%	%	%	%
Tennis	33.04	28.57	18.52	44.44	40.00
Gymnastics	27.68	32.14	25.93	33.33	20.00
Lacrosse/field hockey	11.61	21.43	7.41	0.00	16.67
Ski/snowboard	4.46	7.14	0.00	7.41	3.33
Dance	1.79	0.00	3.70	0.00	3.33
Figure skating	1.79	0.00	0.00	3.70	3.70
Football/rugby	1.79	0.00	0.00	7.41	0.00
Golf	1.79	0.00	3.70	3.70	0.00
Horseback riding	0.84	0.00	0.00	3.70	0.00
Rock climbing	0.84	0.00	0.00	0.00	3.33
Squash	0.84	0.00	0.00	0.00	3.33
Triathlon	0.84	0.00	0.00	3.70	0.00
Water polo	0.84	3.57	0.00	0.00	0.00

Table 2
Means and Standard Deviations of Objectification theory Variables

Scales	Single-gender				Coed		
	Total sample (n = 112)	High competitive (n = 28)	Low competitive (n = 27)	Total (n = 55)	High competitive (n = 27)	Low competitive (n = 30)	Total (n = 57)
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
BMI	22.40 (1.96)	22.04 (1.84)	22.46 (2.35)	22.24 (2.07)	22.36 (1.67)	22.71 (1.97)	22.55 (1.83)
Trait SO	-13.32 (9.97)	-12.57 (8.61)	-13.59 (9.09)	-13.11 (8.71)	-13.52 (10.18)	-13.60 (11.99)	-13.56 (11.07)
State SO	-19.14 (8.29)	-19.50 (6.22)	-19.74 (7.72)	-19.62 (6.68)	-18.63 (9.67)	-18.73 (9.75)	-18.68 (9.63)
Surveillance	3.90 (1.04)	4.07 (1.11)	3.95 (0.95)	4.01 (1.02)	3.92 (1.05)	3.69 (1.06)	3.80 (1.05)
Body shame	2.82 (1.18)	2.78 (1.02)	2.67 (1.05)	2.72 (1.03)	2.87 (1.37)	2.94 (1.28)	2.91 (1.31)
Flow	3.51 (0.57)	3.69 (0.62)	3.45 (0.53)	3.57 (0.59)	3.63 (0.42)	3.30 (0.61)	3.46 (0.55)
Challenge/Skills	3.88 (0.74)	4.04 (0.81)	3.70 (0.72)	3.88 (0.78)	3.95 (0.58)	3.81 (0.81)	3.88 (0.71)
Action-Awareness	3.56 (0.85)	3.67 (0.96)	3.42 (0.74)	3.55 (0.86)	3.72 (0.79)	3.47 (0.88)	3.59 (0.84)
Clear Goals	3.91 (0.75)	4.21 (0.67)	3.74 (0.75)	3.98 (0.74)	3.85 (0.65)	3.84 (0.85)	3.85 (0.76)
Unambiguous Feedback	3.80 (0.66)	3.93 (0.55)	3.78 (0.69)	3.85 (0.62)	3.82 (0.62)	3.67 (0.79)	3.74 (0.71)
Concentration	3.50 (0.98)	3.86 (0.86)	3.54 (0.98)	3.70 (0.93)	3.63 (0.94)	2.97 (0.94)	3.28 (0.99)
Sense of Control	3.64 (0.78)	3.92 (0.84)	3.51 (0.78)	3.72 (0.83)	3.75 (0.55)	3.41 (0.85)	3.57 (0.74)
Loss of Self-Consciousness	2.93 (0.95)	3.05 (1.06)	2.91 (0.91)	2.98 (0.99)	3.01 (0.99)	2.78 (0.87)	2.89 (0.92)
Transformation of Time	2.64 (0.99)	2.73 (1.09)	2.67 (0.83)	2.70 (0.97)	2.92 (0.98)	2.28 (0.99)	2.58 (1.03)
Autotelic Experience	3.75 (0.83)	3.74 (0.96)	3.81 (0.89)	3.77 (0.92)	4.02 (0.56)	3.46 (0.83)	3.72 (0.76)

Table 3

MANCOVA Main and Interaction Effects of Gendered Makeup and Competitive Level

<i>Scales</i>	<i>Sig.</i>	η_p^2	<i>Power</i>
BMI	.043	.194	.87
Trait SO	.000	.385	1.0
State SO			
Gendered Makeup of Team (GM) Main Effect	.564	.003	.09
Competitive Level (CL) Main Effect	.855	.000	.05
Competitive Level and Gendered Makeup (CLxGM) Interaction Effect	.981	.000	.05
Surveillance			
GM	.244	.013	.21
CL	.340	.009	.16
CLxGM	.639	.000	.08
Body shame			
GM	.475	.005	.11
CL	.772	.001	.06
CLxGM	.694	.001	.07
Challenge/Skills Balance			
GM	.971	.000	.05
CL	.087	.027	.40
CLxGM	.492	.004	.41
Action-Awareness Merging			
GM	.828	.000	.06
CL	.092	.027	.39
CLxGM	.982	.000	.05
Clear Goals			
GM	.315	.010	.17
CL	.070	.031	.44
CLxGM	.100	.025	.38
Unambiguous Feedback			
GM	.321	.009	.17
CL	.164	.018	.28
CLxGM	.994	.000	.05
Concentration			
GM	.020	.05	.65
CL	.004	.074	.82
CLxGM	.351	.008	.15
Sense of Control			
GM	.309	.010	.17
CL	.008	.064	.76
CLxGM	.777	.001	.06

(table continues)

Table 3 (continued)

<i>Scales</i>	<i>Sig.</i>	η_p^2	<i>Power</i>
Loss of Self-consciousness			
GM	.631	.002	.08
CL	.300	.010	.77
CLxGM	.849	.000	.05
Time Transformation			
GM	.491	.004	.11
CL	.036	.041	.56
CLxGM	.114	.023	.35
Autotelic Experience			
GM	.689	.002	.07
CL	.070	.031	.44
CLxGM	.048	.036	.51

Table 4

Series of 2x2 ANCOVA Main and Interaction Effects of Gendered Makeup and Competitive Level

<i>Scales</i>	<i>Sig.</i>	η_p^2	<i>Power</i>
State SO			
Gendered Makeup of Team (GM) Main Effect	.564	.003	.09
Competitive Level (CL) Main Effect	.855	.000	.05
Competitive Level and Gendered Makeup (CLxGM) Interaction Effect	.981	.000	.05
Surveillance			
GM	.244	.013	.21
CL	.340	.009	.16
CLxGM	.639	.002	.08
Body shame			
GM	.475	.005	.11
CL	.772	.001	.06
CLxGM	.694	.001	.07
Overall Flow Mean			
GM	.262	.012	.20
CL	.005	.072	.81
CLxGM	.657	.002	.07

Table 5

Correlations of State Self-Objectification, Self-Surveillance, Body Shame, and Flow

Variables	1	2	3	4
1. State self-objectification	-	-	-	-
2. Self-surveillance	.329**	-	-	-
3. Body shame	.224*	.411**	-	-
4. Flow	-.078	-.091	-.010	-
Partial correlations controlling for self-surveillance				
3. Body Shame	.103	-	-	-
4. Flow	-.051	-	-	-
Partial correlations controlling for self-surveillance, BMI, and trait self-objectification				
3. Body Shame	.059	-	-	-
4. Flow	-.053	-	-	-

** $p < .001$, * $p < .05$

Table 6
Body Shame Regression Analysis Results

<i>Predictor variables</i>		R^2	ΔR^2	B	$SE B$	β	$Sig.$
Step 1.	BMI	.140	.140	.159	.054	.264	.004
	Trait SO			.035	.011	.295	.001
Step 2.	BMI	.151	.012	.148	.054	.246	.008
	Trait SO			.031	.011	.258	.007
	State SO			.016	.013	.115	.224
Step 3.	BMI	.228	.076	.135	.052	.224	.011
	Trait SO			.012	.012	.101	.324
	State SO			.008	.013	.056	.543
	Surveillance			.376	.116	.331	.002

Table 7
Flow Regression Analysis Results

<i>Predictor variables</i>		R^2	ΔR^2	B	$SE B$	β	$Sig.$
Step 1.	BMI	.024	.024	.029	.028	.098	.305
	Trait SO			-.006	.005	-.111	.244
Step 2.	BMI	.028	.004	.031	.028	.108	.266
	Trait SO			-.005	.006	-.091	.368
	State SO			-.004	.007	-.064	.528
Step 3.	BMI	.029	.001	.032	.028	.111	.258
	Trait SO			-.004	.007	-.073	.526
	State SO			-.004	.007	-.057	.582
	Surveillance			-.021	.063	-.038	.738

Table 8
Exploratory Correlation Analysis

	Trait Self-Objectification	State Self-Objectification	Self-Surveillance	Body Shame	Flow
Feminine sports	.418	.056	.106	.091	-.364*
Neutral sports	-.158	.079	-.002	.028	.221*
Basketball	.192	.284*	.285*	.077	.431**
Masculine sports	-.187	.127	-.043	-.137	-.006
Years of ultimate	-.081	-.050	.083	-.022	-.008
Coach	.004	.021	-.045	-.054	.104
Female observers	-.180	-.115	.124	-.346	-.460*
Male observers	-.220	-.207	.230	-.143	-.479
Total observers	-.234	-.208	.000	-.261	-.394

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

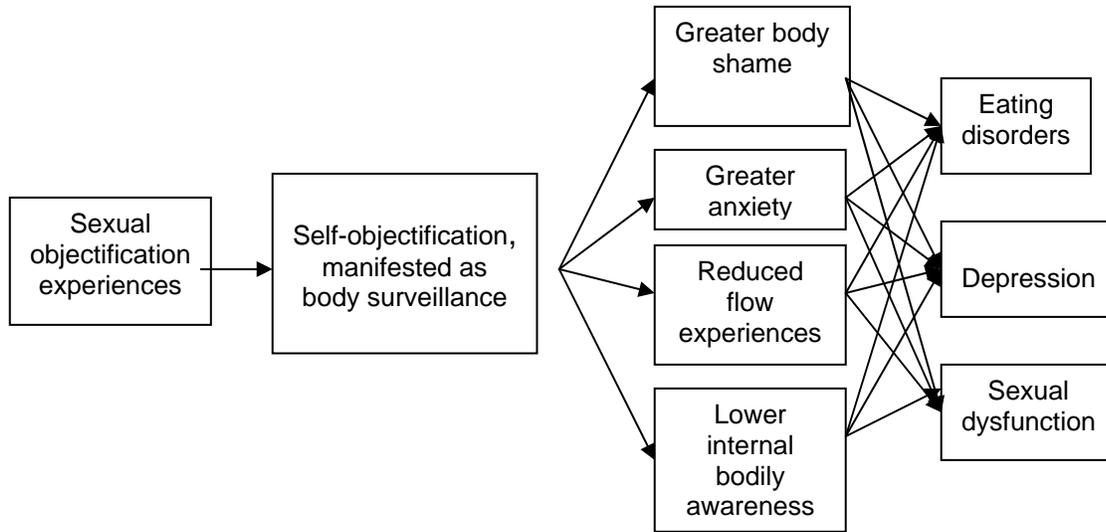


Figure 1. Objectification theory model (Moradi & Huang, 2008).

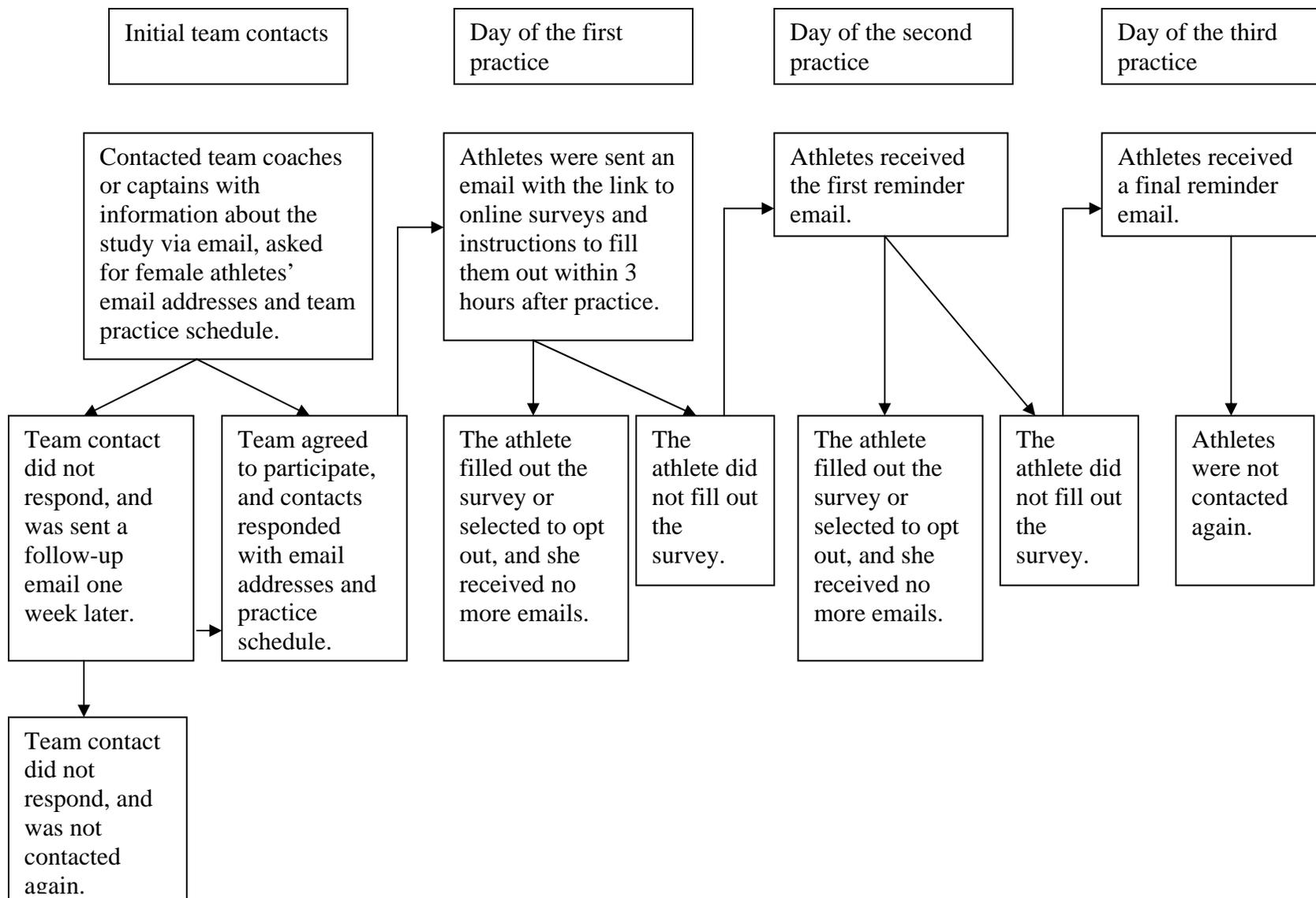


Figure 2. Procedure.

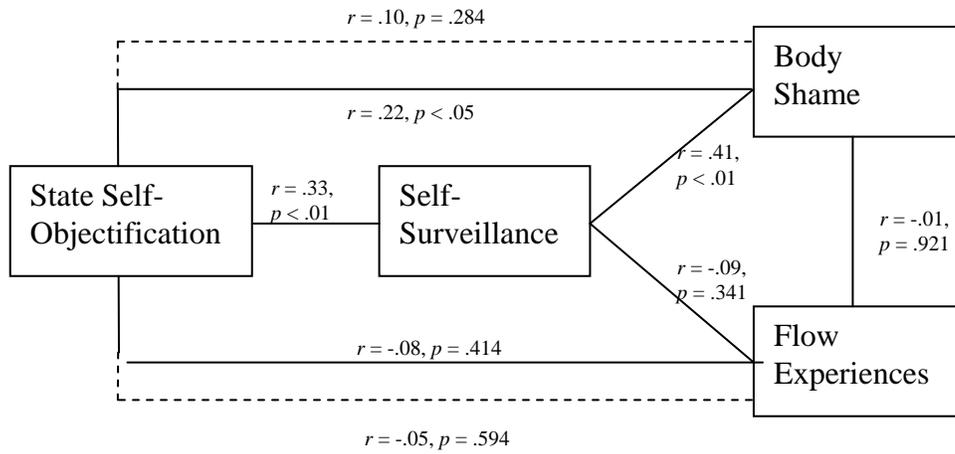


Figure 3. Correlations and partial correlations of objectification theory model controlling for self-surveillance. Dashed lines represent partial correlations controlling for self-surveillance.

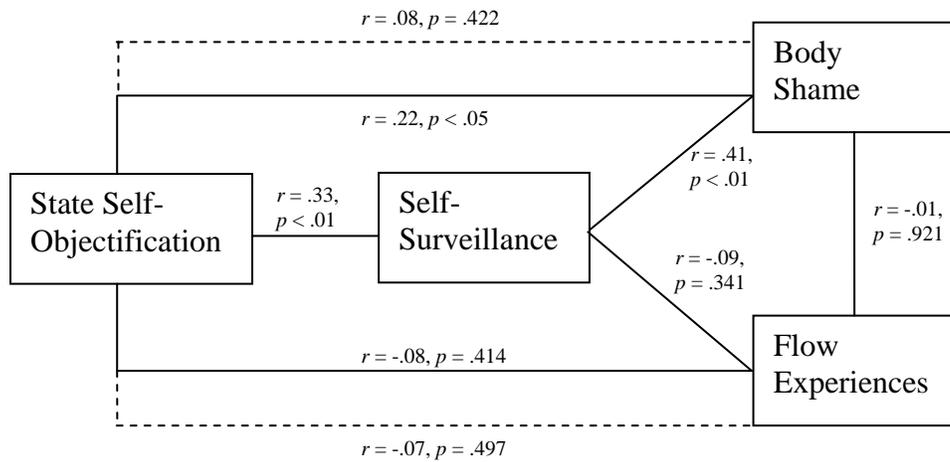


Figure 4. Partial correlations controlling for self-surveillance and body mass index. Dashed lines represent partial correlations controlling for self-surveillance and body mass index.

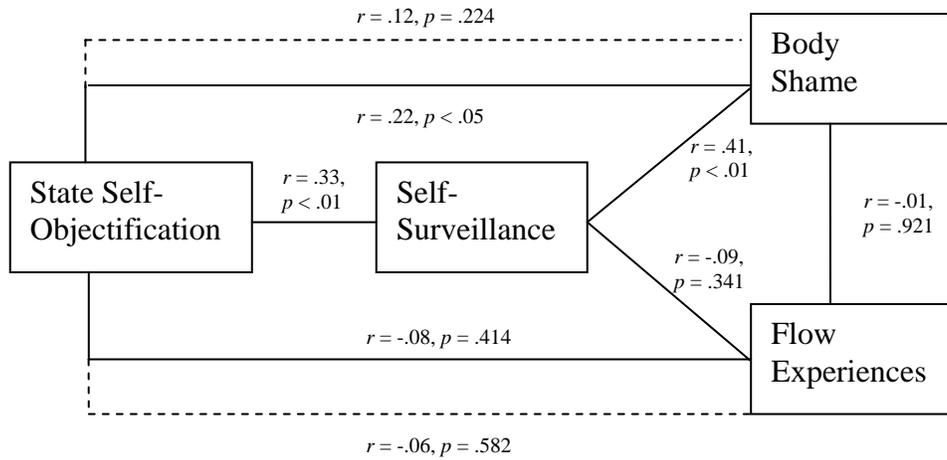


Figure 5. Partial correlations controlling for trait self-objectification and body mass index. Dashed lines represent partial correlations controlling for trait self-objectification and body mass index.

APPENDIX A
DEMOGRAPHIC QUESTIONNAIRE

13. Are you a team captain? Yes No
14. Would you prefer more playing time? Yes No
15. Do you plan on continuing with this team in the future? Yes No
16. Would you prefer to play in a different division? Yes No
17. How many non-series tournaments does your team plan on attending this season? 1 2 3 4 5 6+
18. Has your team qualified for the UPA club championships in the past 3 years? Yes No This is our first years as a team
19. Does your team expect to qualify for nationals this season? Yes No
20. Which region do you currently play in? Northwest Northeast Mid-Atlantic
South Southwest Central
21. Do you have a coach? If so, is your coach male or female? Male Female No coach
22. Do you enjoy participating on this team? Rank on a scale from 1-5, 1 being "Do not enjoy", 3 being neutral, and 5 being "I do enjoy it" 1 2 3 4 5
23. Were there any people besides your teammates or coaches present during today's practice? If so, please note how many people were observing practice. # of males: _____
Description of males: _____
of females: _____
Description of females: _____

APPENDIX B
INFORMED CONSENT NOTICE

University of North Texas Institutional Review Board

CONSENT NOTICE

The purpose of this research study is to examine body image among female athletes. You are being asked to complete a survey that will take about 15 to 20 minutes of your time.

Answering the questions in this survey involves no foreseeable risks. Participation is voluntary and you may stop at any time without penalty. By completing the survey you are giving consent to participate and confirming that you are at least 18 years old.

Your responses will be kept anonymous, and only the researchers will have access to the research data. The confidentiality of your individual information will be maintained in any publications or presentations regarding this study.

If you have any questions regarding this study, please contact Alison Ede by phone at (940)565-2651 or email alison.ede@unt.edu, or the faculty advisor, Dr. Christy Greenleaf, UNT Department of Kinesiology, Health Promotion, and Recreation, at telephone number (940)565-3415. This project has been reviewed and approved by the University of North Texas Institutional Review Board (IRB). Contact the UNT IRB at 940-565-3940 with any questions about your rights as a research subject.

IF YOU PROCEED AND COMPLETE THIS SURVEY YOU ARE PROVIDING CONSENT TO PARTICIPATE IN THIS STUDY.

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