

Influence of Situational Variables on Changes in State Body Image Among Black and  
White Women

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## DEDICATION

This dissertation is dedicated to four amazing individuals who have provided me with endless love, guidance, and support. I would like to extend my sincerest gratitude to my mother, Mary Rahimi, and father, Cyrus Rahimi, for their unwavering love, encouragement, optimism, and praise. From the time when I was born, they taught me the importance of hard work and perseverance. I would not be where I am today without them by my side and am eternally grateful for the strength, curiosity, and motivation they have instilled in me. I would also like to thank my sister, Emily Rahimi, for consistently providing an ear to listen and shoulder to lean on. She has taught me how to be a better person and stay true to myself. I am so grateful for her constant support. Lastly, I would like to thank my boyfriend, Sekou Mapp, for always believing in me and pushing me to do my very best. I truly appreciate the wisdom and perspective he brings to my life and to this paper.

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## ABSTRACT

### INFLUENCE OF SITUATIONAL VARIABLES ON CHANGES IN STATE BODY IMAGE AMONG BLACK AND WHITE WOMEN

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Although research suggests that body esteem varies according to daily experiences (Melnyk, Cash, & Janda, 2004; Tiggemann, 2001), few studies have examined situational variables that may lead to fluctuations in body satisfaction. Of the limited experimental research, results suggest that a variety of experiences, including interpersonal feedback, clothing selection, and media exposure, may trigger changes in body esteem (Grabe, Ward, & Hyde, 2008; Kwon & Shim, 1999; Mills & Miller, 2007). The main goal of this study was to examine within-person variability of state body image and situational experiences that influence changes in state body image among college women in their everyday lives. A secondary aim was to examine how race and appearance investment moderate this effect. A pilot study was conducted to examine situational experiences related to changes in body esteem. Eleven Black American (BA) and 11 White American (WA) women recorded their body experiences and feelings in a journal for one week and results were used to create a simple checklist that was used in the main study. Participants

in the main study included 40 BA and 42 WA undergraduate women (ages 18-28). Participants completed a measure of appearance investment on Day 1, and a state body image measure and a situational experience checklist online twice daily for the next seven days. Results were analyzed using hierarchical linear modeling (HLM), a method that accounts for nonindependence of observations. Findings revealed considerable within-person variability in body image. Every event type was uniquely associated with changes in body image except dissatisfaction while exercising. All of the interactions between race and situational variables were nonsignificant, indicating that the association between situational experiences and changes in state body image did not depend on an individual's race. Appearance investment was only found to be a significant moderator of the association between state body image and exercise dissatisfaction. Potential limitations of these findings are discussed along with suggestions for future research examining the effects of positive and negative experiences on state body image.

## 1. Introduction

Body image is a multifaceted construct that is typically defined by perceptual, cognitive, and affective aspects of the body experience (Cash, 2002a; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002; Tiggemann, 2001). Despite the complexity implied by this prevailing view, one aspect of the current literature tends to be more simplistic. Most empirical studies conceptualize and measure body image as a stable, trait-level characteristic, focusing primarily on overall body size and shape dissatisfaction (Cash, 1990; Rudiger, Cash, Roehrig, & Thompson, 2007). Assessment of body image typically occurs in laboratories and measures how individuals typically feel about their bodies. Although body image has been found to vary across time and situations (Melnik et al., 2004; Rudiger et al., 2007; Tiggemann, 2001), few studies directly examine situational variables that may lead individuals to feel better or worse about their bodies (Cash, 2002a).

Furthermore, research suggests that body satisfaction levels may differ across racial and cultural groups (Grabe & Hyde, 2006). Differences between Black American (BA) and White American (WA) women have been attributed to cultural beauty standards, body shape/size preferences among men, and media images (Grabe & Hyde, 2006; Roberts, Cash, Feingold, & Johnson, 2006). Quite a bit of research examines racial differences in trait body image, comparing how BA and WA women generally feel about

themselves (Roberts et al., 2006; S. H. Thompson & Sargent, 2000). Meta-analyses conclude that BA women generally have higher body satisfaction than WA women (Grabe & Hyde, 2006; Roberts et al., 2006), but this research does not address the degree to which situational factors may influence changes in state body esteem among these women. Henriques et al (1996) found that BA women who received feedback about interpersonal skills did not experience similar changes in body image as WA women, suggesting that the dynamics underlying changes in body satisfaction may be different for BA and WA women. Also, BA women have been found to place less value on fixed physical attributes than WA women and identify more with BA cultural beauty standards (Evans & McConnell, 2003; Gluck & Geliebter, 2002). Given these findings, there is reason to believe that race may moderate the effect of situational variables on changes in state body esteem.

The primary aim of the present study is to examine within-person variability of state body esteem among college students. More specifically, this study aims to investigate the degree to which state body esteem fluctuates within an individual and which situational variables influence changes in state body esteem. A secondary goal is to examine if race and appearance investment moderate this effect.

### Defining and Measuring Body Image

Throughout the last half century, body image has shifted from being regarded as a unilateral to a multidimensional construct (Pruzinsky & Cash, 2002). The first definitions of body image were primarily perceptual and regarded body image as “the picture of our own body which we form in our mind” (Schilder, 1950), p. 11). After much research

about how individuals perceive their bodies, the term “body image” has expanded to include such factors as weight satisfaction, body dysphoria, body dysmorphia, body size perception, and body esteem (Pruzinsky & Cash, 2002; J. K. Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). These terms are often used as synonyms to describe how individuals feel about their bodies, but by definition, have different meanings.

Some of the most commonly used terms in body image literature include body esteem, body satisfaction, and body size estimation. Body esteem refers to the self-evaluations of and attitudes toward one’s body or appearance (Mendelson, Mendelson, & White, 2001). The term ‘body esteem’ is used broadly to describe how individuals feel about their body shape, body size, individual body parts, weight, appearance, and body functions. On the other hand, body satisfaction, or conversely “body dissatisfaction,” denotes the degree of satisfaction or dissatisfaction an individual has with her overall body shape and size or specific body parts, or how worried a person is about being or getting fat (Smolak, 2002). Satisfaction can be further defined to reflect weight satisfaction, shape satisfaction, and satisfaction with specific body sites and features, and is sometimes referred to as “weight and shape concerns” (J. K. Thompson & van den Berg, 2002). Research suggests it is not uncommon for individuals to indicate positive body esteem, but to indicate dissatisfaction with specific body parts (Smolak, 2002). Finally, body size estimations are simply the estimation a person has of her actual body size, or how big or small a person feels (Farrell, Lee, & Shafran, 2005).

Current definitions of body image generally include both perceptual and attitudinal dimensions. Perceptual body image refers to the accuracy of an individual’s

judgment of their size, shape, and weight relative to their actual proportions (Grogan, 2008). Body size accuracy can be measured according to individual body parts or the body as a whole (Cash & Henry, 1995). Perceptual assessments typically ask participants to view various images of themselves and indicate whether the perceived image is larger or smaller than their actual body size (J. K. Thompson & Gardner, 2002). Attitudinal body image is defined as the thoughts and feelings about the body, such as satisfaction with body shape and weight and feelings of attractiveness (Cash & Henry, 1995; Pulvers et al., 2004). It is often assessed by measuring one of four components: global subjective satisfaction (evaluation of the body), affect (feelings toward the body), cognitions (beliefs about the body), and behaviors (avoidance of situations that might trigger body image concerns; J. K. Thompson & van den Berg, 2002). The present study will focus specifically on one aspect of attitudinal body image: state body image.

Body image questionnaires typically inquire about how individuals feel about some body parts (e.g. torso, upper legs, buttocks, upper arms), but not others (e.g. hands, nails, hair, face; Miller et al., 2000). This narrow definition of “body” has been questioned because it overlooks the cultural context in which body satisfaction develops and the body areas that may be valued most by cultural groups (Miller et al., 2000). Miller et al. (2000) found that BA women may be satisfied with areas of their bodies in which WA women typically express dissatisfaction. However, this finding cannot be interpreted as BA women never experiencing body dissatisfaction, or that they are immune from feeling negatively about their appearance. The present study will adopt a

broader view of “body” and “body image” by incorporating how women feel about their overall physical attractiveness, weight, appearance, and body size and shape.

#### *Assessment of Attitudinal Body Image*

Various methods have been developed to capture how individuals feel about or perceive their bodies or aspects of their bodies. Most studies measure trait-like, attitudinal characteristics of body esteem and seldom take into consideration the situational and temporal variations individuals may experience (J. K. Thompson & van den Berg, 2002). Self-report questionnaires and figural rating scales are two of the most frequently used methods (J. K. Thompson & van den Berg, 2002). Methodological critiques suggest that researchers need to carefully consider how they wish to measure aspects of body esteem and satisfaction for two reasons (J. K. Thompson, 2004). First, researchers should consider which aspects of body image (e.g. size, weight, muscularity) and which dimensions (general dissatisfaction, affective, cognitive, behavioral) are relevant to the research questions. Many scales have been designed to measure these constructs and it is important the scale used reflects the aspects and dimensions the researcher wishes to examine. Second, most measures are validated on adult samples of primarily WA women; therefore, validation samples need to be greatly considered when selecting assessment tools and measuring body image among diverse samples (J. K. Thompson, 2004; J. K. Thompson & van den Berg, 2002).

Self-report questionnaires typically ask respondents to indicate the degree of agreement or disagreement with statements relating to dissatisfaction with particular body parts or the body as a whole (Grogan, 2008). For example, the Body Dissatisfaction scale

of the Eating Disorders Inventory (EDI; Garner, Ohmstead, & Polivy, 1983) is used to evaluate body size and shape dissatisfaction by measuring level of dissatisfaction with nine body areas (e.g. hips, thighs, buttocks, stomach, overall body shape). Although self-report questionnaires have a lot of strengths in measuring how satisfied individuals typically are with body size and body parts, these scales frequently account for a narrow perception of “ideal body type” (Miller et al., 2000). For example, research suggests that body satisfaction among WA women is largely influenced by waist, hip, and thigh satisfaction; however, other factors not measured in self-report questionnaires, such as skin tone, skin texture, or grooming, have been found to be more important in shaping overall body satisfaction among other racial groups (Gluck & Geliebter, 2002). Miller et al. (2000) examined this notion by expanding the body areas on the EDI to include hair length, skin color, hair thickness, skin texture, and hair color, and as a result detected fewer racial differences in body part satisfaction between WA, BA, and Latino/a American men and women compared to previous studies that did not account for differences in cultural beauty ideals.

Another method frequently used to assess body satisfaction is figural rating scales (J. K. Thompson & van den Berg, 2002). These scales are designed to measure the degree and direction of body dissatisfaction by having participants choose one of nine body silhouettes that most closely resembles their current body size and another that resembles their ideal body size. The discrepancy between these figures is considered to be an indication of overall body size (dis)satisfaction (Grogan, 2008). Figural rating scales are popular means of assessing body satisfaction because they are inexpensive and easy to

administer and require little effort from participants (Pulvers et al., 2004). One weakness of using this approach is that body shape varies significantly across racial groups and most silhouette scales are validated on a primarily WA sample (Pulvers et al., 2004). Pulvers et al. (2004) developed a culturally relevant body image instrument that depicts bodies that more closely resemble that of BA women. This scale was validated with BAs to account for cultural biases in other scales (Pulvers et al., 2004).

### State Body Image

Whether body image is best conceptualized as a trait-like or state-like characteristic has been questioned by researchers (Grogan, 2008). For women, average levels of the desire to be thinner (Allaz, Berstein, Rouget, Archinard, & Morabia, 1998), concerns about eating and weight (Pliner, Chaiken, & Flett, 1990), preoccupation with being overweight (Deeks & McCabe, 2001), body esteem (Webster & Tiggemann, 2003), appearance satisfaction (Paxton & Phythian, 1999), and body part satisfaction (Deeks & McCabe, 2001) have been found to be relatively similar across different age groups (Tiggemann, 2004). Based on this evidence, researchers have proposed that women's dissatisfaction with their bodies may be stable across the life span (Grogan, 2008). This trend may be explained by research suggesting that with age, women become heavier and move farther from the young thin ideal (Grogan, 2008) and the importance of body appearance decreases (Cash, 2002b). These processes of increasing the distance from the mainstream beauty ideal and decreasing the importance of appearance are believed to counterbalance each other to produce stable body (dis)satisfaction across the lifespan (Tiggemann, 2004).

Although this conceptualization suggests body image may be a stable trait, research suggests that situational factors can prompt fluctuations in daily body satisfaction (Melnyk et al., 2004). According to Cash (2002a), research has generally neglected to view body esteem as the product of a fluid and dynamic person-situation interaction, and instead, there is an overemphasis among empirical studies on examining body image as a static, cross-situational trait. Body image most likely contains both fluid and static components (Tiggemann, 2001), and both must be considered in order to understand the complexity of an individual's behaviors toward herself and others.

As discussed, most body image assessments examine trait-like characteristics, or in other words, how individuals generally think, feel, and act in relation to their bodies (Cash, 2002a). Surprisingly, very little research examines day-to-day fluctuations in body image and the factors that bring about these changes (Rudiger et al., 2007). Cash (2002b) proposed that specific situations or contexts can trigger body size or body part dissatisfaction when individuals may otherwise feel comfortable with their bodies. For example, in social or body-exposing situations, some individuals may experience greater self-awareness, which may lead to increased body dissatisfaction (Cash, 2002b; Melnyk et al., 2004). Research on state self-esteem supports this proposition, finding that individuals experience positive fluctuations in self-esteem after experiencing positive events, and lower self-esteem after negative events (Zeigler-Hill & Showers, 2007).

In understanding daily changes in body esteem, it is important to understand how variability is measured in the literature. On the one hand, variability can be examined as a characteristic of a person (i.e., a traitlike construct), such that some people vary more

than others. When studied this way, variability can be conceptualized as a variable called “body image stability” or, conversely, “body image instability,” which refers to the magnitude of short-term fluctuations that people experience in their immediate thoughts and feelings about their bodies (Melnyk et al., 2004). Studies examining body image stability typically ask participants to complete body image state rating scales one or more times per day in real-world settings, and assess the extent to which body image changes across time (Cash, 2002a). Degree of fluctuation over time is measured by computing the standard deviation of each participant’s scores across occasions, with higher average standard deviations reflecting greater response variability, and more unstable body image (Greenier et al., 1999; Kernis, 2005). This method produces an estimate of instability in body image for each person, making it possible to investigate potential person-level predictors of body image instability (e.g., overall investment in appearance). The few experience sampling studies examining body image variability have adopted this method of assessing body image stability (Melnyk et al., 2004; Rudiger et al., 2007).

Another method of assessing instability in body image relies on the fact that variability in state body image can be due to two sources: differences between people (where some people are generally higher in state body image satisfaction than others) and differences within people (where people are satisfied with their bodies at some times more than others). The degree of within-person variability in state body image can be determined by calculating a statistic called the intraclass correlation coefficient (ICC), which provides an estimate of the proportion of total variance in state body image that is due to differences between people (Snijders & Bosker, 1999). For example, if an ICC

statistic is .45 for a sample of state body image scores, then it means that approximately 45% of the variability in the sample is due to mean differences in state body image between individuals. The remaining 55% of the variability would be due to within-person fluctuations in state body image (and measurement error). Statistical techniques such as multilevel regression can simultaneously model both between-person and within-person variability in state body esteem, which makes it possible to examine both person-level predictors (e.g., overall investment in appearance) and within-person predictors (e.g., characteristics of the situation that a person is in at a given moment) of state body esteem (Cash, 2002a; Cash et al., 2002).

These two methods of assessing within-person variability in state body esteem offer different advantages and disadvantages to the researcher who wishes to study the effects of situations on body image. The first method offers the advantage of providing a unique estimate of body image variability for each person. However, it allows researchers to investigate only person-level correlates of body image variability. In contrast, although the second method does not yield a unique estimate of variability for each person, it allows researchers to predict both within-person and between-person variability in state body image. Thus, this method provides a means of studying state body image as both a within-person and person-level phenomenon, and it even enables researchers to examine how person-level variables (e.g., investment in appearance) may moderate links between within-person variables (e.g., characteristics of a situation) and state body image. This second method will be used for the present study because the goal of this research is to

examine the degree to which changes in state body image can be accounted for daily experiences.

### *Predictors of Changes in State Body Esteem*

Only two known studies have explored emotional, physical, and cognitive variables that are related to greater changes in state body image. Both of these studies measure body image stability, a between-person variable, and do not measure the within-person variability of state body esteem. Melnyk, Cash, and Janda (2004) used computerized telephonic methodology to examine predictors of body image stability among college women over the course of six days. Results suggested that greater body image instability was associated with lower trait body satisfaction, more body image dysphoria, greater dysfunctional investment in appearance, more disturbed eating attitudes, and the use of less adaptive coping strategies (Melnyk et al., 2004).

Rudiger and colleagues (2007) examined body image stability among college women who completed online body image state measures once per day over the course of 10 days. In this study, greater body image instability was predicted by greater appearance investment, more body-related cognitive distortions, and higher perfectionistic attitudes (Rudiger et al., 2007). Findings from these studies are generally consistent; however, motivational salience, or the importance of being attractive and managing and enhancing physical appearance, was found to be related to body image stability in only Melnyk et al.'s study.

In regards to the theory behind body esteem fluctuations, cognitive-behavioral theories suggest that social learning and historical factors can lead to the development of

body image schemas and attitudes (Cash, 2002b). Body image variability occurs because situational cues or contextual events activate body image schemas and produce schema-driven cognitive processing about one's physical appearance (Cash, 2002b; Williamson, Stewart, White, & York-Crowe, 2002). This process results in state body image evaluations that fluctuate according to the salience and meaning of a specific event (Cash, 2002b; Melnyk et al., 2004). As a result, individuals who place more importance on their appearance (higher appearance investment), or have more appearance schemas, are more likely to pay more attention to and preferentially process information related to their appearance (Williamson et al., 2002). Individuals who report high appearance investment may therefore experience greater changes in state body image.

#### Contextual Factors Related to Body Satisfaction

Research suggests that body esteem fluctuates according to one's experiences, but little is known about which contextual factors are related to changes in body satisfaction. It is hypothesized that a variety of events, such as body exposure, mirror exposure, social scrutiny, social feedback or comparisons, wearing certain clothing, weighing, exercising, mood states, media images, or changes in appearance, can activate schemas and lead to changes in state body satisfaction (Cash, 2002b). The terms "context" and "situational experience" can refer to many different events that women experience in their daily lives, only some of which may result in decreases in state body esteem. Contextual experiences which influence state body esteem typically include a context (e.g., trying on clothing in a store) and activating event (e.g., clothing does not fit), which together result in greater body dissatisfaction.

Most studies examine situational influences on state body image using experimental manipulations in laboratory settings, such as exposing participants to media images and measuring the effects on body satisfaction (Melnyk et al., 2004). Haimovitz, Lansky, and O'Reilly (1993) conducted one of the first of these studies by measuring body satisfaction among college women after they were presented with four scenarios (e.g. walking on the beach in a bathing suit in front of a group of attractive men and women, trying on bathing suits in a department store's dressing room, having lunch with a friend, getting dressed at home). Overall body dissatisfaction varied significantly across these situations, suggesting that contextual factors influence body satisfaction (Haimovitz, Lansky, & O'Reilly, 1993). Haimovitz and colleagues' (1993) concluded that body esteem varies by context, but provided little evidence about whether some women may be more prone to this influence than others.

Tiggemann (2000) explored how personal and situational variables influence satisfaction with weight, size, appearance, and individual body parts by asking female participants how they would think and feel in the four scenarios presented by Haimovitz et al. (1993). Body satisfaction and body esteem were found to be significantly lower in the two body-focused situations (beach, dressing room) than the non-body-focused situations (Tiggemann, 2001). However, not all participants were influenced by the situational prompts in the same way. Further examination revealed that personal factors, including dietary restraint and body mass index, moderated the degree to which situational variables led to changes in body esteem (Tiggemann, 2001). Body esteem varied more across situations for normal weight than under- or overweight individuals,

and situations had the greatest impact on body image for individuals with high dietary restraint (Tiggemann, 2001).

One of the few studies focusing on daily body image states in everyday life provided participants with a device that emitted a sound that signaled them to record their body awareness and most recent activities (Franzoi, Kessenich, & Sugrue, 1989). When women were attentive to their bodies, they experienced more negative affect than men and were more likely to focus on specific body parts than their body as a whole (Franzoi et al., 1989). Findings from these experimental and daily sampling studies indicate that contextual variables are influential in shaping how women feel about their bodies, but questions remain about which experiences lead to fluctuations in how women feel about their bodies and appearance. No studies examine the impact of a broad range of contextual factors on body esteem; however some research has investigated the effects of specific events which trigger changes in body satisfaction, including feedback, mirror exposure, clothing, exercise, food intake, weighing, and media exposure. Findings from these studies are discussed below.

#### *Interpersonal Feedback and Social Scrutiny*

Body-related feedback has been explored as one variable that may lead to changes in body esteem. Most research examining feedback focuses on how parental and peer comments in childhood can impact body image in adulthood, finding that women who recalled more prevalent and distressing teasing and criticism in childhood felt less satisfied with their appearance as adults (Cash, 1995; Rosen, Orosan-Weine, & Tang, 1997; J. K. Thompson & Psaltis, 1988). In an examination of the impact of parental

feedback on body size and shape in adulthood, maternal teasing and encouragement to diet were found to be related to increased weight and body shape concerns among daughters (Gross & Nelson, 2000).

Several other studies have examined how current teasing or appearance-related feedback influences current body image states. The effects of negative weight-related feedback have been investigated in relation to Baumeister's (1997) work on the effects of negative feedback on self-appraisals. According to this model, a threat to self-esteem, such as receiving an unfavorable evaluation of a valued aspect of oneself, results in a decrease in self-esteem and increase in negative affect. Mills and Miller (2007) theorized that receiving negative feedback about weight or a valued body part would result in similar decreases in body esteem and satisfaction.

Examination of the effects of experimental feedback on body image has supported Baumeister's model. Mills and Miller (2007) found that when female college participants were provided with negative feedback (by guessing their weight as 15 pounds higher than actual) participants generally felt more anxious and body dissatisfied. However, for restrained eaters only, these effects of negative feedback were most pronounced when a peer (another female undergraduate student) delivered this feedback, compared to a non-peer (female graduate student; Mills & Miller, 2007). Furman and Thompson (2002) explored reactions of female college students after reading vignettes involving a woman receiving comments from another person regarding her appearance or abilities. Results revealed that the negative appearance and abilities vignettes were more likely than the positive vignettes to generate anxiety, anger, depression, and appearance dissatisfaction

among participants. Moreover, women with eating disturbances reported higher levels of emotional distress than their peers after reading the negative vignettes (Furman & Thompson, 2002).

General distress level and personality characteristics may determine how women feel about their bodies after receiving feedback. For example, one study found that scoring high on measures of introversion and neuroticism predicted more negative body and appearance evaluations among Norwegian women, whereas frequency of receiving negative appearance feedback did not (Kvalem, von Soest, Roald, & Skolleborg, 2006). However, some evidence suggests that greater occurrence of negative body-related comments is associated with being more negatively affected by them (Herbozo & Thompson, 2006). Although there are some exceptions, most research indicates that body-related feedback leads to significant decreases in state body satisfaction among women in laboratory settings. However, little is known about the impact of feedback when delivered by friends or acquaintances. By measuring state body satisfaction in real-life settings, it may be possible to reveal how interpersonal factors may lead to body esteem changes.

#### *Mirror Exposure and Body Checking*

Repeatedly examining oneself in the mirror has been widely examined as a behavioral characteristic of eating disorders, and women with eating disorders have been found to engage in more frequent body checking than healthy controls (Shafran, Fairburn, Robinson, & Lask, 2004). Frequent body checking may serve to reinforce body dissatisfaction in individuals with eating disorders because it directs excessive attention

to inaccurate estimates of one's body shape and size (Williamson, Muller, Reas, & Thaw, 1999). Body checking has also been found to be associated with greater appearance dissatisfaction among individuals with Body Dysmorphic Disorder (Veale & Riley, 2001) and those who are obese and trying to lose weight (Latner, 2008).

Scrutinizing one's body in the mirror does not only occur among individuals with eating disorders. Young women without eating disturbances have also been found to frequently engage in body checking behaviors (Farrell, Shafran, & Fairburn, 2003), although young women with significant body concerns and eating disorders scrutinize themselves in the mirror more often than women without these concerns (Farrell, Shafran, & Fairburn, 2004). Shafran and colleagues (2007) examined the impact of body checking in the mirror on body size estimation and body dissatisfaction among women without eating disorders. Results indicated that women who scrutinized their bodies in the mirror experienced greater body dissatisfaction, feelings of fatness, and self-critical thoughts immediately after exposure than did women who did not engage in this behavior (Shafran, Lee, Payne, & Fairburn, 2007). Thirty minutes after participants engaged in body checking, body dissatisfaction ratings returned to baseline levels, suggesting that the effects of mirror scrutiny were brief (Shafran et al., 2007). These findings are consistent with research indicating that changes in state body esteem may be momentary (Cash, 2002a; Melnyk et al., 2004), and provide further evidence of that value of examining body image as a state-level construct.

## *Clothing*

Cultural expectations of beauty affect how women feel about their bodies and the degree to which they practice appearance management behaviors, including apparel selection (Rudd & Lennon, 2000). Clothing choice is believed to be a form of personal expression, but it is also believed to provide a means of measuring oneself against and conforming to cultural expectations of beauty (Rudd & Lennon, 2000). Cultural contexts determine the type of clothing that is available, socially acceptable, and highly regarded. Researchers suggest that clothing has the potential to influence body satisfaction because women have been found to more positively evaluate their bodies when they are clothed rather than unclothed (Markee, Carey, & Pedersen, 1990). However, women's negative feelings about clothing fit have been found to be related to increasing dissatisfaction with their bodies (LaBat & DeLong, 1990).

Research indicates a reciprocal relationship between one's self-concept and the clothes one chooses to wear. In other words, the way individuals feel about their bodies and appearance affects their choices of clothing, and the clothing individuals wear affects how they feel about themselves (Kwon, 1991; Kwon & Shim, 1999). Kwon (1991) found that when women experienced a positive mood, they selected clothing that reinforced their positive mood, such as wearing clothing that was the most flattering or their favorite. When they experienced a negative mood, they tended to choose clothing that was more comfortable to wear (Kwon, 1991).

Weight-conscious women and those who feel overweight are more likely to select clothing for its comfort and camouflaging abilities (Chattaraman & Rudd, 2006; Kwon &

Parham, 1994). Trautmann, Worthy, and Lokken (2007) examined the relationship between body dissatisfaction and apparel selection among undergraduate women. Undergraduate women with high levels of body dissatisfaction were more likely to wear clothing that drew attention away from their bodies, such as wearing certain types of apparel (e.g. baggy clothes), using clothing to camouflage their bodies, or engage in clothing avoidance behaviors, such as avoiding specific types of clothing (e.g. brightly colored, tight), wearing clothes that divert attention from their weight, and avoiding shopping altogether than women who were body satisfied (Trautmann, Worthy, & Lokken, 2007). Another study found that when college and working women perceived themselves as slender or felt they had lost weight, they were more likely to choose clothing based on how confident the clothing made them feel (Kwon & Parham, 1994). Even though these women were more confident with their bodies, the ability for clothing to camouflage certain parts of their body was still important.

As described above, clothing affects how individuals feel about themselves. One study found a positive correlation between dissatisfaction with clothing fit and body part dissatisfaction among college women (LaBat & DeLong, 1990). Participants reported being least satisfied with clothing on their lower bodies, including pant length, crotch, thigh, buttocks, and hip, and also indicated the least satisfaction with the size and shape of their lower body parts (LaBat & DeLong, 1990). According to LaBat and DeLong (1990), the relationship between clothing fit and body area dissatisfaction may reflect the difficulty of fitting diverse body sizes into garments that are sized according to fixed proportions. These results may also be explained by the symbolic interaction theory

which suggests that the clothing industry and the garment sizes provide a symbol of expectation for women (Roach-Higgins & Eicher, 1992). When a woman is unable to fit her body into the available clothing, she may compare herself to this ideal and send the message that her body is not perfect, leading her to feel more dissatisfied with the areas of her body that do not fit into the clothing (LaBat & DeLong, 1990; Roach-Higgins & Eicher, 1992). The potentially negative impact of this comparison process is highlighted by results from one study indicating that half of all female consumers cannot find jeans that fit properly (Shin & Istook, 2007).

Given that clothing selection and style are based on cultural expectations and mainstream clothing brands may not be designed for ethnically diverse women's body shapes (Shin & Istook, 2007), BA and WA women may experience different degrees of body satisfaction based on the clothing they wear. In a study of BA and WA female athletes, Feather, Herr, and Ford (1997) found that BA women experienced greater body satisfaction than WA women, yet both BA and WA women experienced similar dissatisfaction with garment fit. However, those women who were more body satisfied were also more satisfied with clothing fit (Feather, Herr, & Ford, 1997).

Based on these findings, clothing fit may lead to changes in state body esteem. In general, women must make clothing choices every day. Given that poor clothing fit is related to increased body dissatisfaction (LaBat & DeLong, 1990), the clothing an individual wears affects how she feels about herself (Kwon & Shim, 1999), and perceptions of body size vary daily (Beebe, Holmbeck, & Grzeskiewicz, 1999), daily clothing experiences are likely to influence state body esteem. This effect may be

pronounced for BA women because research suggests that clothing styles are not typically designed to accommodate various body shapes (Shin & Istook, 2007), and BA women may experience poorer clothing fit as a result.

### *Exercise*

Authors of a recent meta-analysis concluded that exercisers report greater body esteem than nonexercisers, and individuals who participated in an exercise intervention program reported more body satisfaction after completing the program (Hausenblas & Fallon, 2006). However, another recent meta-analysis concluded that exercise is negatively related to body satisfaction and body concerns among young women (Reel, Greenleaf, & Baker, 2007). When the reasons for exercising are further examined, results suggest that young women (ages 16-21) who exercise for weight control and toning reasons experience greater body dissatisfaction and lower self-esteem than women who exercise for health and fitness reasons (Tiggemann & Williamson, 2000). Young women are more likely to exercise more for weight control and attractiveness reasons than are men; therefore may be less likely to experience the psychological benefits of exercise than men and women in other age groups (Cash, Novy, & Grant, 1994; Tiggemann & Williamson, 2000). Instead, young women may be exercising in order to achieve a body weight ideal, which for most may be impossible to attain. These women may invest more time and energy into reaching their goals, which only results in disappointment, body shame, and greater dissatisfaction with their current body size and weight (Davis & Cowles, 1991).

### *Food Intake*

The relationship between food intake and body image states has been somewhat explored in the literature. Earlier studies have found that body size estimations increase after eating among women with anorexia nervosa (Crisp & Kalucy, 1974) and bulimia nervosa (McKenzie, Williamson, & Cubic, 1993). In a more recent study, Vocks et al. (2007) measured body image states, body image perception, and mood among women without eating disorders after they either drank a milkshake and watched a neutral film (experimental condition) or watched only the film (control condition). It was found that after consuming the milkshake, women in the experimental condition reported greater state body dissatisfaction and more discrepancy between their actual-ideal and felt-ideal body estimations than participants in the control condition (Vocks, Leganbauer, & Heil, 2007). Thompson and colleagues (1993) examined body size estimation among non-eating disordered women who drank either a low-caloric or high-caloric milkshake. Women who consumed a high-caloric milkshake overestimated their body dimensions more than those who drank the low-caloric milkshake, suggesting that perceived caloric content and not food alone might predict state body satisfaction (J. K. Thompson, Covert, Pasmán, & Robb, 1993).

Research examining the effects of hunger on body dissatisfaction has produced mixed results. In a study examining body esteem and degree of hunger among participants without eating disorders, findings suggested that hunger did not predict body dissatisfaction or body size estimations (Gardner & Tockerman, 1993). Pietrowsky et al. (2003) found that when hungry, restrained eaters were more body dissatisfied than

nonrestrained eaters. However, when not deprived or thirsty, no differences in body dissatisfaction between restrained and nonrestrained eaters were found (Pietrowsky, Straub, & Hachl, 2003). Lattimore (2005) was unable to replicate these findings. In his study, women were asked to indicate their current and preferred body shapes following four hours of food deprivation and immediately after completing a meal. Participants rated their current body size to be larger and displayed more body dissatisfaction when full than when hungry. Women of normal weight reported more body dissatisfaction after a meal than when food deprived, whereas no such differences were found among overweight participants.

Inconsistent findings between studies may be explained by a couple factors. First, to measure body dissatisfaction, Lattimore (2005) asked participants to complete schematic figure ratings in a room away from the examiner, whereas Pietrowsky et al. (2003) used silhouettes and participants completed the scale with the examiner. Lattimore (2005) suggests that his methodology is an improvement in reducing measurement error and bias, and it may produce different results, but it is unclear whether this difference would result in dissimilar reactions to changes in deprivation state without further investigation (Lattimore, 2005). Second, Lattimore sampled a wider range of BMIs than did Pietrowsky, and both unrestrained and restrained eaters in Lattimore's study were markedly heavier. It is possible that perceptual awareness of one's body varies by current weight, and those who weigh more are more likely to experience body dissatisfaction when full than when hungry.

## *Weighing*

Weighing has been hypothesized to encourage individuals to focus on their body weight and may exacerbate existing self-criticisms, which may lead to increases in body and appearance dissatisfaction. Although there is little evidence that weighing leads to greater body dissatisfaction among normal weight or overweight individuals (O'Neil & Brown, 2005), research suggests that repeated weighing of oneself is related to changes in mood and self-esteem (Ogden & Evans, 1996; Ogden & Whyman, 1997). In one study examining the effects of weighing obese individuals as a part of a weight loss program, weighing was not found to lead to body dissatisfaction (O'Neil & Brown, 2005). In another study examining the effects of normative comparisons on reactions to weighing, normal weight participants were weighed and allocated to a fictional weight chart as “average weight,” “underweight, or “overweight.” Participants who were told they were overweight reported decreases in mood and self-esteem, but no changes in body satisfaction (Ogden & Evans, 1996). Unlike other studies which have found that negative mood is related to greater body dissatisfaction (Baker, Williamson, & Sylve, 1995), these studies found no effects on body dissatisfaction.

On the other hand, Ogden and Whyman (1997) found that normal weight college and medical students who weighed themselves every day for two weeks reported increases in anxiety and depression and decreases in self-esteem. In general, no differences in body dissatisfaction were found between those in the weighing and nonweighing conditions. However, body dissatisfaction increased for individuals in the weighing condition whose weight remained stable or increased over this two week

period, but not for individuals in the nonweighing condition or for those in the weighing condition who lost weight (Ogden & Whyman, 1997). Learning about weight gain or that one has remained the same weight, and not the act of weighing oneself, may predict body dissatisfaction among women. Previous studies that found effects of weighing on mood and self-esteem, but not body dissatisfaction, did not examine how changes in weight may lead to changes in body satisfaction.

### *Media Exposure*

Media exposure has been widely explored as a transmitter of beauty ideals to children and adults and possible trigger of body image and eating problems (Clark & Tiggemann, 2006; Yamamiya, Cash, & Melnyk, 2005). Exposure to media containing thin models has been found to be related to decreased food consumption (Strahan, Spencer, & Zanna, 2007), increased body dissatisfaction (Hawkins, Richards, & Granley, 2004; Yamamiya et al., 2005), decreased self-esteem (Hawkins et al., 2004), and negative mood (Birkeland, Thompson, & Herbozo, 2005; Hawkins et al., 2004).

While most studies have measured the relationship between media exposure and trait body image (Tiggemann, 2003), some research has examined how media exposure influences state body image (Groesz, Levine, & Murnen, 2002). For example, after a three-minute exposure to thin-ideal images from fashion magazines, participants reported increased depression, shame, guilt, stress, insecurity, and body dissatisfaction, whereas women who viewed images of normal weight woman did not experience such changes (Stice & Shaw, 1994). Another study found that participants who viewed fashion models experienced more body dissatisfaction immediately afterward than did participants who

viewed cars (Posavac, Posavac, & Paosavac, 1998). Cahill and Mussap (2007) examined state body dissatisfaction and mood among college women after viewing photographs of thin female models. Exposure to thin models led to significant decreases in state body satisfaction and increases in state anger, state anxiety, state depression, and drive for thinness (Cahill & Mussap, 2007). Despite these findings, some studies have found that body image does not change following exposure to thin ideals (Champion & Furnham, 1999).

Examination of the relationship between media exposure and state body image has produced mixed findings. However, two meta-analyses concluded that young women feel more body dissatisfied after being exposed to thin media images than after viewing other types of images, such as average size or overweight models or inanimate objects (Grabe et al., 2008; Groesz et al., 2002). Grabe et al. (2008) concluded that thin-ideal media exposure is also related to stronger internalization of the thin-ideal and more frequent bulimic and anorexic attitudes and behaviors. It is believed that the media's consistent depiction of a thin ideal leads women to perceive this ideal as normative, expected, and central to attractiveness (Grabe et al., 2008). However, these ideals are out of reach for most, which leads women to feel dissatisfied with their bodies and appearance and to compensatory behaviors aimed at meeting this ideal (Levine & Harrison, 2004). Viewing thin models increases the frequency in which women experience negative feelings toward their bodies and themselves overall (Pinhas, Toner, Ali, Garfinkel, & Stuckless, 1999; Stice & Shaw, 1994).

Mixed findings led researchers to examine person variables that might moderate the relationship between media exposure and body dissatisfaction. Further evidence suggests that adverse effects of media exposure on state body image are greater for participants who have higher initial elevations of thin-ideal internalization and a history of body dissatisfaction (Cattarin, Thompson, Thomas, & Williams, 2000; Stice, Spangler, & Agras, 2001). In their meta-analysis, Groesz et al. (2002) also concluded that the effects of media exposure were greatest for people under the age of 19 and people who were vulnerable to activation of a thinness schema. Similarity of race between the media viewer and individuals displayed in media may also impact the degree to which one is affected by the images. Frisby (2004) examined if BA women experience different degrees of body satisfaction after viewing media containing BA or WA models. Results suggested that exposure to idealized images of WA models did not affect state body satisfaction among BA women, but exposure to idealized images of BA models led to decreases in body esteem and satisfaction among BA women with low levels of baseline body esteem (Frisby, 2004).

#### *Summary of Contextual Findings*

Research suggests that situational experiences are related to shifts in body satisfaction. Examination of the findings described above raises several questions about which situations influence state body esteem and who is most likely to experience changes in their state body esteem. Consistent with Tiggemann's (2001) findings that body-focused situations are more likely to result in shifts in body satisfaction than non-body-focused events, the situations described above all highlight how a negative

appearance or body-related experience can lead to decreased body satisfaction. A range of contextual experiences have been found to result in body esteem changes. For example, some of the experiences require the active participation of the person (e.g., choosing to engage in exercise), whereas others are activities that everyone must engage in to some degree or another (e.g., buying and putting on clothes). Little research has examined the degree to which choice in activity may have on resulting body esteem. Some are more public experiences that occur in the presence of others (e.g., social scrutiny), while others are typically more private (e.g., weighing). Although the research described above suggests that both private and public experiences lead to changes in body satisfaction, no studies have directly examined the degree to which these situations lead to changes in body satisfaction varies.

Several moderators may determine whether or not a person is likely to experience changes in state body esteem after a contextual experience. Overall, individuals who report high appearance investment, current eating disturbances, dietary restraint, or thin-ideal internalization report greater changes in state body esteem after experiencing an activating event compared to women who ranked lower in these areas (Cattarin et al., 2000; Furman & Thompson, 2002; Stice et al., 2001; Tiggemann, 2001). This finding is consistent with research suggesting that individuals endorsing these characteristics are more likely to value and prioritize body-related information (Cash & Labarge, 1996; Mussap & McCabe, 2008) and have more body-related schemas than other women. According to Cash (2002a), contextual events can activate schema-driven processing of information about one's physical appearance. Experiencing one of these events may

trigger an internal dialogue that involves automatic thoughts, inferences, and conclusions about one's looks. Because women with high appearance investment, thin-ideal internalization, or dietary restraint tend to hold more appearance schemas, they are more likely to experience greater shifts in state body image following an appearance-related event than women who do not report having these experiences (Cash, 2002b; Cash & Labarge, 1996).

#### Body Image Differences Between Black and White American Women

Examination of racial differences in body satisfaction has produced mixed findings; however, recent meta-analyses concluded that BA women have slightly higher levels of body satisfaction than do WA women (Grabe & Hyde, 2006; Roberts et al., 2006). Cultural factors are believed to play a large role in body image development and maintenance among culturally diverse women (Akan & Grilo, 1995; Grabe & Hyde, 2006). For example, BAs embrace a more flexible standard of attractiveness and accept a wider range of acceptable shapes and weights compared to WAs (Celio, Zabinski, & Wilfley, 2002). BA women are also less likely to emphasize the importance of fixed physical attributes (e.g. tall, thin) than are WA women (Gluck & Geliebter, 2002). Rather, BA women describe the ideal woman in terms of various body-focused (e.g. grooming) and non-body-focused factors (e.g. personality, ethnic pride; Celio et al., 2002; Grabe & Hyde, 2006), and identify more with BA cultural beauty standards which holds less negativity toward being overweight than dominant culture (Evans & McConnell, 2003). Consequently, when compared to WA women, BA women may

indicate being more satisfied with their bodies because they experience less social pressure to be thin.

Furthermore, BA women perceive that BA men are attracted to larger body sizes than WA women report about WA men (Freedman, Carter, Sbroocco, & Gray, 2004; Molloy & Herzberger, 1998) and research suggests that BA men are more open dating women with a larger body size (Powell & Kahn, 1995). As a result, BA women feel more confident maintaining a larger body size (Molloy & Herzberger, 1998; Polivy & Herman, 2002). These factors may contribute to and explain why BA girls and women tend to be more body satisfied than their WA counterparts despite weighing more than average (M. Story, French, Resnick, & Blum, 1995).

Other variables also predict body satisfaction among BA women. One study of body image in a community sample of BA women found that depressive affect and eating-related concerns predicted body image dissatisfaction, whereas weight and size teasing and body mass index did not (Hrabosky & Grilo, 2007). Other findings suggest that socioeconomic status (Flynn & Fitzgibbon, 1998), perceived other-sex preferences (Powell & Kahn, 1995), body mass index (Grabe & Hyde, 2006), and sexual maturation (Celio et al., 2002) may be the most noteworthy predictors of body esteem among BA women. Akan and Grilo (1995) examined predictors of problematic eating behaviors and body dissatisfaction among BA, Asian American, and WA college women. Findings suggested that low self-esteem and high public self-consciousness were associated with problematic eating and dieting behaviors and body dissatisfaction among women in all three cultural groups (Akan & Grilo, 1995). Other research concludes that when BA

women adopt more of the values of the dominant WA culture, they report greater pressures to diet and greater body dissatisfaction, and exhibit more problematic eating (Abrams, Allen, & Gray, 1993). Appearance investment may also explain why BA women experience lower levels of body dissatisfaction compared to WA women. BA women have been found to report significantly less psychological investment in their appearance than WA women (Cash & Labarge, 1996).

Similar to research discussed above, most studies exploring body esteem among BA women use experimental methodology to compare how BA and WA generally feel about their bodies. Findings to date propose that stable identity variables and cultural context may contribute to diverse women experiencing fluctuations in state body image (Akan & Grilo, 1995; Grabe & Hyde, 2006), but little is known about the role of situational variables. No research to date has examined how a variety of situational variables contribute to fluctuations in body image among BA women, or if fluctuations in body satisfaction among BA and WA women are influenced by similar situational experiences.

Only one known study to date has examined racial differences as a predictor of state body esteem. Henriques, Calhoun, and Cann (1996) provided WA and BA women with false positive or negative social skills feedback and effects on body satisfaction. Findings suggest that, overall, women who received negative feedback felt worse about their bodies than those who received positive feedback (Henriques, Calhoun, & Cann, 1996). However, WA women who received positive feedback reported higher body esteem and those who received negative feedback reported lower body esteem, whereas

for BA women, body satisfaction was not significantly affected by positive or negative feedback (Henriques et al., 1996).

Race has also been explored as a moderator of links between trait body image and other variables. In general, studies have found that predictors of trait body image are similar for BA and WA women (Shaw, Ramirez, Trost, Randall, & Stice, 2004; Wilfley et al., 1996). Wilfley et al. (1996) examined predictors of body image and eating disturbances among a community sample of BA and WA women. Both BA and WA women reported significant body dissatisfaction, and similar factors were found to predict body dissatisfaction among both groups, including family dissatisfaction with their weight and experienced criticism about their weight (Wilfley et al., 1996). Another study examined if relations between risk factors and body image dissatisfaction differed across WA, BA, Asian, and Latina female high school and college students, and found that none of the tests of moderation were significant (Shaw et al., 2004).

Overall, research on body esteem concludes that BA women are generally more body satisfied than WA women, but questions still remain about the degree to which state body esteem fluctuates among BA women and which situations result in BA women feeling more positive or negative about their bodies. Of the limited studies examining the effects of situational variables on state body image among BA and WA women, Henriques et al. (1996) proposes that BA women may not experience the same situational changes in state body esteem as WA women. There may be unexplored situational variables that influence changes in state body esteem among BA women. For example, as described above, type of media and clothing fit may influence BA women differently

than WA women due to cultural similarities and diversity of body shapes. It may also be possible that BA women do not experience the same shifts in body satisfaction as WA women.

### Statement of the Problem

The previous discussion has shown that experiencing a neutral or negative body-related activating event, such as social scrutiny, media exposure, and irregular clothing fit, can lead some women to experience decreases in state body esteem. This effect has been found to be moderated by a variety of personal variables, including appearance investment (Cattarin et al., 2000; Furman & Thompson, 2002; Stice et al., 2001; Tiggemann, 2001). Cash (2002a) proposed that decreases in body esteem occur because situational experiences can trigger negative appearance and body-related schemas, resulting in greater negative self-evaluation about one's appearance. Individuals who are more highly invested in their appearance are at more risk for internalizing these messages and experiencing greater decreases in state body esteem as a result. Despite the importance of these findings, no studies to date appear to have investigated these effects in naturalistic settings. Furthermore, meta-analyses reveal that BA women generally experience higher trait body image than WA women (Grabe & Hyde, 2006; Roberts et al., 2006), but little is known about daily experiences of body esteem among BA women.

Measuring body image as a trait-like construct provides some indication of how women generally experience their bodies but does not capture the ups and downs women have been found to experience throughout a day (Cahill & Mussap, 2007; Cash, 2002a). Fluctuations in body esteem are clinically relevant and essential to study because

behavior can be guided by how a person feels in the moment. For example, Cahill and Mussap (2007) found that after exposure to images of idealized bodies, women experienced increases in state anxiety and depression and decreases in state body satisfaction and that these changes were associated with greater drive for thinness and more bulimic symptoms. Experiencing momentary changes in body size or weight satisfaction may lead women to engage in compensatory behaviors, such as bingeing or purging, that can have detrimental effects on their health. In fact, one study found that unstable self-evaluations made by women following exposure to thin bodies were predictive of disordered eating symptomatology (Waller & Barnes, 2002).

Examining state body esteem among BA women is imperative because, although quite a bit is known about how BA women feel about their appearance and bodies, there are still noteworthy gaps in the research related to how body satisfaction may fluctuate and the situations that may influence changes in body esteem. Given findings that BA women were not affected by positive or negative social feedback as WA women, Henriques et al. (1996) states that BA women may not experience the same situational changes in state body esteem as WA women. It may be that dynamics underlying fluctuations in body esteem are different for BA and WA women or there are unexplored situational variables that may lead to changes in state body esteem among BA women (Henriques et al., 1996).

#### Proposed Study

The proposed study aimed to estimate the degree of within-person variability in state body image among a diverse group of BA and WA undergraduate students. Given

that this topic has not been widely examined, this study was exploratory in nature and aimed to examine which situational variables led to changes in state body image, and if race and appearance investment moderated this effect. Few measures have been developed to examine situational factors that trigger women to focus on their bodies. For that reason, a pilot study was conducted to assess situational factors that trigger women to think about their bodies. Results from this pilot study were used to compile a simple checklist of situational experiences that was included in the proposed study.

Several research questions will be addressed in this research:

- 1) To what degree does state body image fluctuate within an individual?
- 2) Which situational experiences influence changes in women's state body image?
- 3) Does race moderate the effect between situational experiences and state body image?

In addition, effects of daily experiences may be most pronounced for those individuals who are most invested in their appearance. To further exploratory analyses, the present study also examined if the effects of situational variables on state body image were moderated by appearance investment. It is hypothesized that situations will have a stronger influence on individuals with higher appearance investment. In other words, individuals who are highly invested in their appearance would experience greater body dissatisfaction after a negative appearance-related event compared to participants who were not highly invested. Given the exploratory nature of this study and how little previous research addresses these areas of inquiry, no other hypotheses are offered.

## 2. Pilot Study

### Method

#### *Participants*

Participants included 22 female undergraduate students from George Mason University. There were 11 Black/African American and 11 White/Caucasian female undergraduate college students ranging in age from 18-25 years old ( $M = 19.41$ ,  $SD = 1.89$ ; 36.4% freshmen, 27.3% sophomores, 27.3% juniors, 9.1% seniors). All participants were recruited through psychology research participation system and earned course credit for participation.

#### *Measures*

*Demographics Survey.* Demographic variables for all participants were collected using a self-report questionnaire. Demographic information collected on this survey included age, race, and year in school (Appendix IV).

#### *Procedure*

Participation in this pilot study occurred for one week. After reviewing and signing an informed consent document (Appendix I), participants were asked to complete a brief demographics survey. Each participant was assigned a number that was recorded on this survey and the cover of their notebook. These numbers were necessary for identifying the age and race of the person completing the recordings. The researcher then

handed out one notebook to each participant and described what and how participants should record their experiences over the following seven days (Appendix V). Several areas were discussed.

First, participants were instructed on what type of information to record in their notebook. Participants were instructed to record daily experiences they have that trigger thoughts/feelings about their bodies. Entries were to be made as soon possible after the participant experienced a thought/feeling. It is recognized that some participants may experience numerous thoughts/feelings about their bodies over the course of one day; therefore, participants were asked only to record each experience only once per day. Participants were asked to include a detailed description of what was happening when they were thinking about their bodies, including

- a) the time of day
- b) location (e.g. at home, the mall, food court, movie theater)
- c) who they are with, if applicable (e.g. female friend, mother, boyfriend)
- d) what is it that the person believes caused that thought/feeling (e.g. saw a picture, received a comment, watching television)
- e) what activity or activities the person was engaged in at that time
- f) what they are thinking/feeling at that time (e.g. "I do not like the size of my thighs," "I like the shape of my nose," "I wish they made clothes that fit me better")

(g) a rating of the impact of the experience on the person's body image at that moment, using the following rating scale (0 = no impact, 1 = very little impact, 2 = some impact, and 3 = a high degree of impact).

Participants were instructed to be as detailed as they can in their daily entries, but to refrain from including any identifying information. A brief handout of the above-mentioned points was distributed to help participants structure their entries (Appendix VI). Participants were asked to complete daily entries for seven days and to return for a second appointment one week after their first appointment to submit their notebook. Each participant was asked to record their name on a separate sheet of paper so that the researcher could assign course credit.

#### *Data Analyses*

After all notebooks were collected, a list of all situations discussed by participants in their notebooks was compiled. Thematic analysis was used to identify categories of situations that impacted participants' feelings about their bodies and appearance (Braun & Clarke, 2006). Thematic analysis involves searching across a data set to find repeated patterns of meaning (Braun & Clarke, 2006). Although several phases of thematic analysis are often described, this method of analysis is unique because it is flexible and allows for variations of its methods (Braun & Clarke, 2006). Several steps adopted from Braun and Clarke's (2006) description of thematic analysis will be followed. First, all journal entries were read numerous times while the researcher searches for and records patterns and initial ideas. Next, codes were developed that identify features of the data that were interesting, or in this case, relevant to situational experiences that lead to

changes in body satisfaction. Third, codes were combined into broader, overarching themes, and these themes were reviewed for clarity. Finally, themes were selected according to their prevalence in the data and compiled to create a simple checklist that was used in the main study.

## Results and Discussion

Participants identified 13 situations that resulted in positive and negative feelings about the body. Situations resulting in positive experiences related to body image or appearance include: seeing her reflection in a mirror or other reflective surface and being satisfied with aspects of her appearance or body, comparing her body or appearance to someone else's and feeling that the other person was less attractive, putting on clothes and being satisfied with the way the clothing looked or fit, receiving a compliment about her body or appearance, feeling that her body is healthy or lean after eating, and feeling that she is doing something good for her body or appearance after exercising. Situations resulting in negative experiences related to body image or appearance include: seeing her reflection in a mirror or other reflective surface and being dissatisfied with aspects of her appearance or body, comparing her body or appearance to someone else's and feeling that the other person was more attractive, putting on clothes and being dissatisfied with the way the clothing looked or fit, receiving a criticism about her body or appearance, feeling fat or bloated after eating, feeling unhealthy while exercising, and noticing pimples on her face or body. These themes were used to create a simple checklist, and this checklist was included in the main study (see Appendix X).

As discussed, few measures have been developed to examine experiences that trigger women to think about or focus on their bodies. Findings revealed a variety of positive and negative body-related experiences that triggered women to have feelings and thoughts about their bodies. Consistent with prior research, negative body-related experiences, such as scrutinizing oneself in the mirror (Shafran et al., 2007), social criticism (Mills & Miller, 2007), and clothing dissatisfaction (LaBat & DeLong, 1990), were found to be associated with changes in body esteem. Pilot results also revealed that positive experiences and negative experiences that had not been previously explored in research (e.g., noticing a pimple on one's body, feeling bloated after eating) triggered women to have thoughts and feelings about their bodies.

### 3. Main Study

#### Method

##### *Participants*

Female undergraduate students from George Mason University between the ages of 18 and 28 were recruited to participate in this study. Given the goals of this study and in order to control for culture that may influence how women feel about their bodies, participants were required to identify as Black/African American or White/Caucasian and have lived in the United States at least 75% of their lives. Of the 112 women who registered for the study and completed the Day 1 survey, 106 met the selection criteria and were deemed eligible to participate. Twenty-four women (12 African American, 12 White) completed less than nine of the 14 daily surveys; therefore, this data was excluded from the analyses. Standard techniques to estimate power are not easily accessible for the multilevel regression analysis that will be used in the present study. However, significant effects have been found with samples of 55 and greater in studies using methodology similar to the proposed study (e.g., Mageau & Vallerand, 2007; L. B. Story & Repetti, 2006). Consistent with this research, the analyses reported here are based on the final sample of 40 African American/Black and 42 White/Caucasian women ranging from 18-28 years old ( $M = 20.1$ ,  $SD = 2.334$ ; 35.4% freshmen, 24.4% sophomores; 15.9% juniors, 24.4% seniors). Seventy-three women (36 BA, 37 WA) received research credit and nine

women (4 BA, 5 WA) received monetary compensation for their participation. Reported body weights ranged from 100-240 pounds ( $M = 139.33$ ;  $SD = 26.163$ ) and heights ranged from 60-74 inches ( $M = 64.63$ ;  $SD = 2.866$ ). There were 72 participants (87.8%) who had never lived outside of the United States and 10 participants lived outside of the United States ranging of 1-60 months ( $M = 34.6$ ,  $SD = 20.07$ ). Fourteen participants self-identified their socioeconomic status as “lower middle class” (17.1%), 38 as “middle class” (46.3%), 27 as “upper middle class” (32.9%), and 3 as “upper class” (3.7%).

### *Measures*

*Demographic survey.* Demographic variables for all participants were collected using a self-report questionnaire. Demographic information collected on this survey included age, race/ethnicity, and year in college (Appendix VII).

*Body Image States Scale (BISS; Cash, 2002a).* This 6-item scale was developed to measure momentary evaluative and affective experiences of a person’s physical experience (Appendix VIII). Each item assesses a domain of one’s current body experiences: (1) dissatisfaction-satisfaction with overall physical appearance, (2) dissatisfaction-satisfaction with body size and shape, (3) dissatisfaction-satisfaction with weight, (4) feelings of physical attractiveness-unattractiveness, (5) current feelings about one’s looks compared to how one usually feels, and (6) evaluation of appearance relative to how the average person looks. Responses are based on 9-point Likert-type rating scales, where scale anchors are tailored to each item (e.g., “Extremely dissatisfied with my physical appearance” to “Extremely satisfied with my physical appearance”). Instructions for each item state that participants are to mark one statement for each

question that describes how they feel “right now, at this very moment.” High scores on the BISS represent positive momentary evaluative/affective experiences of one’s physical appearance, body size and shape, and weight (Cash et al., 2002).

The BISS was normed on 174 college students (116 women, 58 men) ranging in age from 17 to 54 years. The sample was racially diverse, consisting of 55% European American, 30% African American, 8% Asian, and 7% from other racial groups. Cash (2002a) provided evidence supporting the content validity, construct validity, and reliability of scores on the BISS with a college student population. Scores on this scale were found to be correlated with several other trait body image measures. Internal consistency estimates were consistent across positive, negative, and neutral contexts, and moderately high for women ( $\alpha = .77$ ) and men ( $\alpha = .72$ ; Cash, 2002a).

*Appearance Schemas Inventory (ASI; Cash & Labarge, 1996).* This 14-item scale was designed to assess the degree to which a person views her appearance as central to her sense of self and self-worth (Appendix IX). Items reflect core, appearance-related cognitive assumptions. Several key themes related to appearance investment are identified in items, including self-attentional focus, emotional investment, beliefs about developmental influences, and beliefs about current and future interpersonal influences on appearance, and the internalization of appearance-based, social stereotypes (Cash, 1990; Cash & Labarge, 1996). Participants were asked to indicate their beliefs about each item using a 5-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.”

The ASI was normed on a sample of 274 female college students ranging in age from 18 to 49 and representing several racial groups (74% WA, 21% BA, 3% Asian;

Cash & Labarge, 1996). The estimated internal consistency for full scale scores on the ASI was acceptable ( $\alpha = .84$ ). Evidence provided by Cash and Labarge (1996) support the convergent and discriminant validity for this scale. Factor loadings from one factor analysis indicated three domains of appearance focus: (1) Body image vulnerability, or individuals' assumptions that their appearance is inherently defective or socially unacceptable (e.g., "If I could just look as I wish, my life would be much happier"), (2) Self-investment, or the beliefs that appearance is influential and central to one's self-concept (e.g., "What I look like is an important part of who I am"), and (3) Appearance Stereotyping, or assumptions about the social goodness of an attractive appearance (e.g., "To be feminine, a woman must be as pretty as possible). These three ASI factors are moderately interrelated and each factor contains a small number of items; therefore, Cash and Labarge (1996) recommend using the 14-item composite score to assess appearance schemas. Higher ASI scores indicate stronger beliefs about the importance, meaning, and influences of appearance on one's life (Cash & Labarge, 1996). Cash and Labarge (1996) found that high scores on the ASI are also related to greater public self-consciousness, poorer social self-esteem, more social-evaluative anxiety, more depressive symptoms, and greater eating disturbance.

*Contextual experiences measure.* A simple checklist of experiences found to result in college women thinking about their bodies was compiled from the pilot study (See Appendix IX). Situations were divided into positive and negative experiences. Instructions for each section will state, "The following is a list of situations in which one

can have a [positive/negative] experience related to body image or appearance. Please indicate which of the situations you have had since you last took a survey."

### *Procedure*

All data was collected from a series of online surveys. Online surveys aid in the ease of collecting data twice per day over a period of seven days and provide multiple data points from which to explore the within-person research questions. Also, online surveys allow all data collection to occur outside of the laboratory in each participant's real life context. Most participants were recruited via a psychology research participation system and earned course credit for participation. To increase the chances of recruiting a substantial sample of BA women, participants were also recruited from flyers posted on bulletin boards in student union buildings at George Mason University.

Students choosing to participate for research credit were directed to a web link that contains an informed consent form which stated they would receive course credit for participating. Participants recruited from flyers were directed to email the student investigator, who provided more information about the study, described the monetary compensation for their participation (\$20), and supplied the website link to the informed consent document if they were still interested in participating.

Upon clicking on the study link, all participants were directed to a consent page explaining that the study will take place over the course of eight days and that each participant will be asked to complete a series of online surveys once on the day of consent and two times per day on each of the following seven days (Appendices II and III). Participants were asked to complete surveys once in the morning/early afternoon and

once in the evening. Electronic agreement was required by all participants before proceeding. Upon consent, participants were prompted to supply their campus email address that they were be asked to enter when they return to the survey on the following days. This email address was used to match survey responses from each participant over the eight day period. Once data collection was completed, email addresses were replaced with a numerical identification number to preserve anonymity. Participants were then asked to complete a series of surveys, detailed above. These included the demographic survey and the ASI.

After indicating consent and completing the initial surveys, each participant was asked to complete surveys twice per day on each of the following seven days. Participants were asked to complete two surveys that ask questions about their activities for that day and state body image, including the BISS and situational experience checklist developed from pilot study data. Participants were asked to complete these surveys once in the middle of the day (between 11 AM and 2 PM) and once at the end of the day (between 8 PM and 11 PM). Completing surveys at these times was designed to gauge how body image may fluctuate during a day and assess daily experiences when they may be fresher to participants. Assessing for body image and contextual factors two times per day rather than one time per day offers several advantages, including (a) the ability to assess within-day fluctuations in body image, (b) minimization of retrospection bias, and (c) minimization of time-of-day effects. Emails were sent to participants twice per day reminding them to complete the surveys within the allotted times.

Upon completion of the seven days of surveys, participants received course credit or monetary compensation for their participation. If participants complete fewer than nine of the indicated 14 survey sessions, they received no course credit or monetary compensation for their participation.

### *Data Analyses*

Observations in this dataset are not statistically independent because state body image and situational experience data were collected over multiple days for each participant. For example, a participant's body satisfaction in the morning on one day is likely to be associated with her body satisfaction in the afternoon of that day. Because of that, these data violate the assumption of independence of observations that is required for standard multiple regression analyses. Hierarchical linear modeling (HLM), or multilevel regression, accounts for nonindependence of observations and allows for measurement of independent and dependent variables for each instance (Snijders & Bosker, 1999). Data were analyzed using HLM procedures because observations are nested within days and individuals. This procedure accounts for the dependency between one person's reports from one measurement occasion to the next, effectively separating variability in state body image due to the unique measurement occasion (Level 1) and the person (Level 2).

All analyses were conducted using the SPSS Mixed procedure. The intraclass correlation coefficient (ICC) was estimated by running an HLM with no predictors (often referred to as the empty or unconditional model). The ICC estimate can then be computed by dividing the person-level variance in state body image by the total variance. As

described earlier, the estimated ICC can be interpreted as the proportion of the total variance in state body image that is due to differences between participants. The remaining proportion of the total variance can be interpreted as the portion of variability in state body image that is due to differences within participants (and measurement error). A hierarchical regression approach was used to investigate the effects of specific contextual experiences (C) and the degree to which those effects differ by race (R). The first step of each regression analysis was to enter state body image at the previous measurement occasion as a predictor of current state body image. By partialing out how individuals felt before, the dependent variable effectively becomes change in state body image since the previous measurement occasion (Bolger, Davis, & Rafaeli, 2003). In Step 2, the main effects (C and R) were entered, and in Step 3, the 2-way interaction (C x R) were entered. A statistically significant interaction effect indicates that race moderates the influence of a contextual experience on state body image.

For exploratory purposes, a three-step hierarchical regression was conducted to explore the degree to which appearance investment (AI) might also predict changes in state body image. In Step 1, a term was entered to partial out variance due to state body image at the previous measurement occasion. In Step 2, main effects (C and AI) were entered, and in Step 3, 2-way interaction effects (C x AI, C x R) were entered.

## Results and Discussion

### *Missing Data and Descriptive Statistics*

If there were no missing data, data collection would yield 1148 occasions of daily diary data (82 participants x 14 occasions). Of the potential 1148 entries, 71 were skipped

entirely by participants and an additional 153 were lost when the HLM data file was created using listwise deletion. To test the hypotheses and measure fluctuations in body image ratings, previous body image ratings were needed for each measurement occasion. This meant that of the 153 entries lost using listwise deletion, 82 were first measurement occasions (one for each participant) that were dropped due to having no previous body image ratings. The remaining 71 entries were dropped due to not having previous body image ratings when participants skipped some surveys. Three participants completed additional surveys beyond the 14 required, adding five sampling occasions. Thus, there were a total of 920 sampling occasions. Number of entries analyzed for each participant ranged from 6-15 ( $M = 11.22$ ,  $SD = 2.16$ ). A mean of 10.68 entries ( $SD = 2.42$ ) were completed by BA women and a mean of 11.74 entries ( $SD = 1.74$ ) were completed by WA women.

Descriptive statistics for situational variables, BISS scores, and ASI scores are presented in Table 1. The statistics for situational variables can be interpreted as proportions of the sampling occasions in which a particular type of situation occurred. For example, a mean of .50 for a situational variable would indicate that the situation occurred, on average, in half of the sampling occasions. Inspection of means indicates that, on average, participants endorsed having more positive than negative experiences. Experiencing satisfaction after seeing one's reflection in a mirror ( $M = .67$ ,  $SD = .27$ ) and satisfaction with clothing fit ( $M = .63$ ,  $SD = .26$ ) were the most frequently endorsed experiences, whereas receiving a criticism about one's body or appearance ( $M = .06$ ,  $SD = .12$ ) and feeling unhealthy while exercising ( $M = .08$ ,  $SD = .17$ ) were the least

endorsed. Situational experiences did not differ by race on any satisfaction scales, but significant differences by race were found on five of the seven dissatisfaction scales: mirror dissatisfaction,  $t(80) = -4.03, p < .001$ ; comparison dissatisfaction,  $t(80) = -3.55, p < .01$ ; clothing fit dissatisfaction,  $t(80) = -3.67, p < .001$ ; eating dissatisfaction,  $t(80) = -3.00, p < .001$ ; and exercising dissatisfaction,  $t(80) = -2.01, p < .05$ . BA women endorsed experiencing significantly fewer of these body dissatisfaction experiences than WA women. Effect sizes of these differences fell in the medium to large range ( $d = .44-.90$ ). Analysis of differences on BISS and ASI scores also indicates that BA women endorsed experiencing more positive state body image (BISS,  $t[80] = 2.24, p < .05$ ) and lower appearance investment (ASI,  $t[80] = -2.40, p < .05$ ) than WA women.

#### *Multilevel Analyses*

*Preliminary analyses.* An unconditional model (i.e., a model with no predictors) was run to determine whether variability in state body image was due to differences between persons, as well as to estimate the proportion of variance due to these differences. A deviance test was conducted to compare a smaller model without random effects to a larger model containing random effects. Results indicated that a significant amount of variance in state body image was due to differences between people,  $\chi^2(1, N = 920) = 664.22, p < .01$ . This suggested that it was necessary to account for the nesting of measurement occasions within persons by including a person-level random component in all models. The ICC of .51 indicated that approximately 51% of the variance in state body image was due to differences between people and 49% of the variance was due to differences within persons (and measurement error). In short, there seemed to be both

substantial within-person stability and within-person variability in state body image over the week of participation. This analysis addressed the first research question by indicating that there is considerable within-person variability in body image—variability that is potentially explainable by the daily experiences women have related to body image.

Before conducting the main within-subject analyses, two preliminary models were run to determine if it was necessary to control for day of the week, type of day (weekend or weekday), or time of day (midday or end of day) after accounting for state body image in the previous measurement occasion. In the first model, the only predictor was previous body image. In the second model, the three time variables were added. The deviance test comparing the two models indicated that including time variables in the multilevel regression did not predict additional variance in state body image,  $\chi^2(3, N = 920) = 2.97$ ,  $p > .05$ . In other words, after accounting for the state body image in the previous measurement occasion, state body image does not appear to vary systematically in relation to specific day of the week, distinction between weekday versus weekend, or time of day. Therefore, these time variables were not included in the main analyses.

*Main effects of situations on body image.* A main goal of the study was to examine the degree to which situations related to body image were associated with change in state body image. As a first step, body image for the previous measurement occasion was included as a predictor of present body image. As expected, previous state body image was positively associated with current state body image,  $t(897.18) = 5.56$ ,  $p < .001$ . Previous state body image was included as a predictor in all subsequent models

since, as noted above, controlling for this variable allows one to interpret findings in terms of change in body image since the last measurement occasion.

As a second step, each of the 13 situational variables was entered into a separate multilevel regression model to explore whether these experiences predict changes in state body image. This step addressed the second research question: Which situational experiences influence changes in women's state body image? The set of 13 terms was tested with a Bonferroni adjusted rate of .008, which limits the family-wise adjusted Type I error rate to .10. Results suggested that every event type is related to changes in body image (see Table 2). All associations were in the predicted direction: Positive events were related to increases in state body image, and negative events predicted decreases in state body image. To determine whether each of these situations accounted for unique variance in changes in state body image, the 13 situational variables were entered simultaneously into the regression model. Results suggested that every event type is uniquely associated with changes in body image except dissatisfaction while exercising (see Table 3).

*Moderators of situational effects on body image.* The third research question was whether the relationship between situational experiences and changes in state body image differs by race. To examine this question, analyses were conducted to determine if race moderates the effect of situations on change in state body image. Interaction terms were calculated by multiplying each situation variable by the dichotomous variable indicating race as Black or White. Analyses were conducted by adding race and the race by situation interaction term into the regression equation for each situation type. Each of 13

interaction terms was tested with a Bonferroni adjusted rate of .008, which limits the family-wise adjusted Type I error rate to .10.

All of the interactions between race and situational variables were nonsignificant (see Table 2). In response to the third research question, race was not found to moderate the effect between situational experiences and state body image. In other words, the association between situational experiences and changes in state body image did not depend on an individual's race.

The relationship between situational experiences and state body image might also differ in regards to appearance investment. Exploratory analyses were conducted to determine if the effects of situational variables on state body image are moderated by appearance investment. Interactions terms were calculated by multiplying each situation variable by centered appearance investment scores. Analyses were conducted by adding appearance investment and the investment by situation interaction term into the regression equation for each situation type. Most of the interactions between appearance investment and situation types were nonsignificant at the Bonferroni adjusted rate of .008 (see Table 4). In other words, the association between situational experiences and state body image did not depend on the how invested individuals are in their appearance. Appearance investment was only found to be a significant moderator of the association between state body image and exercise dissatisfaction,  $t(879.35) = 3.31, p < .008$ . To interpret this significant interaction, a model was run with three appearance investment groups defined by the lowest, middle, and highest third of appearance investment scores. Findings suggest that having dissatisfying exercise experiences is not linked to drops in

state body image for moderate or high appearance invested people, but are linked to drops in people who report low body investment,  $t(332.69) = -4.47, p < .001$ .

#### 4. General Discussion

As previously discussed, relatively little is known about the degree to which body esteem fluctuates and the experiences that may trigger these changes. To date, no studies have examined the effects of multiple positive and negative situational experiences on state body image or how these effects may differ among BA and WA women. Most studies have used a single assessment, trait-oriented approach to measure body image, which provides an assessment of how individuals generally feel about their bodies but fails to capture fluctuations in body esteem (Cahill & Mussap, 2007; Cash, 2002a). Fluctuations in body image are important to measure because even momentary changes have been found to be associated with increases in anxiety, depression, and body dissatisfaction (Cahill & Mussap, 2007) and eating disorder symptomatology (Waller & Barnes, 2002). The purpose of this study was to examine the degree to which state body image fluctuates within an individual, identify the situational experiences influencing these changes, and determine whether race and appearance investment moderate the effect of situational experiences on changes in state body image. Whereas previous experimental research has demonstrated the influence of dissatisfying experiences on increased body dissatisfaction, this is one of the first studies to demonstrate the effects of both positive and negative experiences in naturalistic settings. This methodology was

more likely to capture the experiences that participants typically encounter and that experimental studies may not be able to simulate.

Overall, this study contributes to the understanding of body image as a fluid, state-level construct. Findings showed that there was considerable within-person variability in state body image, which is consistent with previous findings that body image includes of state-level components (Cash, 2002a; Cash et al., 2002). Measuring body esteem as a state-level construct is necessary to fully understand women's daily experiences and behaviors. The six positive and seven negative situational experiences identified in the pilot study were all found to be related to changes in state body esteem. These results contribute to the body image literature in several ways. First, by measuring body esteem changes in real-life settings, these results advance those of previous lab studies which found that negative body-related experiences, such as scrutinizing oneself in the mirror (Shafran et al., 2007), social criticism (Mills & Miller, 2007), and clothing dissatisfaction (LaBat & DeLong, 1990) are associated with changes in body esteem. Second, negative body-related events that have rarely been examined as triggers to changes in body esteem, such as noticing pimples on one's face or body and feeling fat or bloated after eating, were also identified in this study as significant triggers of state body dissatisfaction.

Next, despite previous research indicating that media plays a large role in how women think and feel about their bodies and appearance (Cahill & Mussap, 2007; Posavac et al., 1998), thematic analysis of pilot data did not indicate that media was a prevalent influence on these changes. Several possibilities may explain this finding. One

possibility is that lab studies may artificially force a focus on media when it is not a focus or source of influence in the everyday lives of women. However, it is also possible that women are not aware of the degree to which media influences them, therefore did not indicate it as a factor in the pilot study. Another possibility is that media experiences actually played a role in the main study in that some of the positive and negative experiences related to self-other comparisons might have been comparisons to media images.

A fourth contribution is that positive situations (e.g., being satisfied after looking in the mirror, trying on clothing, receiving a compliment) were found to lead to increases in body satisfaction, which is consistent with other studies that found a positive relationship between well-being and satisfying events (Gable, Reis, & Elliot, 2000). Prior to this study, most research only explored the effects of negative experiences on body dissatisfaction in laboratory settings (Grabe et al., 2008; Mills & Miller, 2007; Shafran et al., 2007; Trautmann et al., 2007). Of the research examining the effects of positive events on body esteem, findings are not consistent with those of the current study. For example, one lab study found that undergraduate women experienced greater state body shame after receiving an appearance compliment from the female examiner in a laboratory setting that contained body-related cues (i.e., bathroom scales, full-length mirrors, fashion magazine covers; Tiggemann & Boundy, 2008). Differences between findings may be contributed to how body image was measured. It is proposed that body shame and body dissatisfaction are separate components of body image and are far from perfectly correlated with one another (Forbes, Jobe, & Revak, 2006). In other words, a

person can experience dissatisfaction with a body part but not experience shame, and vice versa. For example, a woman might be embarrassed by receiving a derogatory body-related comment from a stranger, but she might still like her body as much as she did prior to the event.

In related research exploring self-esteem and contextual experiences, results are generally more consistent with the current findings. Research examining the role of positive and negative events in state self-esteem found that self-esteem negatively covaried with the number of negative events occurring each day, and positively covaried with the number of positive events (Nezlek & Gable, 2001). Finally, BA and WA women reported experiencing more satisfying than dissatisfying body-related experiences, which is consistent with other research on positive and negative events (Nezlek & Allen, 2006). Satisfying body-related experiences play a significant role in the everyday lives of young women and have a significant impact on increasing body satisfaction.

Negative events have been found to have a greater psychological impact than positive events (Cacioppo, Gardner, & Berntson, 1997; Taylor, 1991), which may explain why most research focuses on the impact of these experiences. Taylor (1991) concluded that “diverse literatures in psychology provide evidence that, other things being equal, negative events appear to elicit more physiological, affective, cognitive, and behavioral activity, and prompt more cognitive analysis than neutral or positive events” (pg. 67). Despite this, findings from this study suggest that positive events can have a significant influence on boosting state body image, similar to the impact of negative experiences on

lowering state body image. Further examining these and other positive experiences may be helpful in better understanding the daily experiences of women.

Consistent with previous research (Cash & Labarge, 1996; Grabe & Hyde, 2006; Roberts et al., 2006), racial differences were found in overall state body image and appearance investment ratings. More specifically, BA women reported experiencing more positive state body image and less appearance investment than WA women. Racial differences were also found in the frequency to which BA and WA women reported experiencing body-related situations. No racial differences were found between how often BA and WA women experienced positive situations, but BA women reported experiencing significantly fewer negative situations than WA women. Dissatisfaction arising from looking in the mirror, comparing oneself to others, clothing fit, feeling bloated after eating, and exercising were reported less frequently among BA than WA women.

BA women may not report as many dissatisfying experiences as WA women due to BA cultural beauty norms which emphasize acceptance of various body sizes (Grabe & Hyde, 2006) and differences in the value placed on body and appearance (Baumeister, 1997; Celio et al., 2002). Baumeister (1997) argues that a negative experience related to a dimension that is important to one's self-concept results in a decrease in self-esteem, and other research confirms that similar decreases in body esteem result when confronted with a negative experience related to an important aspect of oneself (Mills & Miller, 2007). Given the difference between WA beauty standards, which are rigid and emphasize thinness, and BA standards, which are more flexible in the concept of beauty

(Parker, Nichter, Nichter, & Vuckovic, 1995) and emphasize acceptance (Gluck & Geliebter, 2002), it is likely that body weight and size will be more important to WA women's self-concept than BA women. Research confirms this by finding that BA and WA women describe attractive body size very differently. BA women have been found to describe attractiveness in terms of shapeliness, clothing fit, having curvy hips, femininity, and personality (Celio et al., 2002; Grabe & Hyde, 2006), whereas WA women's descriptions focus on a "lean" and "athletic" look (Allan, Mayo, & Michel, 1993; Evans & McConnell, 2003). Thus, when confronted with negative situations, WA women may experience dissatisfaction because they think do not conform to the thin-ideal, conclude they are "fat" or "overweight," or feel pressure to change what they perceive as flaws in their appearance or bodies. On the other hand, BA women generally are less psychologically invested in their appearance and weight than WA women (Cash & Labarge, 1996), so potentially negative situations may not produce dissatisfaction and they may be able to more easily embrace their current size and shape. These differences may be relevant to understanding differences in eating and weight loss patterns among WA and BA women. Compared to WA women, BA women have been found to diet less (Aruguete, DeBord, Yates, & Edman, 2005) and exhibit lower levels of dietary restraint (Abrams et al., 1993). If BA women experience fewer negative experiences, they might be less likely to take measures to improve their appearance, body shape, or weight.

Interaction effects between race and situational experiences were also explored. Race was not found to moderate the relationship between state body image and situational experiences. In other words, BA women were more satisfied with their bodies

compared to WA women, but they experienced similar fluctuations in body image following positive and negative experiences. This suggests that body image stability and body image satisfaction are two unique constructs, as indicated by Cash (2002, 2002a). A woman can maintain a positive body image, but still experience ups and downs in the way she feels about her body and appearance. Although it is surprising that no interactions between race and situational experiences were found, other research reveals that it is relatively unusual to find racial differences in the degree to which variables predict body satisfaction (Akan & Grilo, 1995). The lack of interaction effects is clinically relevant because although BA women are found to be equally susceptible to experiencing significant body dissatisfaction following negative experiences, mental health professionals might not recognize this dissatisfaction because an individual may generally maintain high body esteem.

The present findings are inconsistent with those from the only published study comparing body esteem changes among BA and WA women following a situational experience. Henriques et al. (1996) found that BA women did not experience fluctuations in body esteem following positive and negative social skills feedback. A couple of factors may help explain this difference in results. First, all situations examined in the current study were body focused, whereas in Henriques et al. (1996) the social skills feedback given was not body focused. Some research has indicated that body-focused feedback and other body-focused situations may trigger greater body awareness and changes in body satisfaction compared to non-body-focused experiences (Tiggemann, 2001). Second, data collection for the present study occurred in a naturalistic setting compared

to an experimental setting in the Henriques et al. (1996) study. Receiving feedback in real-life settings is more likely to be delivered by a peer or person that the receiver knows, which has been found to lead to greater decreases in body satisfaction compared to when the deliverer is not a peer (Mills & Miller, 2007).

Appearance investment was not found to moderate the effect of situational experiences on changes in state body image, with the exception of exercise dissatisfaction. It was hypothesized by Cash (2002a) that individuals high in appearance investment would be more likely to internalize negative body-related contextual events, and in turn, experience greater body dissatisfaction (Cash, 2002a). Although this interaction was not found, results showed that the body image of women high in appearance investment was not any more reactive to body-relevant situations than that of other women. However, such women were generally less likely than other women to experience lifts to body esteem.

The relationship between state body esteem and exercise dissatisfaction was found to be moderated by appearance investment in an unexpected direction: Only those who scored low in appearance investment experienced a drop in state body image following a dissatisfying exercise experience. This interaction effect may be due to how this experience was described in the study. Participants were asked to indicate if their “body felt unhealthy while exercising.” Highly invested individuals may be more likely to exercise regularly, be in shape, and feel “healthier” than low invested participants. Low invested women are not as focused on their bodies and shape, so may exercise less regularly than highly invested women. Exercising less could lead women to feel

unhealthy or out of shape. This is not to say that highly invested individuals feel happier with their body size or appearance while exercising, but rather, using the word “unhealthy” to describe exercise experiences might solicit different responses than if the question were worded as feeling “heavy” or “fat” while exercising.

When interpreting these findings, it is also important to note that the reasons why women exercise have been found to influence their resulting body satisfaction (Reel et al., 2007). For example, young women who exercise for purposes of weight loss and toning (i.e., to improve appearance) experience greater dissatisfaction than those who exercise for fitness reasons (i.e., to stay in shape and maintain cardiovascular health; Tiggemann & Williamson, 2000). Tiggemann and Williamson (2000) also found that engaging in large amounts of exercise was linked to greater body dissatisfaction. These studies highlight effects at the person level of analysis. People who are generally motivated to exercise by weight loss or improvement in appearance tend to be people who are dissatisfied with their appearance. This differs from the present study because it says nothing about the temporary effect of exercising on state body image. ASI scores were found to be positively associated with the percentage of measurement occasions involving dissatisfying exercise experiences. The present data support the notion that appearance invested people tend to have more dissatisfying exercise experiences, it is just that low appearance invested women experience temporary drops in their body esteem following these experiences.

### *Limitations*

Like all studies, the present research findings need to be interpreted in the context of a number of limitations. First, the sample was restricted to BA and WA undergraduate women ages 18-28 and thus the results may not generalize to other groups of women. Because most research on body image has been conducted using college-age samples (Cash & Pruzinsky, 2002), it is not clear whether, and to what extent, fluctuations in body image would occur in older or younger populations. Similarly, no known research has examined daily body experiences among Asian American and Hispanic women. However, meta-analyses reveal that when comparing WA and Asian American women, WA and Hispanic women, and BA and Asian American women, no significant differences in their trait levels of body dissatisfaction were found (Grabe & Hyde, 2006). Given these findings, it is possible that women from other cultural groups also experience similar patterns in state-level body esteem. Second, although the current study has demonstrated that certain situations can trigger fluctuations in state body image, it does not indicate how momentary or long-lasting these changes are.

Another limitation is that height and body weight were not controlled for and could potentially help in the interpretation of results. Research finds that overweight individuals are more dissatisfied with their body shape and weight than normal weight individuals (Neighbors & Sobal, 2007). Because height/weight was not controlled for, it is unclear whether or not the effects of situational experiences on state body esteem might vary between overweight and normal weight individuals. Next, computer-based surveys aided in data collection within a naturalistic setting, but were only completed twice a day.

As a result, some participants might not recall all experiences they had between survey entries to the degree that they might if they completed surveys immediately following body-related experiences.

#### *Directions for Future Research*

Future research should investigate the influence of other body-related and non-body related experiences on state body esteem, as well as the effects of these events on community samples of men and women of different racial and cultural backgrounds. Researchers might consider using personal digital assistants that could aid in collecting data immediately after participants experience an event. It would be helpful to advance this research by also exploring how self-esteem, body mass index, and mood are related to changes in body esteem. Body image fluctuations were found to occur following body-related experiences, but future research might investigate changes in body esteem following experiences that are not clearly related to body image within naturalistic settings. Significant effects of interpersonal feedback on body satisfaction among WA women have been found within lab settings (Henriques et al., 1996). Similar effects could be explored in naturalistic settings, including how receiving a poor/good grade, interpersonal exchanges, starting or ending a romantic relationship, or public speaking might lead to increases or decreases in body esteem. These experiences are likely to trigger changes in how individuals feel and think about themselves. Research suggests that changes in self-esteem and body esteem are related (e.g., Forbes, Jobe, Richardson, 2006), thus, changes in self-esteem in these situations may also be related to fluctuations in body esteem.

Future research might also explore how fluctuations in state body image might lead to changes in behavior, such as eating patterns, social interaction, and self-harm behaviors. Similarly, research might explore if body esteem leads to changes in experiences. Due to body-related insecurities, it is possible that a person with low body esteem seeks out and engages in different experiences than a person with high body esteem. Coping mechanisms have been found to influence how individuals are affected by negative body-related experiences (Cash, Santos, & Williams, 2005). Future research should investigate how positive and negative coping strategies are related to fluctuations in body esteem. Individuals who cope with negative body-related events by using positive rational acceptance (e.g., using positive self-care and self-talk to manage a body threat) might experience fewer fluctuations in state body image following a negative body-related event compared to those who cope by appearance fixing (e.g., making efforts to change part of their appearance they perceive to be flawed; Cash, Santos, & Williams, 2005). In other words, individuals who accept their appearance following a negative event may be less likely to experience shifts in body esteem compared to those who internalize the experiences and cope by altering their appearance.

This study examined state body image, but future research might also explore if trait body esteem moderates the effects of situations on state body esteem. For example, women who have high trait body esteem may be more likely than others to dismiss a negative body-related event (i.e., an event discordant with their typical self-image) and thus experience comparatively fewer fluctuations in state body esteem following negative events. Alternatively, it is possible that women who have high trait body esteem may

experience greater fluctuations in state body esteem than individuals with low trait body esteem following a negative experience because this event is not in agreement with how they feel about their bodies. Finally, it is uncertain how long changes in state body image lasted following both positive and negative experiences, but findings from other research suggests that these changes are temporary (Shafran et al., 2007). It would be worthwhile to further explore how enduring changes in state body image are following positive and negative events. Similarly, research could explore if there is a connection between enduringness or frequency of an event and the likelihood of enduring changes in the person (e.g., in behavior, emotion).

### *Clinical Implications*

The findings of the current study underscore the importance of further examining the impact of situational experiences on changes in state body esteem. These results could be applied in psychotherapy by helping clients who struggle with body image concerns or eating disorders identify experiences that increase and decrease their body satisfaction. After identifying these experiences, in cognitive behavioral therapy, a therapist might help a client learn to cope more adaptively with negative body-related experiences. Alternatively, if a client acknowledges experiencing numerous negative situations that result in greater body dissatisfaction, a therapist might help this client engage in positive body-related experiences that result in increased body satisfaction. Therapy might also benefit from challenging the importance a client places on negative body-related experiences and begin to place more emphasis on more positive situations. Exploring situational triggers to changes in body esteem might also help therapists learn more about

a client's daily experiences, regardless of whether they struggle with serious body image concerns or eating disorders.

Results indicate that both BA and WA women experience fluctuations in body image, which highlights the importance of mental health providers exploring the role that positive and negative experiences may play in changing body esteem with clients of various racial backgrounds. It is clinically relevant to note that WA women reported having more dissatisfying experiences than BA women. Among WA women, the frequency of several dissatisfying experiences outnumbered that of satisfying experiences. When working with WA women, therapeutic interventions might focus on challenging the value placed on weight and appearance and exploring how body-related schemas may influence the likelihood of feeling dissatisfied following certain events. For BA women, dissatisfying experiences might arise less often, but the impact could still be damaging. Focusing on the development of coping skills that could be used following a dissatisfying situation might help to reduce the likelihood of experiencing decreases in state body esteem. Finally, therapeutic interventions could focus on helping BA and WA women become more aware of their satisfying body-related experiences and increase the likelihood of having these experiences everyday. For example, women could be encouraged to identify several body areas that they are satisfied when they look in the mirror or get dressed. Clients might also benefit from developing strategies in which to remind themselves of positive experiences throughout the day or when they experience body dissatisfaction.

In conclusion, this study is significant because the results provide evidence of body image as a state-level construct and suggest that both positive and negative experiences are related to fluctuations in state body esteem. Results underscore the limitations of only studying body image as a trait-level construct and the importance of understanding body esteem in the context of women's daily experiences. Furthermore, although BA women were found to be more satisfied with their appearance, less appearance-invested, and less likely to have dissatisfying body-related experiences, BA and WA women experienced similar fluctuations in state body image following positive and negative experiences. This is notable because although large differences were believed by some to exist between BA and WA women's body esteem, this study highlights similarities in the daily body experiences of women in both groups. Moreover, this study further confirms the complexity of women's body esteem and the importance of understanding body image as a multidimensional construct. Given how little is known about the influence of daily experiences among BA and WA women, the findings also indicate that more research on state body esteem among diverse groups of men and women is greatly needed.

Table 1

*Descriptive Statistics by Race*

Variable	<u>All Participants</u>		<u>BA</u>		<u>WA</u>		<i>t</i> (80)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Mirror satisfaction	.67	.27	.67	.26	.66	.28	0.10
Comparison satisfaction	.36	.30	.32	.29	.39	.30	-1.21
Clothing fit satisfaction	.63	.26	.65	.23	.61	.29	0.78
Compliment satisfaction	.34	.26	.34	.27	.34	.25	0.11
Eating satisfaction	.38	.31	.45	.33	.31	.28	1.98
Exercising satisfaction	.28	.26	.28	.27	.29	.26	-0.12
Mirror dissatisfaction	.37	.34	.23	.26	.50	.35	-4.03**
Comparison dissatisfaction	.34	.31	.23	.24	.46	.33	-3.55**
Clothing fit dissatisfaction	.29	.28	.19	.20	.39	.30	-3.67**
Criticism dissatisfaction	.06	.12	.05	.10	.07	.14	-0.53
Eating dissatisfaction	.35	.29	.26	.24	.44	.31	-3.00**
Exercising dissatisfaction	.08	.17	.04	.11	.12	.21	-2.01*
Pimple dissatisfaction	.37	.36	.29	.34	.44	.36	-1.88
BISS	32.35	7.46	34.19	7.31	30.59	7.25	2.24*
ASI	39.39	10.29	36.67	8.23	41.97	11.43	-2.40*

*Note.* *N* = 40 BA women and 42 WA women. Listwise deletion yielded a total of 920 measurement occasions. The *t*-statistics test was for differences between BA and WA women. Each daily entry was recorded as a row of data for each participant. ASI scores

are based on the uncentered scores. BISS = Body Image States Scale; ASI = Appearance Schemas Inventory; BA = Black American; WA = White American.

\*  $p < .05$ ; \*\*  $p < .01$ , two tailed

Table 2

*Regression Analyses for Main and Interactive Effects of Situational Variables and Race on Change in State Body Image*

Predictor	Step 1			Step 2		
	<i>B</i>	<i>SE</i>	<i>df</i>	<i>B</i>	<i>SE</i>	<i>df</i>
Mirror satisfaction						
Situation	6.01**	.44	878.88	6.49**	.61	890.06
Race				3.58*	1.26	96.79
Situation x Race				-.95	.88	889.05
Comparison satisfaction						
Situation	2.43**	.49	890.21	2.71**	.64	889.08
Race				3.38	1.36	72.61
Situation x Race				-.57	.99	895.21
Clothing satisfaction						
Situation	5.30**	.43	871.55	5.63**	.60	889.11
Race				3.13	1.25	89.54
Situation x Race				-.66	.86	880.96
Compliment satisfaction						
Situation	3.51**	.46	869.12	3.21**	.61	866.77
Race				2.76	1.34	71.10
Situation x Race				.68	.92	873.38

Eating satisfaction						
Situation	4.04**	.48	898.61	4.25**	.66	889.60
Race				2.66	1.29	73.63
Situation x Race				-.52	.96	905.13
Exercise satisfaction						
Situation	3.18**	.50	885.42	3.20**	.68	884.72
Race				2.96	1.30	68.96
Situation x Race				-.02	1.01	888.99
Mirror dissatisfaction						
Situation	-5.57**	.50	913.71	-4.88**	.66	916.04
Race				2.02	1.18	71.02
Situation x Race				-1.49	1.02	916.28
Comparison dissatisfaction						
Situation	-3.20**	.51	902.38	-2.14*	.67	906.04
Race				3.02	1.28	70.31
Situation x Race				-2.39	1.04	901.85
Clothing dissatisfaction						
Situation	-4.52**	.49	885.68	-3.87**	.64	890.83
Race				2.44	1.21	66.59
Situation x Race				-1.50	1.01	884.79
Criticism dissatisfaction						
Situation	-3.51**	.97	867.31	-3.27	1.27	879.72

Race				2.94	1.33	64.24
Situation x Race				-.51	1.96	868.25
Eating dissatisfaction						
Situation	-3.65**	.48	886.93	-3.55**	.63	890.26
Race				2.38	1.30	71.37
Situation x Race				-.12	.97	887.56
Exercise dissatisfaction						
Situation	-3.50**	.87	897.68	-2.84*	1.02	901.34
Race				2.82	1.30	64.19
Situation x Race				-2.21	1.98	890.47
Pimple dissatisfaction						
Situation	-2.13**	.55	919.50	-2.38*	.72	918.72
Race				2.41	1.37	74.77
Situation x Race				.75	1.11	919.97

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*Note.* All analyses control for previous occasion state body image. N = 82 participants. Listwise deletion yielded a total of 920 measurement occasions.

\*  $p < .008$ . \*\*  $p < .001$

Table 3

*Simultaneous Regression Analyses for Effects of Situational Variables on Change in State Body Image*

Predictor	<i>B</i>	<i>SE</i>	<i>df</i>
Previous occasion BISS	0.14**	.03	882.49
Mirror satisfaction	3.03**	.52	867.98
Comparison satisfaction	0.93*	.44	898.83
Clothing satisfaction	1.71**	.49	846.30
Compliment satisfaction	1.39**	.42	873.12
Eating satisfaction	1.35**	.48	893.93
Exercise satisfaction	1.30**	.45	884.41
Mirror dissatisfaction	-2.14**	.53	885.24
Comparison dissatisfaction	-0.98*	.49	881.77
Clothing dissatisfaction	-1.43**	.51	846.90
Criticism dissatisfaction	-1.83*	.83	881.23
Eating dissatisfaction	-1.18*	.48	889.05
Exercise dissatisfaction	0.97	.78	909.19
Pimple dissatisfaction	-1.52**	.47	915.54

*Note.* N = 920. Listwise deletion yielded a total of 920 measurement occasions. BISS = Body Image States Scale.

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

Table 4

*Regression Analyses for Interactive Effects of Situational Variables and Appearance Investment on Change in State Body Image*

Predictor	<i>B</i>	<i>SE</i>	<i>df</i>
<b>Mirror satisfaction</b>			
Situation	5.99**	.44	890.28
ASI	-.25**	.06	106.33
Situation x ASI	.02	.05	917.32
<b>Comparison satisfaction</b>			
Situation	2.58**	.49	900.65
ASI	-.32**	.06	77.11
Situation x ASI	.10	.05	916.91
<b>Clothing satisfaction</b>			
Situation	5.33**	.43	882.53
ASI	-.28**	.06	95.17
Situation x ASI	.07	.04	913.12
<b>Compliment satisfaction</b>			
Situation	3.53**	.46	882.10
ASI	-.28**	.06	75.37
Situation x ASI	.03	.05	903.40
<b>Eating satisfaction</b>			

Situation	4.20**	.49	917.17
ASI	-.27**	.06	74.63
Situation x ASI	.08	.05	919.57
Exercise satisfaction			
Situation	3.27**	.50	898.91
ASI	-.30**	.06	72.23
Situation x ASI	.09	.05	891.92
Mirror dissatisfaction			
Situation	-5.44**	.50	914.53
ASI	-.17*	.06	93.17
Situation x ASI	-.06	.05	904.57
Comparison dissatisfaction			
Situation	-2.91**	.51	889.30
ASI	-.18*	.06	88.02
Situation x ASI	-.09	.05	915.75
Clothing dissatisfaction			
Situation	-4.40**	.49	886.69
ASI	-.19*	.06	78.95
Situation x ASI	-.08	.04	918.36
Criticism dissatisfaction			
Situation	-3.47**	.96	878.42
ASI	-.27**	.06	66.51

Situation x ASI	.13	.10	859.38
Eating dissatisfaction			
Situation	-3.60**	.48	901.57
ASI	-.24**	.06	78.68
Situation x ASI	-.01	.05	919.41
Exercise dissatisfaction			
Situation	-4.39**	.92	894.52
ASI	-.27**	.06	67.36
Situation x ASI	.27*	.08	879.35
Pimple dissatisfaction			
Situation	-2.02**	.54	919.09
ASI	-.23**	.06	84.71
Situation x ASI	-.05	.05	918.37

---

*Note.* All analyses control for previous occasion state body image. N = 82 participants. Listwise deletion yielded a total of 920 measurement occasions. ASI = Appearance Schemas Inventory.

\*  $p < .008$ . \*\*  $p < .001$

## Appendix I

### Informed Consent Form for Pilot Study

#### **Title: Examining Daily Experiences Related to Body Image**

#### **RESEARCH PROCEDURES**

This research is being conducted to examine situations and experiences in which college women think about their bodies. If you agree to participate, you will be asked to record experiences you have that trigger thoughts and/or feelings about your body over the course of seven days. It is estimated that participation will take approximately five hours, including the information session, recording daily entries, and final session that will take place about one week from the first session.

#### **RISKS**

The main risk of participating in this study is feelings of discomfort that can result from sharing your personal experiences. We expect for participation in this research to involve no more risk of serious harm than that encountered in everyday activities. If you experience feelings of discomfort and wish to discuss them or seek help, then we encourage you to contact the principal investigator for this study, Amanda Rahimi (202) 439-4361; arahimi1@gmu.edu) or Dr. Jonathan Mohr (703-993-1279; jmohr@gmu.edu). We will give you contact information for the George Mason University Counseling Center, where services are provided for people who are seeking help with body image or other concerns. A secondary risk of participating in this study is that it is possible that participants may lose or misplace your notebook that contains personal information.

#### **BENEFITS**

There are no benefits to you as a participant other than to further research in understanding how contextual factors influence body image.

#### **CONFIDENTIALITY**

The data in this study will be anonymous and confidential. Your name and other identifiers will not be placed on your daily recordings and this consent form will never be attached to any of your recorded data. Instead, an identification number will be placed on your notebook and survey form. You will be instructed about how to not to include any identifying information in your daily recordings, including not writing your name, the names of any individuals you may mention, place of residence or work, or any other information that could trace your data back to you in your notebook.

#### **PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no

penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party. You will receive five research credits after participating in this study.

**ALTERNATIVES TO PARTICIPATION**

If you decide not to participate in this study, you will be given the opportunity to participate in a nonresearch option for course credit. This option will be to participate in a lecture on body image and eating disorders research presented by the researcher and complete a reaction paper.

**CONTACT**

This research is being conducted Amanda Rahimi, under the supervision of Dr. Jonathan Mohr, in the Department of Psychology at George Mason University. Amanda may be reached at (202) 439-4361 for questions or to report a research-related problem. Dr. Mohr may be reached at 703-993-1279 if you have further questions or concerns. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

**CONSENT**

I have read this form and agree to participate in this study.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date of Signature

## Appendix II

### Informed Consent Form for Main Study (Research Credit)

#### **Title: Examining Daily Body Image and Experiences**

#### **RESEARCH PROCEDURES**

This research is being conducted to how college women feel about their bodies from day-to-day and their daily experiences. If you agree to participate, you will be asked to complete brief surveys on the first day, and complete online surveys twice daily over the course of the next seven days. You will be asked the complete surveys each day between 11 AM and 2 PM and between 8 PM and 11 PM. It is estimated that participation will take approximately 10-20 minutes per day for a total of eight days.

#### **RISKS**

The main risk of participating in this study is feelings of discomfort that can result from sharing your personal feelings about your body and appearance. We expect for participation in this research to involve no more risk of serious harm than that encountered in everyday activities. If you experience feelings of discomfort and wish to discuss them or seek help, then we encourage you to contact the principal investigator for this study, Amanda Rahimi (202-439-4361; arahimi1@gmu.edu) or Dr. Jonathan Mohr (703-993-1279; jmohr@gmu.edu). We will give you contact information for the George Mason University Counseling Center, where services are provided for people who are seeking help with body image or other concerns.

#### **BENEFITS**

There are no benefits to you as a participant other than to further research in understanding daily body image and experiences.

#### **CONFIDENTIALITY**

While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The information you provide will be confidential and not be released to any individuals or organizations outside of this study. All survey information gathered from you will be added to the data received from other participants and will be presented only in an aggregated form. Names and other identifiers will not be placed on surveys or other research data. As with most email transmissions, it is possible (although unlikely) for the survey responses to be intercepted by people other than those to whom they are sent. However, your responses will be sent over the Internet in an encrypted form that would be very difficult for others to interpret. All survey responses will be kept in a secure computer environment.

#### **PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no

penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party. You will receive two research credits after participating in this study.

### **ALTERNATIVES TO PARTICIPATION**

If you decide not to participate in this study, you will be given the opportunity to participate in a nonresearch option for course credit. This option will be to participate in a lecture on body image and eating disorders research presented by the researcher and complete a reaction paper.

### **CONTACT**

This research is being conducted Amanda Rahimi, under the supervision of Dr. Jonathan Mohr, in the Department of Psychology at George Mason University. Amanda may be reached at (202) 439-4361 for questions or to report a research-related problem. Dr. Mohr may be reached at 703-993-1279 if you have further questions or concerns. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research. If you are interested in receiving a copy of this consent document, you may print this page from your browser at this time.

### **CONSENT**

If you have read all of the above points, are at least 18 years old, and wish to participate, please click the appropriate button below.

- I have read the above points and I wish to participate**
- I have read the above points and I do NOT wish to participate**

## Appendix III

### Informed Consent Form for Main Study (Monetary Compensation)

#### **Title: Examining Daily Body Image and Experiences**

#### **RESEARCH PROCEDURES**

This research is being conducted to how college women feel about their bodies from day-to-day and their daily experiences. If you agree to participate, you will be asked to complete brief surveys on the first day, and complete online surveys twice daily over the course of the next seven days. You will be asked the complete surveys each day between 11 AM and 2 PM and between 8 PM and 11 PM. It is estimated that participation will take approximately 10-20 minutes per day for a total of eight days.

#### **RISKS**

The main risk of participating in this study is feelings of discomfort that can result from sharing your personal feelings about your body and appearance. We expect for participation in this research to involve no more risk of serious harm than that encountered in everyday activities. If you experience feelings of discomfort and wish to discuss them or seek help, then we encourage you to contact the principal investigator for this study, Amanda Rahimi (202-439-4361; arahimi1@gmu.edu) or Dr. Jonathan Mohr (703-993-1279; jmohr@gmu.edu). We will give you contact information for the George Mason University Counseling Center, where services are provided for people who are seeking help with body image or other concerns.

#### **BENEFITS**

There are no benefits to you as a participant other than to further research in understanding daily body image and experiences.

#### **CONFIDENTIALITY**

While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The information you provide will be confidential and not be released to any individuals or organizations outside of this study. All survey information gathered from you will be added to the data received from other participants and will be presented only in an aggregated form. Names and other identifiers will not be placed on surveys or other research data. As with most email transmissions, it is possible (although unlikely) for the survey responses to be intercepted by people other than those to whom they are sent. However, your responses will be sent over the Internet in an encrypted form that would be very difficult for others to interpret. All survey responses will be kept in a secure computer environment.

#### **PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no

penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party. After completing all surveys, you will receive \$30 for your participation. You will be instructed by the examiner how to receive this money.

### **ALTERNATIVES TO PARTICIPATION**

If you decide not to participate in this study, you will be given the opportunity to participate in a nonresearch option for course credit. This option will be to participate in a lecture on body image and eating disorders research presented by the researcher and complete a reaction paper.

### **CONTACT**

This research is being conducted Amanda Rahimi, under the supervision of Dr. Jonathan Mohr, in the Department of Psychology at George Mason University. Amanda may be reached at (202) 439-4361 for questions or to report a research-related problem. Dr. Mohr may be reached at 703-993-1279 if you have further questions or concerns. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research. If you are interested in receiving a copy of this consent document, you may print this page from your browser at this time.

### **CONSENT**

If you have read all of the above points, are at least 18 years old, and wish to participate, please click the appropriate button below.

- I have read the above points and I wish to participate**
- I have read the above points and I do NOT wish to participate**

Appendix IV

**PARTICIPANT DEMOGRAPHIC QUESTIONNAIRE**

ID # \_\_\_\_\_

1. Your age: \_\_\_\_\_

2. Your current year in school (check one):

\_\_\_\_ Freshman

\_\_\_\_ Sophomore

\_\_\_\_ Junior

\_\_\_\_ Senior

3. Racial/ethnic group(s) with which you identify: \_\_\_\_\_

## Appendix V

### Script for Completing Daily Entries in Pilot Study

“Thank you for participating in this study. As I discussed before, the goal of this study is to understand what experiences trigger individuals to have thoughts and feelings about their bodies. I just handed out one notebook to each person that I would like you to carry with you over the next seven days. It is important that you keep the notebook in a safe place so that others do not have access to your recordings. In the next few minutes, I will describe to you how I would like you to use those notebooks.

“Over the next seven days, I would like you to record experiences you have that lead you to have thoughts and/or feelings about your bodies. I recognize that some of us have countless moments like these in our days; therefore, I would like you to record and describe the experiences that you have that result in thoughts and/or feelings which last one minute or longer. This means that you may have multiple entries per day. After you have experienced one of these moments, I would like you to take a few minutes and record exactly what happened in your notebook. For example, you can include:

- The time of day you had this thought/feeling about your body
- Specifically where you are (e.g. at home, the mall, food court, movie theater, looked in the mirror)
- Who you are with, if applicable (e.g. female friend, mother, boyfriend)
- What do you believe caused that thought/feeling (e.g. saw a picture, received a comment, watching television)
- What you were thinking and/or feeling after this experience?
- A rating of the impact of the experience on your body image at that moment, using the following rating scale (0 = no impact, 1 = very little impact, 2 = some impact, and 3 = a high degree of impact).

“In your entry, please be as specific as possible so we can get a detailed look at what experiences you were having at these moments. Think about these entries as telling a story about these instances in your life. Keep in mind that these journals will remain anonymous, so while being specific, please refrain from recording any information that might potentially identify you. This includes your name, the name of anyone else you may mention, your home or work address, etc. Instead, you may choose to provide a lot of detail while not being too specific. For example, instead of recording your best friend’s name, you could record “my best female friend.” Instead of recording your exact place of work, you can say “a clothing store” or “a restaurant.”

“Next week when you return for your second and final session, I will collect all of your notebooks.”

“Do you have any questions?” [Any questions will be answered]

“Thank you very much for your participation!”

Appendix VI  
Handout for Pilot Study

Over the next seven days, you will be asked to record and fully describe experiences in your daily life that lead you to have thoughts and/or feelings about your body. **Please be as detailed as possible in your entries.**

We recognize that sometimes we have countless moments like these in our days; therefore, I would like you to record and describe the experiences that you have that result in thoughts and/or feelings which last one minute or longer. This means that you may have multiple entries per day.

As soon as possible after you have experienced one of these moments, I would like you to take a few minutes and record exactly what happened in your notebook. Think about these entries as telling a story about these moments in your life. For example, you can include:

- What time of day did you have this thought and/or feeling about your body?
- Specifically where were you?
- Who were you with? Or were you by yourself?
- What do you believe caused that thought/feeling (e.g. saw a picture, received a comment, watching television)
- What were you thinking and/or feeling at that time?
- Rate the impact of the experience on your body image at that moment, using the following rating scale (0 = no impact, 1 = very little impact, 2 = some impact, and 3 = a high degree of impact).

**Remember do not include any information, such as names or addresses, which could potentially identify that these entries are yours.** Keep your notebook in a safe place to ensure that your recordings are not shared with others.

Please return your notebooks next week when you return for your second and final appointment.

Appendix VII  
Demographic Questionnaire for Main Study

1. Your age: \_\_\_\_\_

2. Your current year in school (check one):

- Freshman
- Sophomore
- Junior
- Senior

3. Racial/ethnic group(s) with which you identify (check as many as apply):

- African American
- Black (not Hispanic)
- Black Hispanic
- Hispanic/Latino
- White (not Hispanic)
- White Hispanic
- Biracial
- Asian/Pacific Islander
- Other (specify) \_\_\_\_\_
- I don't know

4. Religion (if any): \_\_\_\_\_

5. How long have you resided in the United States? \_\_\_\_\_

6. If you have ever lived outside of the United States, indicate when and for how long:

\_\_\_\_\_

7. Who were your two primary caretakers when growing up (e.g., “mother,” “uncle”)? If you only had one caretaker growing up, please indicate only one.

Caretaker 1: \_\_\_\_\_

Caretaker 2: \_\_\_\_\_

8. What is the highest year of education that the person you listed as “Caretaker 1” completed? (select one)

- Some high school
- High School
- Some College

Bachelor's Degree  
Graduate Degree

9. What is the highest year of education that the person you listed as "Caretaker 2" completed? (select one)

Some high school  
High School  
Some College  
Bachelor's Degree  
Graduate Degree

10. Where was the person you listed as "Caretaker 1" born (if known)?

\_\_\_\_\_ United States                      \_\_\_\_\_ Other (specify) \_\_\_\_\_

11. What racial/ethnic classification is the person you listed as "Caretaker 1" (check as many as applies)?

\_\_\_\_\_ African American  
\_\_\_\_\_ Black (not Hispanic)  
\_\_\_\_\_ Black Hispanic  
\_\_\_\_\_ Hispanic/Latino  
\_\_\_\_\_ White (not Hispanic)  
\_\_\_\_\_ White Hispanic  
\_\_\_\_\_ Biracial  
\_\_\_\_\_ Asian/Pacific Islander  
\_\_\_\_\_ Other (specify) \_\_\_\_\_  
\_\_\_\_\_ I don't know

12. Where was the person you listed as "Caretaker 2" born (if known)?

\_\_\_\_\_ United States                      \_\_\_\_\_ Other (specify) \_\_\_\_\_

13. What racial/ethnic classification is the person you listed as "Caretaker 2" (check as many as applies)?

\_\_\_\_\_ African American  
\_\_\_\_\_ Black (not Hispanic)  
\_\_\_\_\_ Black Hispanic  
\_\_\_\_\_ Hispanic/Latino  
\_\_\_\_\_ White (not Hispanic)  
\_\_\_\_\_ White Hispanic  
\_\_\_\_\_ Biracial  
\_\_\_\_\_ Asian/Pacific Islander  
\_\_\_\_\_ Other (specify) \_\_\_\_\_

\_\_\_\_\_ I don't know

14. How much do you and everyone living in your household earn altogether each year?  
(select one)

\$0-\$14,999

\$15,000-\$24,999

\$25,000-\$34,999

\$35,000-\$44,999

\$45,000-\$54,999

\$55,000+

15. What is your best estimate of your socioeconomic class? (select one)

Lower Class

Lower Middle Class

Middle Class

Upper Middle Class

Upper Class

16. Please indicate the statement which best describes the environment of the high school  
you attended:

\_\_\_\_\_ Predominately Black

\_\_\_\_\_ Equally Black and White

\_\_\_\_\_ Predominately White

\_\_\_\_\_ Predominately \_\_\_\_\_(please specify)

17. Your current: weight (in pounds) \_\_\_\_\_ height (in inches) \_\_\_\_\_

Appendix VII  
Body Image States Scale  
(Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002)

For each of the items below, check the box beside the one statement that best describes how you feel **RIGHT NOW AT THIS VERY MOMENT**. Read the items carefully to be sure the statement you choose accurately and honestly describes how you feel right now.

1. Right now I feel...

- *Extremely dissatisfied* with my physical appearance
- *Mostly dissatisfied* with my physical appearance
- *Moderately dissatisfied* with my physical appearance
- *Slightly dissatisfied* with my physical appearance
- *Neither dissatisfied nor satisfied* with my physical appearance
- *Slightly satisfied* with my physical appearance
- *Moderately satisfied* with my physical appearance
- *Mostly satisfied* with my physical appearance
- *Extremely satisfied* with my physical appearance

2. Right now I feel...

- *Extremely satisfied* with my body size and shape
- *Mostly satisfied* with my body size and shape
- *Moderately satisfied* with my body size and shape
- *Slightly satisfied* with my body size and shape
- *Neither dissatisfied nor satisfied* with my body size and shape
- *Slightly dissatisfied* with my body size and shape
- *Moderately dissatisfied* with my body size and shape
- *Mostly dissatisfied* with my body size and shape
- *Extremely dissatisfied* with my body size and shape

3. Right now I feel...

- *Extremely satisfied* with my weight
- *Mostly satisfied* with my weight
- *Moderately satisfied* with my weight
- *Slightly satisfied* with my weight
- *Neither dissatisfied nor satisfied* with my weight
- *Slightly dissatisfied* with my weight
- *Moderately dissatisfied* with my weight
- *Mostly dissatisfied* with my weight
- *Extremely dissatisfied* with my weight

4. Right now I feel...

- *Extremely physically attractive*

- *Very* physically *attractive*
- *Moderately* physically *attractive*
- *Slightly* physically *attractive*
- *Neither attractive nor unattractive*
- *Slightly* physically *unattractive*
- *Moderately* physically *unattractive*
- *Very* physically *unattractive*
- *Extremely* physically *unattractive*

5. Right now I feel...

- *A great deal worse* about my looks than I usually feel
- *Much worse* about my looks than I usually feel
- *Somewhat worse* about my looks than I usually feel
- *Just slightly worse* about my looks than I usually feel
- *About the same* about my looks than I usually feel
- *Just slightly better* about my looks than I usually feel
- *Somewhat better* about my looks than I usually feel
- *Much better* about my looks than I usually feel
- *A great deal better* about my looks than I usually feel

6. Right now I feel that I look...

- *A great deal better* than the average person looks
- *Much better* than the average person looks
- *Somewhat better* than the average person looks
- *Just slightly better* than the average person looks
- *About the same* than the average person looks
- *Just slightly worse* than the average person looks
- *Somewhat worse* than the average person looks
- *Much worse* than the average person looks
- *A great deal worse* than the average person looks

Appendix VIII  
The Appearance Schemas Inventory  
(Cash & Labarge, 1996)

Indicate your beliefs about these items using the 1 to 5 scale:

1	2	3	4	5
Strongly Disagree	Mostly Disagree	Neither Disagree Nor Agree	Mostly Agree	Strongly Agree

- \_\_\_\_\_ 1. What I look like is an important part of who I am.
- \_\_\_\_\_ 2. What's wrong with my appearance is one of the first things that people will notice about me.
- \_\_\_\_\_ 3. One's outward physical appearance is a sign of the character of the inner person.
- \_\_\_\_\_ 4. If I could look just as I wish, my life would be much happier.
- \_\_\_\_\_ 5. If people knew how I really look, they would like me less.
- \_\_\_\_\_ 6. By controlling my appearance, I can control many of the social and emotional events in my life.
- \_\_\_\_\_ 7. My appearance is responsible for much of what has happened to me in my life.
- \_\_\_\_\_ 8. I should do whatever I can to always look my best.
- \_\_\_\_\_ 9. Aging will make me less attractive.
- \_\_\_\_\_ 10. To be feminine, a woman must be as pretty as possible.
- \_\_\_\_\_ 11. The media's messages in our society make it impossible for me to be satisfied with my appearance.
- \_\_\_\_\_ 12. The only way I could ever like my looks would be to change what I look like.
- \_\_\_\_\_ 13. Attractive people have it all.
- \_\_\_\_\_ 14. Homely people have a hard time finding happiness.

Appendix IX  
Contextual Experiences Questionnaire

The following is a list of situations in which one can have a positive experience related to body image or appearance. Please indicate which of the experiences you have had since you last took a survey:

- 1) Saw your reflection in a mirror or other reflective surface (e.g., window) and was **satisfied** with aspects of your appearance or body.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
  - 2) Compared your body or appearance to someone else's and felt that the other person was **less attractive** than you.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
  - 3) Put on clothes and was **satisfied** with the way the clothing looked or fit on your body.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
  - 4) Received a **compliment** about your body or appearance.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
  - 5) Your body felt healthy or lean after eating.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
  - 6) Exercised and felt that you were doing something good for your body or appearance.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.
- 

**The following is a list of situations in which one can have a negative experience related to body image or appearance. Please indicate which of the experiences you have had since you last took a survey:**

- 1) Saw your reflection in a mirror or other reflective surface (e.g., window) and was **dissatisfied** with aspects of your appearance or body.  
 Yes I have had this experience since I last took the survey.  
 No, I have not had this experience since I last took the survey.

2) Compared your body or appearance to someone else's and felt that the other person was **more attractive** than you.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

3) Put on clothes and was **dissatisfied** with the way the clothing looked or fit.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

4) Received a **criticism** about your body or appearance.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

5) Your body felt fat or bloated after eating.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

6) Your body felt unhealthy while exercising.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

7) Noticed pimples on your face or body.

Yes I have had this experience since I last took the survey.

No, I have not had this experience since I last took the survey.

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