DEVELOPMENT OF DISORDERED EATING IN UNDERGRADUATE WOMEN: A TEST OF THE RE-CONCEPTUALIZED OBJECTIFICATION PROCESS

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The eating disorder literature has long suggested that sociocultural experiences specific to women influence development of bulimic pathology; however, models have differed on the type of experiences that are important and what other variables interact with these experiences to lead to eating pathology. Broader sociocultural theory and objectification theory represent two such differing models, and more recently Moradi hypothesized that integrating elements from both models would provide a better picture of eating disorder development. The present study, therefore, sought to compare these three different models of bulimic pathology development to determine which one provides the best explanation for bulimic outcomes. The sample consisted of 682 undergraduate women between the ages of 18 and 24, recruited from a large southwestern university. Data were collected on-line using a series of questionnaires to measure the constructs of interest and analyzed using structural equation modeling. All three models fit the data well and explained approximately 50% of bulimic outcomes; however, the model based on Moradi’s integrated model provided the most information about the relationships between constructs within the model. The development of bulimic symptomatology appears best explained by a model that focuses on the sociocultural experience of pressures about weight and body size, but also integrates aspects of objectification theory as well. Future research, however, is needed to determine if sexually objectifying experiences, if measured differently, affect women’s development of eating pathology along with pressures.
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INTRODUCTION

In Western society, beauty and sexuality are the defining features of women’s femininity, often to the exclusion of other characteristics, such as intelligence, personality, or ability (Fredrickson & Roberts, 1997; Striegel-Moore et al., 1986). The beauty ideal for women (e.g., young, thin, attractive) is so ubiquitous that even young girls experience it and then learn to define themselves, their behaviors, and their value in relation to it as they develop (Polivy & Herman, 2004; Stice, 1994; Stice, Shaw & Nemeroff, 1998). Standards for what it means to be beautiful and feminine are communicated by family and friends (Fredrickson & Roberts, 1997), and perpetuated through the media (e.g., TV, magazines, movies), whose frequent presentation of a thin body type as the ideal, to the exclusion of other shapes and weights, presents the idea that only the slender body type is acceptable or attractive (Bartky, 1988; Markula, 1995; Wolf, 1990).

In addition to this thin ideal, women are depicted in the media as sexual objects. Women’s body parts, to a much greater extent than men’s, are emphasized through revealing and provocative clothing and the impression is given through their poses and actions that they are sexually ready (American Psychological Association, 2007). The sexualization of girls and women, communicated through the presentation of a narrowly defined body and beauty ideal and treatment of women as objects for other’s sexual pleasure, is psychologically harmful. Many girls and women internalize, to varying degrees, the visual representation of this sexualized societal body ideal and then compare themselves to it and, because most cannot attain it, develop a negative perception of their bodies and themselves (Fredrickson & Roberts, 1997; Stice, 2001). In addition, women who have internalized such a sexually objectified view become vulnerable to negative self-appraisals, such as body shame and body dissatisfaction, because they have
overemphasized the importance of meeting standards of attractiveness or sexuality and, in essence, narrowed their definition of their own worth. This type of negative body image and body evaluation may lead some women to engage in dieting and other body modification behaviors, which may be precursors of more severe forms of eating pathology (Stice, 2001).

The reality of societally-based standards about beauty and appearance and recognition of the sexualization of women in Western societies have been central components in models of eating disorder development and research for the past two decades (e.g., Fredrickson & Roberts, 1997; Stice, 1994; van den Berg, Thompson, Obremski-Brandon, & Coover, 2002). Within this broad framework are two specific approaches that have guided much of the research conducted in this area: (1) Sociocultural perspective (Stice, 1994; Striegel-Moore et al., 1986) and (2) objectification theory (Fredrickson & Roberts, 1997). Each one of these theories represents the progression from external influence of the culture to internalizing that influence to evaluating the body negatively and finally to eating disorder behavior. The two theories are complimentary but focus on different aspects of women’s socialization experiences; the sociocultural perspective emphasizes pressures regarding weight and body size whereas the sexualization of women’s bodies is central to the objectification framework. In this study, models representing each original perspective, as well as a more recent integration of the approaches (Moradi, 2010) were examined to determine how well they represent the theoretically proposed relationships and explain the development of disordered eating.

Sociocultural Prospective

The sociocultural perspective emphasizes the role of societal beauty standards and pressures in the development of eating disorders. Westernized societies highlight physical appearance and attractiveness, particularly for women (Striegel-Moore & Bulik, 2007; Striegel-
Moore et al., 1986). The definition of (or ideal) for beauty is narrow, based prominently on thinness (Stice, 1994). This “thin-ideal” is communicated via messages, comments, and pressures from the media, family and peers to meet specific appearance criteria (Fredrickson & Roberts, 1997; Morry & Staska, 2001) and becomes the social context through which body image concerns and, ultimately, eating disorders develop (Stice, 1994; Striegel-Moore & Bulik, 2007; Striegel-Moore et al., 1986).

Through the socialization process girls and women learn that they need to be thin and attractive to be valued, which can lead to changes in self-schemas as they internalize these societal body and appearance ideals (Striegel-Moore & Bulik, 2007). In time, many girls and women begin to believe that to be attractive they must be thin and beautiful, as presented through societal outlets (i.e., media) and prescribed by family and friends. As this internalization occurs, girls’ and women’s self-concept is narrowed to how they look rather than who they are and what they can do. The connection between societal pressures about weight and body size and internalization of these societal beauty standards has been supported through longitudinal and experimental studies (Stice, 2002); more pressures from family, peers, and the media about weight and body size predict a stronger internalization of these ideals and the development of a self-schema that is defined primarily through physical appearance.

This internalized ideal (self-schema) becomes the lens through which girls and women see themselves in relation to others. In time, most women will have the realization that their bodies (and appearance) fall short of the societal thin-ideal, which is almost pre-pubertal in its structure (Stice 1994). Thus, there will be a discrepancy in body size and shape for most post-pubertal women’s bodies because they simply cannot adhere to the ideal. And, the larger the real-ideal discrepancy, the more likely women are to experience dissatisfaction with (and anger
towards) themselves, their bodies, and their appearance, generally viewing themselves as not attractive or beautiful (Stice, 1994; Striegel-Moore & Bulik, 2007). Research has consistently supported the connection between higher levels of internalization and negative body appraisal, such as body dissatisfaction (Stice, 2002). For example, in a large sample of college women, Fitzsimmons-Craft, Harney, Koehler, Danzi, Riddell, and Bardone-Cone (2012) found that the women who had internalized the beauty ideal were the ones who reported the most dissatisfaction with the size and shape of their bodies. In a related study, both White and Asian American women who had higher levels of internalization were more body dissatisfied, although White women had the highest levels of both (Nouri, Hill, & Orrell-Valente, 2011).

Within this perspective, body dissatisfaction is viewed as the direct precursor of disordered eating (Striegel-Moore & Bulik, 2007), in particular bulimic symptomatology (Stice, 2004). Subjective body dissatisfaction may lead women to engage in extreme weight control behaviors, such as fasting, purging, or laxative use, as they try to mold their body to fit the ideal (Stice, 1994). When taken to extremes, such weight loss behaviors may lead to the actual development of bulimia nervosa. Research has demonstrated a strong association between these two constructs among women (McKnight Investigators, 2003; Stice, 2002). For example, college women who reported higher levels of body dissatisfaction also reported higher levels of bulimic pathology (Brannan & Petrie, 2011). Further, Lokken, Worthy, Ferraro, and Attmann (2008) found that there was a relationship between higher levels of body dissatisfaction and a greater frequency of bulimic symptoms in both Black and White college women from two different regions of the United States. Although this linear path from societal pressures to bulimic symptomatology has been found in different subgroups of adult women (e.g., Anderson, Petrie, & Neumann, 2011; Boone, Soenens, & Braet, 2011), the effects of societal pressures about
weight and body shape may not just occur through internalization and body dissatisfaction. In fact, researchers have found that pressures also are related directly to body dissatisfaction (e.g., Groesz, Levine, & Murnen, 2002; Krones, Stice, Batres, & Orjada, 2005; Stice, Maxfield, & Wells, 2003) and bulimic symptomatology (e.g., Anderson et al., 2011; Boone et al., 2011). For example, Krones et al. (2005) found that college women who reported greater pressures about weight and appearance from family, friends, and media also reported significantly more body dissatisfaction. Similarly, several different pressures, including those related to attractiveness, thinness, losing weight, and having the perfect body, were associated with symptoms of bulimia nervosa in college athletes (Anderson et al., 2011). Thus, an examination of the sociocultural model would include not only the linear pathway from pressures to bulimic symptomatology, but also the potential direct effects of pressures on body dissatisfaction and bulimic symptomatology.

Original Objectification Theory

Objectification theory was developed to explain how the sexualization of women in Western cultures is a risk factor for the development of a variety of negative mental health outcomes, including disordered eating (Fredrickson & Roberts, 1997; Moradi & Huang, 2008). In Western societies, in addition to presenting a narrow definition of female beauty, girls are socialized to be sexual objects. Essentially, from a young age, girls are exposed to the idea that a woman’s physical form can be separated from who she is as a person (e.g., her intellect, personality, relationships), and become the primary determinant of her value (Fredrickson & Roberts, 1997). Through repeated exposure to sexually objectifying experiences, such as having one’s breasts leered at or overhearing sexual comments about one’s body, girls and women may
adopt this societal perspective and view themselves as sexual objects, an outcome referred to as self-objectification.

A key component or manifestation of self-objectification is body monitoring (McKinley & Hyde, 1996). Women who have adopted society’s view of them as sexual objects tend to engage in body surveillant behaviors, that is, seeing themselves from the objectifying perspective of another person. Because self-objectified women believe that how they physically appear to others ultimately defines their worth, by monitoring their appearance they gain some sense of control over themselves and their role, position, and value in society. Research has supported this connection between sexual and self-objectification, as women who report more frequent experiences of sexual objectification also report higher levels of body monitoring (e.g. Augustus-Horvath & Tylka, 2009; Kozee & Tylka, 2006; Kozee, Tylka, Augustus-Horvath, & Denchik, 2007; Moradi, Dirks, & Matteson, 2005). For example, Tylka and her colleagues (Augustus-Horvath & Tylka, 2009; Kozee & Tylka, 2006) have found relationships between sexual objectification and body monitoring in college age and adult women between the ages of 25 and 68, and also in samples of lesbian and heterosexual women.

Objectification theory (Fredrickson & Roberts, 1997) posits that constant monitoring of their outward physical appearance causes women to react negatively to their bodies (i.e., experience shame) and become less aware of their internal bodily states, such as their emotions and their physiological cues for hunger. Research supports the association between body surveillance and the experience of body shame (Augustus-Horvath & Tylka, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Mercurio & Landry, 2008; Moradi et al., 2005; Phillips, 2010; Tylka & Sabik, 2010), as well as lower levels of internal bodily awareness (Augustus-Horvath & Tylka, 2009; Downs, James, & Cowan, 2006; Kozee & Tylka, 2006). For example,
college women who monitored their bodies reported high levels of body shame (Tylka & Sabik, 2010). Further, Augustus-Horvath and Tylka (2009) found that both younger (ages 18-25) and older (older than 25) women who endorsed higher levels of body surveillance also reported higher body shame and less awareness of internal bodily states, which included emotions and physical aspects of hunger.

In turn, body shame and lowered internal awareness have been hypothesized to increase women’s risk for experiencing eating pathology (Fredrickson & Roberts, 1997). Many girls and women are motivated by their shame to modify how they look to adhere more closely to cultural standards of beauty. Unfortunately, girls and women may engage in unhealthy eating and weight related behaviors to achieve this end (Noll & Fredrickson, 1998). Further, when women’s attentional processes are directed to the monitoring of outward body appearance, they may become desensitized to internal signals of emotion and hunger/satiety and misunderstand their internal bodily reactions (Fredrickson & Roberts, 1997). Being unaware of or ignoring important bodily cues, such as hunger, satiety, or emotions, puts girls and women at increased risk for disordered eating (Garner, 1991; Pike, 1995; Tylka & Hill, 2004). For example, neglecting hunger cues may lead to restriction, ignoring satiety cues may lead to binge eating, and the inability to understand emotions may lead to eating in the absence of hunger (that is, eating in response to emotional distress).

Research has supported the effects of body shame (e.g., Augustus-Horvath & Tylka, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Moradi et al., 2005; Sanchez & Kwang, 2007; Slater & Tiggemann, 2002; Tylka & Hill, 2004) and of lowered awareness of and responsiveness to emotions and hunger/satiety cues (Augustus-Horvath & Tylka, 2009; Daubenmier, 2005; Kozee & Tylka, 2006; Tylka & Hill, 2004) on eating pathology. For
example, both sedentary and active college women who reported higher body shame also reported higher levels of disordered eating (Greenleaf & McGreer, 2006). In a sample of women aged 18 to 68 years, Augustus-Horvath and Tylka (2009) found that body shame and lower internal body awareness were direct predictors of disordered eating. Recent research, though, suggests that the effects of body shame may not only be direct to bulimic symptomatology, but mediated through lowered internal bodily awareness (Phillips, 2010). That is, women who are ashamed of their bodies may be so consumed by those feelings that they do not have the psychological resources to attend adequately to their internal experience. As a result their ability to monitor and respond to signals of hunger and satiety as well as to understand their emotional experiences is dampened. Once their ability to monitor, understand and respond to internal states has been compromised, the likelihood that their eating behaviors will be less intuitive and more reactive is increased. Thus, these women may not be aware of or trusting in their internal physiological and emotional states and end up eating for reasons other than to satisfy a physiological need.

Revised Objectification Theory

In their review of available research on the objectification constructs proposed by Fredrickson and Roberts (1997), Moradi and Huang (2008) found considerable empirical support for the original model, but also proposed certain extensions. They suggested that sexual objectification would lead not only to body surveillance, but also to internalization of cultural ideals about body, appearance, and sexuality. They viewed internalization as an essential outcome of women’s socialization experiences and argued that it needed to be incorporated into objectification theory to better understand the development of eating pathology and the experience of negative body emotions. Given the strong empirical support for the connection
between internalization of cultural beauty standards and variables such as body surveillance, body shame, and eating pathology (Calogero, Davis, & Thompson, 2005; Morry & Staska, 2001; Sinclair, 2006; Myers & Crowther, 2007), internalization of cultural standards of beauty may serve as another avenue (in conjunction with body surveillance) through which sexual objectification (and other similar socialization experiences) leads to negative body reactions (i.e., body shame and lowered internal bodily awareness).

In 2010, Moradi expanded Moradi and Huang’s (2008) model by acknowledging the importance of other socialization processes, in particular the pressures girls and women experience about weight, appearance, dieting, body shape and what it means to be feminine in today’s society. Similar to the sociocultural perspective, Moradi (2010) argued that girls and women are exposed to the idea that being feminine means adopting certain self-beliefs, ideals, emotions, and behaviors. Directly and indirectly, girls are pressured from family, peers, and the media to meet specific societal criteria for beauty, and are validated and rewarded (e.g., increased social and dating opportunities or verbal affirmation) through these same sources when they approximate the ideal (Morry & Staska, 2001). Ultimately, through this socialization process, girls learn that their worth and value is based on other’s evaluations of them as being thin and attractive and adhering to society’s tenets of how a women should behave (Striegel-Moore, 1995).

Another important extension to objectification theory was the re-conceptualization of the objectification process (Moradi, 2010). Though objectification theory originally suggested that self-objectification, operationalized through body surveillance, mediated the effects of sexual objectification on the development of body shame, and ultimately disordered eating, the revised model posits that objectification is more complex and also involves the internalization of societal
ideals about beauty and appearance and reactions to internalized objectification. Socialization experiences, which include the experience of societal pressures about weight and body shape as well as the sexualization of women’s bodies, are expected to lead many girls and women to not only monitor their bodies, but also to internalize these messages such that they develop a societally-based self-schema through which they evaluate their bodies, appearance, worth, self, and behaviors (Moradi, 2010; Moradi & Huang, 2008). Through the combined processes of body surveillance and internalization, women may experience negative emotions regarding their body and appearance, specifically shame. These negative emotions are hypothesized to contribute to women becoming disconnected from their inner experience and having lowered internal bodily awareness, which is defined as insensitivity to or lack of awareness about cues related to hunger, satiety, and emotion. Ultimately, body shame and lowered internal bodily awareness put women at risk for developing eating pathology, as proposed in the original objectification model (Fredrickson & Roberts, 1997) and has been supported in research (e.g., Augustus-Horvath & Tylka, 2009; Daubenmier, 2005; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Moradi et al., 2005; Sanchez & Kwang, 2007; Slater & Tiggemann, 2002; Tylka & Hill, 2004).

Current Study

The two original approaches – sociocultural perspective and original objectification - have been supported empirically, as have all the elements of the third integrated model (e.g., Augustus-Horvath & Tylka, 2009; Fitzsimmons-Craft et al., 2012; Kozee & Tylka, 2006; Moradi et al., 2005; Phillips, 2010; Stice, 2002). Each model offers a theoretically sound, empirically validated approach for understanding the development of eating pathology among girls and women. Yet, to date, no one study has compared the three models to determine their relative utility in explaining bulimic symptomatology amongst adult women. Do the original, and more
basic, sociocultural and objectification models sufficiently explain the development of eating pathology or is the more complex revised objectification model better? What is the relative utility of the two different socialization processes – societal pressures and sexual objectification – in explaining which women become dissatisfied with or ashamed of their bodies? Are both internalization and body monitoring needed as different processes or do they play similar roles as indicators of the level at which socialization experiences affect women? Addressing such questions would be an important next step in this line of research. Therefore, the current study empirically tested a model representing the sociocultural perspective (Striegel-Moore et al., 1986), the original model of objectification theory (Fredrickson & Roberts, 1997), and Moradi’s (2010) revised objectification model within a single sample of adult women to examine their relative efficacy in explaining the relationships amongst the constructs and the prediction of bulimic symptomatology. Based on previous research (e.g., Moradi et al., 2005; Philips, 2010; Striegel-Moore & Bulik, 2007) and Moradi’s (2010) model of objectification theory, the following hypotheses are proposed for the current study:

1. Within the sociocultural model (Stice, 1994; Striegel-Moore et al., 1986), I hypothesize that higher levels of sociocultural pressures will be associated with greater internalization of the thin idea, lowered body satisfaction, and greater bulimic symptomatology. Greater internalization will be related to lower body satisfaction and finally lower body satisfaction will be related to higher levels of bulimic symptomatology.

2. For the original objectification model (Fredrickson & Roberts, 1997), I hypothesize that higher levels of sexual objectification will be related to higher levels of body surveillance, which in turn will be associated with increased body shame. Finally,
increased body shame will be associated with decreased internal bodily awareness and these two variables will be related to higher levels of bulimic symptomatology.

3. In the revised objectification model (Moradi, 2010), I hypothesize that higher levels of societal pressure from family, peers, and the media to meet cultural standards of beauty will be associated with greater internalization of the thin-ideal and greater body surveillance. Higher levels of sexual objectification also will be related to greater body surveillance. Higher levels of internalization and of body surveillance will be related to increased body shame. Higher levels of body shame will be related to decreased internal bodily awareness and higher levels of bulimic symptoms. Finally decreased internal bodily awareness will also be associated with higher levels of bulimic symptoms.

4. Although each model will explain a significant proportion of the variance in the bulimic symptomatology construct, I expect that the revised objectification model will have the strongest relationships amongst the constructs and will provide the greatest depth of information to the disordered eating description, as compared to the other two models.
METHOD

Participants

Female undergraduates ($N = 682$) from a large, public university located in the southwestern section of the U.S. participated. Their mean age was 20.22 years ($SD = 1.66$); mean self-report and ideal body mass indexes (BMIs) were 23.92 kg/m² ($SD = 5.31$) and 21.28 kg/m² ($SD = 2.65$), respectively. For academic status, 29.0% ($n = 198$) were first year students, 23.0% ($n = 157$) sophomores, 26.2% ($n = 179$) juniors, and 21.7% ($n = 148$) seniors. Regarding race/ethnicity, 56.6% ($n = 386$) were White, non-Hispanic, 14.8% ($n = 101$) Black, non-Hispanic, 15.0% ($n = 102$) Hispanic, 0.7% ($n = 5$) American Indian, and 7.3% ($n = 50$) Asian American; 5.6% ($n = 38$) specified “Other.”

Of the participants, 2.3% ($n = 16$) reported a previous diagnosis of anorexia nervosa, 1.9% ($n = 13$) reported a previous diagnosis of bulimia nervosa, and 1.2% ($n = 8$) reported a previous eating disorder not otherwise specified diagnosis (EDNOS). One participant specified that she maintains a current diagnosis of EDNOS, though all others indicated that they were at least a year out from the time of their diagnosis. Finally, just over one-third (37.5%) of the women reported satisfaction with their current weight, whereas the remaining 62.5% said they were dissatisfied.

Instruments

Demographics. A brief demographics questionnaire designed by the researcher was used to obtain information about age, race/ethnicity, and year in school, as well as information concerning height, weight, ideal weight, satisfaction with current weight (i.e., “Are you satisfied with your current weight?”), and eating disorder history (i.e., “Have you ever been diagnosed or treated for anorexia nervosa? Bulimia nervosa? Other eating disorder? If yes, when?”).
 Sexual objectification. The 15-item Interpersonal Sexual Objectification Scale (ISOS; Kozee, Tylka, Augustus-Horvath, & Denchik, 2007) measures the extent to which women have experienced interpersonal sexual objectification in the areas of body evaluation and unwanted explicit sexual advances. Participants rate items, such as “How often have you overheard inappropriate sexual comments made about your body?,” using a 5-point scale that ranges from 1, never to 5, almost always. Total score is the mean; higher scores indicate greater sexual objectification. In a sample of college women, Kozee et al., reported internal consistency (Cronbach’s alpha) and 3-week test-retest reliabilities of .91 and .84, respectively. Cronbach’s alpha for the present study was .90. They also found significant correlations between the ISOS and sexist degradation (r = .55), sexist treatment in relationships (r = .39) and at work and school (r = .35); the scale was minimally related to measures of social desirability (r’s ranged from -.15 to .05).

 Social pressures. The 16-item Perceived Sociocultural Pressures Scale (PSPS; Stice & Bearman, 2001) measures perceived pressure in four areas: 1) have a thin body, 2) lose weight, 3) have the perfect body, and 4) diet. Using a 5-point scale that ranges from 1, never, to 5, always, participants rate the pressure they perceive in each of these areas across four different sources – family, female friends, romantic partners, and the media. A total score for each type of pressure (e.g., have a thin body) is calculated and is the mean of the four different sources. Higher scores indicate greater perceived pressures in that area. In two separate studies with female undergraduates, Anderson et al. (2011) and Phillips (2010) reported Cronbach’s alphas of .75 to .80 (thin body), .73 to .78 (lose weight), .86 (perfect body), and .82 (dieting). Cronbach’s alphas for the current study were .79 (thin body), .77 (lose weight), .78 (perfect body), and .81 (dieting). Anderson et al. (2011) also reported correlations between the 4 pressures and body
satisfaction ($r$'s = -.35 to -.45), bulimic symptomatology ($r$'s = .36 to .48), and internalization of societal messages about beauty ($r$'s = .48 to .59).

**Internalization.** The 19-item Beliefs About Attractiveness Scale-Revised (BAAR; Petrie, Rogers, Johnson, & Diehl, 1996) measures women’s endorsement of western societal values of attractiveness and beauty along two dimensions: Importance of Being Physically Fit (9 items) and Importance of Being Attractive/Thin (10 items). On items such as “Attractive women are smarter than unattractive women,” participants rate their level of agreement on a 7-point scale, ranging from 1, *strongly disagree*, to 7, *strongly agree*. Total scores are the mean for each factor; higher scores indicate greater endorsement. Phillips (2010) reported Cronbach’s alphas of .87 (Physically Fit) and .90 (Attractive/Thin) with a sample of undergraduate women; Cronbach’s alpha for the current study was .85 (Physically Fit) and 89 (Attractive/Thin). Phillips (2010) also found that the BAAR factors correlated significantly with the Bulimia Test Revised ($r$’s = .31 to .49; Thelen, Mintz, & Vander Wal, 1996), the Body Shame Scale ($r$’s = .26 to .36; Tripp & Petrie, 2001), and the body shame subscale of the Objectified Body Consciousness Scale ($r$’s = .33 to .51; McKinley & Hyde, 1996), providing support for its validity.

**Body surveillance.** The 8-item Body Surveillance subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) measures the extent to which women monitor their appearance, how much women think about how they look (rather than how they feel), and the degree to which women look at their bodies from an observer’s perspective. On items such as “During the day, I think about how I look many times,” participants rate their level of agreement on a 7-point scale, ranging from 1, *strongly disagree*, to 7, *strongly agree*. Total score is the mean; higher scores indicate a higher level of body surveillance. In a sample of college women, McKinley and Hyde (1996) reported a Cronbach’s alpha of .89 and a 2-week
test-retest reliability of .79; Cronbach’s alpha for the present study was .81. McKinley and Hyde also provided support for the scale’s construct validity through positive correlations with public self-consciousness \((r = .73)\) and with a scale that measures behavioral and cognitive components of appearance concern \((r = .64)\).

**Body shame.** The 8-item Body Shame subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) measures the extent to which individuals feel inadequate or shameful when cultural standards of bodily appearance are not met. On items such as “When I’m not the size I think I should be, I feel ashamed,” participants rate their level of agreement on a 7-point scale, ranging from 1, *strongly disagree*, to 7, *strongly agree*. Total score is the mean; higher scores indicate greater body shame. Tylka and Sabik (2010) reported a Cronbach’s alpha of .84 in a sample of undergraduate women; Cronbach’s alpha for the present study was .83. In support of its validity, the Body Shame subscale was related to measures of body surveillance \((r = .66)\), appearance control beliefs \((r = .23)\), and body esteem \((r = -.39)\) (McKinley & Hyde, 1996).

A 4-item questionnaire (Tripp & Petrie, 2001) measures subjective experiences of body shame. On items such as “I try to hide my body because I am ashamed of it,” participants rate their level of agreement on a 5-point scale, ranging from 1, *definitely disagree*, to 5, *definitely agree*. Total score is the mean; higher scores indicate greater feelings of bodily shame. Tripp and Petrie (2001) reported a Cronbach’s alpha of .90 for a sample of undergraduate women; Cronbach’s alpha for the present study was .89. They also found that the scale was related to the Multidimensional Body-Self Relations Questionnaire Appearance Evaluation Factor \((r = -.71;\) Cash, 1994), Revised Restraint Scale’s Weight Fluctuation Factor \((r = .42)\) and Concern for Dieting Factor \((r = .55;\) Herman & Polivy, 1980), Body Parts Satisfaction Scale Revised \((r = -\)
.59; Petrie, Tripp, & Harvey, 2002), and the Body Shape Questionnaire \((r = .75;\) Cooper, Taylor, Cooper, & Fairburn, 1987).

**Body satisfaction.** The 7-item Body Factor from the Body Parts Satisfaction Scale-Revised (BPSS-R; Petrie, Tripp, & Harvey, 2002) measures level of satisfaction with body size and shape based on ratings of specific body parts (e.g., stomach, upper thighs, and buttock). For each body part, participants indicate their level of satisfaction using a 6-point scale, ranging from 1, *extremely dissatisfied*, to 6, *extremely satisfied*. Total score is the mean; higher scores indicate greater body satisfaction. In a sample of college women, Petrie et al. (2002) reported a Cronbach’s alpha of .90, and found that the factor was related significantly to the original Body Parts Satisfaction Scale \((r = .81;\) Berscheid, Walster, & Bohrnstedt, 1973) and to body image disturbance \((r = -.75)\) as measured by the Body Shape Questionnaire (Cooper et al., 1987). Cronbach’s alpha for the current study was .90.

The “overall satisfaction with size and shape of body” item from the Body Parts Satisfaction Scale-Revised (BPSS-R; Petrie et al., 2002) was used as well and rated on the same 6-point scale. Anderson et al. (2011) demonstrated that this one item was highly correlated with the BPSS-R body factor \((r’s = .80 \text{ to } .83)\), internalization of societal beauty ideal \((r’s = -.48 \text{ to } -.53)\), bulimic symptomatology \((r’s = -.47 \text{ to } -.67)\) and dietary restraint \((r’s = -.50 \text{ to } -.51)\).

The 7-item Appearance Evaluation subscale of the Multidimensional Body Self-Relations Questionnaire (MBSRQ-AE; Cash, Winstead, & Janda., 1986) measures appearance satisfaction. On items such as “I like my looks just the way they are,” participants indicate the extent of their agreement on a 5-point scale, ranging from 1, *definitely disagree*, to 5, *definitely agree*. Total score is the mean; higher scores indicate more positive appearance evaluation. In a sample of women, Cash (1994) reported a Cronbach’s alpha of .90 and a two-week test re-test reliability of
Cronbach’s alpha for the current study was .91. Petrie et al. (1996) found that the scale correlated significantly with bulimic symptomatology \((r = -.49)\), self-esteem \((r = .46)\), depression \((r = -.29)\), and concern with body shape \((r = -.64)\).

**Internal bodily awareness.** The 10-item Interoceptive Awareness subscale of the Eating Disorder Inventory-2 (EDI-2; Garner, 1991) measures the lack of awareness and confusion in recognizing internal emotional states as well as feelings of hunger and satiety. On items such as “When I am upset, I don’t know if I am sad, frightened, or angry,” individuals rate the extent to which the item is true for them on a 6-point scale, ranging from 1, *never true of me,* to 6, *always true of me* (e.g., Kozee & Tylka, 2006). Total score is the sum; higher scores indicate lower internal bodily awareness. Kozee and Tylka (2006) reported Cronbach’s alphas that ranged from .81 to .85 in a sample of undergraduate and lesbian adult women; Cronbach’s alpha for the current study was .88. Garner (1991) reported a correlation of .51 between client’s self-reports and therapists ratings for internal awareness, which supports the concurrent validity of the subscale. Further, in a clinical sample of adult women, Garner (1991) found a relationship between the Internal Awareness subscale and the Eating Attitudes Test \((r = .51;\) Garner, Olmstead, Bohr & Garfinkel, 1982) and the Hopkins Symptom Checklist \((r = .66;\) Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974).

**Disordered eating.** The 36-item Bulimia Test-Revised (BULIT-R; Thelen, Mintz, & Vander-Wal, 1996) assesses behaviors and attitudes associated with bulimic symptomatology as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994). On the 28 scored items, including “I am obsessed with the size and shape of my body,” participants respond using a 5-point scale, ranging from 1, an *absence of difficulties,* to 5, *extreme difficulties.* Total score is the sum; higher scores indicate greater
endorsement of bulimic behaviors and attitudes. Thelen et al. (1996) reported a Cronbach’s alpha of .98 in a sample of undergraduate women controls and bulimic women; Cronbach’s alpha for the current study was .94. In a sample of undergraduate women, Brelsford, Hummel, and Barrios (1992) reported a 4- to 6-week test-retest reliability of .83. Thelen et al. (1996) demonstrated that the BULIT-R correctly identified individuals with a DSM-IV criterion based diagnosis of bulimia nervosa 91% of the time, and correctly identified individuals without bulimia nervosa 98% of the time. They also reported a strong relationship between BULIT-R scores and group membership ($r = .73$) for a sample of female undergraduates and women seeking treatment for bulimia nervosa, providing support for the scales validity.

**Social desirability.** The 12-item Marlowe-Crowne Social Desirability Scale Form B (SDS-B; Reynolds, 1982) measures the degree to which individuals respond in a socially desirable way. Participants respond to items such as “no matter who I am talking to, I am always a good listener,” by indicating true or false; total score is the number of items endorsed in a socially desirable way and can range from 0, low, to 12, high. The SDS-B yielded a Kuder-Richardson-20 (KR-20) coefficient of .75 in a sample of undergraduate men and women; KR-20 for the present study was .66. The SDS-B is strongly correlated with the 33-item standard version of the Marlowe-Crowne Social Desirability Scale ($r = .92$; Crowne & Marlowe, 1960), and moderately correlated with the Edwards Social Desirability Scale ($r = .38$; Edwards, 1957).

**Procedure**

Upon approval from the university’s internal review board (IRB), female undergraduates were recruited from psychology courses through the psychology department’s web-based research system. Once students had signed up for the study, they were directed to the secure website where they provided consent and then completed the previously described
questionnaires. The questionnaires were presented in counter-balanced order (Order 1: SDS-B, BULIT-R, PSPS, ISOS, OBCS, BAAR, BSS, EDI, and BPSS; Order 2: SDS-B, BAAR, ISOS, OBCS, BSS, EDI, BPSS, BULIT-R, and PSPS) and were expected to take approximately 30 minutes of the participants time; the demographic questionnaire always was given last. Participants were given a particular survey ordering based on when they participated; Order 1 was used for participants 1-99, 200-299, 400-499, and 600-699 and Order 2 was used for participants 100-199, 300-399, and 700-762. The women received extra credit within their psychology courses for their participation where applicable, and were given the option for entry into a drawing for one of four $50 cash prizes.
RESULTS

Data were examined for missing values and found to be either missing completely at random or at random; no item that comprised the different measures in the study had more than 1.0% of missing values. I used the expectation maximization procedure to impute values (Schlomer, Bauman, & Card, 2010). Total scores for each measure were calculated and means, standard deviation, bivariate correlations, and parameters of normality (e.g., skewness, kurtosis) determined. Skewness and kurtosis were within acceptable ranges for all measures. Internal consistency reliabilities, means, standard deviations, and correlations among all the total scores for each sample are presented in Table A.1. The correlations presented are zero-order; because the zero-order and partial correlations (when controlling for social desirability) did not differ significantly ($p > .05$), I did not control for social desirability in the subsequent SEM analyses.

For each latent variable (LV) where I had only one measured variable (i.e., sexual objectification, body-surveillance, internal bodily awareness, and bulimic symptomatology), the items for each scale were parceled to create at least two indicators (Russell, Kahn, Spoth, & Altmaier, 1998). For each measure, exploratory factor analysis was used with the entire sample to extract the single factor that each measured variable represented. Items for each measured variable (MV) were rank-ordered according to the magnitude of the factor loadings. Items were then alternately assigned to the individual parcels, from the highest to the lowest factor loading, to create equalized average loadings for each parcel on the LV. Total scores for each parcel were represented by the average of the items for that parcel. Although I initially had included multiple indicators for body shame, there was poor fit on the LV for these MVs. Thus, consistent with Tripp and Petrie (2001), I used the four items of the Body Shame Scale as separate indicators of body shame to create a stable LV for the models.
Because the purpose of the study was to examine (and then confirm) the relative fit of the three hypothesized models with the data, the participants were matched on age and body mass index (BMI) and then split into two groups: Sample A (n = 343; exploratory sample) and Sample B (n = 339; confirmatory sample). I conducted MANOVAs to compare the two groups on each set of measured variables associated with each LV. There were no significant differences between the two groups on the mean scores of any set of measured variables (p’s > .05).

The proposed models (Model A, Model B, and Model C; see Figures 1, 2, and 3) were tested using structural equation modeling (SEM). The measurement model was established using confirmatory factor analysis (CFA). Some measured variables that did not load significantly (t-value < 1.96) on the specified LV or that had high standardized residuals were dropped from the model. Once each measurement model was established, the respective structural model was tested. Because both Samples A and B had adequate univariate and multivariate normality, I used maximum likelihood (ML) estimation procedures (Weston & Gore, 2006). Overall fit was evaluated using the two-index strategy (comparative fit index [CFI], and root mean square residual [SRMR]) suggested by Hu and Bentler (1999).

Sociocultural Model (Model A)

Measurement Model A - Sample A. Initially, all the measured variables were loaded on to their respective factors, as described in the instruments section. Due to poor fit on the LVs, I dropped the SATAQ from the Internalization factor, MBSRQ-AE from the Body Satisfaction factor, and the “Be Attractive” dimension of the PSPS from the Social Pressures Related to Body Size and Appearance factor. The remaining measured variables demonstrated strong loadings on their respective LVs (see Table A.2). The four LVs were allowed to correlate and significant
factor correlations \( (p < .05) \) ranged from -.44 to -.63 and .42 to .56. The overall fit of the final measurement model was good (CFI = .97; SRMR = .034).

**Measurement Model A - Sample B.** The measurement model determined through Sample A was tested again. All LVs correlated significantly with one another \( (p's < .05) \), ranging from -.25 to -.63 and .41 to .62. The factor loadings of each measured variable on their respective LVs were significant and high (see Table A.2). Overall, the fit of the measurement model was good (CFI = .97; SRMR = .045).

**Structural Model A - Sample A.** The overall fit of Model A was good (CFI = .97; SRMR = .038); all pathways were significant and in the expected direction (see Figure A.1). Societal Pressures \( (\beta = .44) \) were related directly to Internalization, accounting for 19% of its variance. Body Satisfaction was explained by direct effects of Pressures \( (\beta = -.59) \) and Internalization \( (\beta = -.23) \), accounting for 39% of this factor’s variance. Finally, Body Satisfaction \( (\beta = -.44) \) and Societal Pressures \( (\beta = .59) \) were related directly to Bulimic Symptomatology; these variables accounted for 47% of this LV’s variance.

**Structural Model A - Sample B.** Model A was tested, and the overall fit was good (CFI = .97; SRMR = .058). All pathways were significant and in the expected direction, except for the pathway between Internalization and Body Satisfaction (see Figure A.1). Social Pressures was related directly to Internalization \( (\beta = .41) \) and explained 17% of its variance. Pressures \( (\beta = -.62) \) was directly related to Body Satisfaction, accounting for 39% of the Body Satisfaction variance. Again, Body Satisfaction \( (\beta = -.29) \) and Pressures \( (\beta = .62) \) were related directly to Bulimic Symptomatology \( (R^2 = .44) \).
Indirect effects Model A – Samples A and B. Across the two samples, Pressures were related indirectly to Body Satisfaction ($\beta = -.10, 95\% \text{ CI} [-.20, -.05]$) and Bulimic Symptomatology ($\beta = .26, 95\% \text{ CI} [.24, .46]$; and $\beta = .18, 95\% \text{ CI} [.14, .34]$).

**Original Objectification Model (Model B)**

**Measurement Model B - Sample A.** As discussed previously, I dropped OBCS Shame subscale and used the four items from the BSS for the Body Shame LV. All LVs were allowed to correlate; they ranged from -.05 to .67. The factor loadings for each MV are presented in Table A.3. The overall fit of the final measurement model was good (CFI = .99; SRMR = .038).

**Measurement Model B - Sample B.** The final measurement model from Sample A was tested in Sample B, and found to fit the data well (CFI = .98; SRMR = .039). Correlations amongst the LVs ranged from .04 to .62. Again, factor loadings were significant and high (see Table A.3).

**Structural Model B - Sample A.** The overall fit of the model was good (CFI = .98; SRMR = .066), and all pathways were significant and in the expected direction (see Figure A.2). Sexual Objectification ($\beta = .17$) was related directly to Body Surveillance, though it accounted for only 3% of the variance. Body Shame was explained by the direct effect of Body Surveillance ($\beta = .52$), accounting for 27% of this LV’s variance. Body Shame ($\beta = .59$) was directly related to Internal Bodily Awareness, explaining 35% of the variance. Finally, Body Shame ($\beta = .56$) and Internal Bodily Awareness ($\beta = .52$) were related directly to higher levels of Bulimic Symptomatology ($R^2 = .49$).

**Structural Model B - Sample B.** The overall fit of the model was good (CFI = .98; SRMR = .052), and all pathways were significant and in the expected direction, except the pathway between Sexual Objectification and Body Surveillance (see Figure A.2). Body Shame was
explained only by the direct effects of Body Surveillance (β = .45), accounting for 20% of this LVs’ variance. Body Shame (β = .45) was directly related to Internal Bodily Awareness, explaining 21% of its variance. Finally, Body Shame (β = .57) and Internal Bodily Awareness (β = .46) had direct associations with Bulimic Symptomatology ($R^2 = .49$).

**Indirect effects Model B – Samples A and B.** Across the two samples, Body Surveillance (β = .31, 95% CI [.27, .48]; and β = .20, 95% CI [.15, .31]) was indirectly related to Internal Bodily Awareness. Additionally, Body Shame (β = .31, 95% CI [.26, .47]; and β = .21, 95% CI [.18, .35]) and Body Surveillance (β = .29, 95% CI [.28, .52]; and β = .26, 95% CI [.28, .52]) were indirectly related to Bulimic Symptomatology.

**Revised Objectification Model (Model C)**

Measurement Model C - Sample A. All the measured variables were loaded on to their respective factors, as described previously. All LVs were allowed to correlate and ranged from -.05 to .67. See Table A.4 for the factor loadings and errors of the measured variable associated with each LV. The overall fit of the final measurement model was good (CFI = .97; SRMR = .039).

Measurement Model C - Sample B. The final measurement model from Sample A was tested in Sample B. Correlations amongst the LVs ranged from .02 to .62. All the measured variables loaded significantly on their respective LVs (see Table A.4) and the overall fit of the model was good (CFI = .96; SRMR = .044).

Structural Model C - Sample A. The original model had an adequate overall fit (CFI = .96; SRMR = .118), and all pathways were significant and in the expected direction (see Figure A.3). After examining the modification indices and considering existing research (Krones, Stice, Batres, & Orjada, 2005; Stice, 2002; Stice, Maxfield, & Wells, 2003; Groesz, Levine, & Murnen,
2002), I included two extra pathways to the model: Societal Pressures to Body Shame and Societal Pressures to Bulimic Symptomatology. The overall fit of the revised Model C was good (CFI = .97; SRMR = .075), and represented a significant improvement over the original Model C ($\Delta \chi^2 = 29.68, p < .001$); the two added pathways were significant and in the expected direction (see Figure A.3).

Internalization was determined directly from Pressures ($\beta = .47$), which accounted for 22% of its variance. Body Surveillance was explained by direct effects of Internalization ($\beta = .50$) and Sexual Objectification ($\beta = .16$); these variables explained 28% of the variance. Body Shame was determined directly by Pressures ($\beta = .58$), Body Surveillance ($\beta = .25$), and Internalization ($\beta = .32$); these variables accounted for 46% of the variance. Internal Bodily Awareness was explained directly by Body Shame ($\beta = .60$), accounting for 36% of its variance. Finally, Pressures ($\beta = .53$), Body Shame ($\beta = .40$) and Internal Bodily Awareness ($\beta = .39$) were directly related to Bulimic Symptomatology ($R^2 = .52$).

**Structural Model C - Sample B.** The revised model was tested and the overall fit was adequate (CFI = .95; SRMR = .079). All pathways were significant and in the expected direction except for a non-significant pathway between Sexual Objectification and Body Surveillance (see Figure A.3). Internalization was determined directly from Pressures ($\beta = .45$), which accounted for 20% of its variance. Body Surveillance ($R^2 = .21$) was explained by the direct effects of Internalization ($\beta = .45$). Body Shame was determined directly by Body Surveillance ($\beta = .27$), Pressures ($\beta = .57$), and Internalization ($\beta = .12$); these variables explained 40% of this LVs variance. Internal Bodily Awareness ($R^2 = .22$) was directly explained by Body Shame ($\beta = .47$). Finally, Pressures ($\beta = .56$), Body Shame ($\beta = .39$) and Internal Bodily Awareness ($\beta = .39$) had
direct effects on Bulimic Symptomatology ($R^2 = .53$; for a comparison of all models see Table A.5).

*Indirect effects Model C – Samples A and B.* Across the two samples, Pressures ($\beta = .15$, 95% CI[.11, .30]; and $\beta = .06$, 95% CI[.003, .15]) and Internalization ($\beta = .12$, 95% CI[.07, .23]; and $\beta = .12$, 95% CI[.06, .21]) had indirect effects on Body Shame; Pressures ($\beta = .20$, 95% CI [.14, .31]) also was related indirectly to Body Surveillance. Internalization ($\beta = .35$, 95% CI[.21, .39]; and $\beta = .06$, 95% CI[.002, .12]), Body Surveillance ($\beta = .15$, 95% CI[.08, .24]; and $\beta = .12$, 95% CI[.06, .19]), and Pressures ($\beta = .35$, 95% CI[.33, .53]; and $\beta = .27$, 95% CI[.21, .39]) had indirect effects on Internal Bodily Awareness. Finally, Internalization ($\beta = .13$, 95% CI[.08, .24]; and $\beta = .05$, 95% CI[.00, .13]), Body Surveillance ($\beta = .10$, 95% CI[.05, .19]; and $\beta = .10$, 95% CI[.06, .21]), Body Shame ($\beta = .28$, 95% CI[.21, .39]; and $\beta = .18$, 95% CI[.14, .28]), and Pressures ($\beta = .23$, 95% CI[.22, .44]; and $\beta = .22$, 95% CI[.21, .43]) were indirectly related to Bulimic Symptomatology ($R^2 = .52$).
DISCUSSION

The current study investigated three different, but related models of bulimic symptomatology that were based on the broader sociocultural theory (Stice, 1994; Striegel-Moore et al., 1986), the original objectification theory (Fredrickson & Roberts, 1997), and an integrated model of both theories based on Moradi’s (2010) extension and revision of objectification theory. Each of the three models was tested in two independent samples of female undergraduates, and as hypothesized, each provided a good to very good fit with the data. Also consistent with hypotheses, the relationships within each model were in the expected directions, with the exception of a non-significant relationship between Sexual Objectification and Body Surveillance in the original objectification and revised objectification models. Each model explained approximately 50% of the variance in bulimic symptomatology, which is consistent with what has been found in other studies that have examined disordered eating amongst college women (e.g., Tylka & Subich, 2004). With regard to the final hypothesis (i.e., which model best explained women’s bulimic symptomatology), all three models were equivalent quantitatively. Thus, from the perspective of parsimony, the sociocultural model might be considered the best. However, the strength of the predicted relations amongst the variables in each model varied. Thus, when considering the models more broadly in terms of the relations amongst the variables that comprise each one, the revised objectification model might be considered the best. Both perspectives are taken as I review my findings.

In this chapter I focus on the relations amongst the risk factors that cut across the models as opposed to discussing each model independent of the others. The beginning of each model consisted of the relationship between specific socialization experiences, such as pressures about weight and body size and/or sexually objectifying experiences, to the development of internal
processes/schemas, such as internalization of the thin ideal and/or body surveillance, (hereafter this section is referred to as Socialization to Internalization). Next each model examined the relationship between internal processes, such as internalization and/or body surveillance, and body appraisals, such as body shame or body satisfaction (hereafter referred to as Internalization to Body Appraisal). The final component of each model that is discussed is the relationship between the body appraisal variable (i.e., body satisfaction in Model A and body shame in Models B and C) to the outcome of Bulimic Symptomatology (hereafter referred to as Body Appraisal to Bulimic Outcomes).

Socialization to Internalization

The basis of all three theoretical models is the relationship of specific socialization experiences (i.e., pressures about weight and body size and/or sexually objectifying experiences) to the development of internal processes/schemas (i.e., internalization of the thin ideal and/or body surveillance). There was consistent support for the potential influence of pressures on women’s internalization across Models A and C, which is in line with previous research (e.g., Stice, 2002; Tylka & Sabich, 2004). As women experience more pressures from family, friends, and the media about weight, dieting, and appearance, they report more strongly internalizing societal standards of beauty. Such pressures are ubiquitous in U.S. society and influential in how women view themselves, their behaviors, and their bodies (Striegel-Moore & Bulik, 2007; Striegel-Moore et al., 1986). As girls go through puberty and their bodies develop, they learn about the importance of thinness and specific standards about the body from those around them. Over time, they see how society differentially treats attractive and unattractive women, and come to take on as their own these societal values about what it means to be a woman and how important body size and shape and appearance are in one’s self-evaluation. In this way, the
experience of pressures over time leads girls (and women) to internalize cultural ideas about beauty (Striegel-Moore & Bulik, 2007; Striegel-Moore et al., 1986).

The relationship between sexual objectification and body surveillance, which was examined in Models B and C, and is considered a central pathway in objectification theory (Fredrickson & Roberts, 1998; Moradi & Huang, 2008; Moradi, 2010), was significant, though weak, in one sample and non-significant in the other. Objectification theory suggests that body surveillance is the result of women being sexually objectified and, as a result of these experiences, learning that society values a sexually appealing body. Once girls and women come to understand that society places a high value on sexual attractiveness, they have a better idea as to how they can fit society’s idea of femininity and may believe that if they have sexual appeal they will have a measure of control over how others treat them. In order to gain this control they must view themselves from a third-party perspective and therefore begin to monitor their appearance so they understand what might interfere with other’s viewing them as sexually appealing (i.e., meeting the feminine standard). Research, however, has been equivocal with regard to support for the connection between sexual objectification and body surveillance; most studies have found only a small to weak relationship between the two constructs (e.g., Augustus-Horvath & Tylka, 2009; Kozee & Tylka, 2006; Kozee et al., 2007; Moradi et al., 2005). There are several explanations for why research has not consistently supported this proposed relationship.

First, there is some discrepancy between how sexual objectification initially was conceptualized (Fredrickson & Roberts, 1997) and how it has been operationalized in contemporary measures, such as the Interpersonal Sexual Objectification Scale (ISOS; Kozee et al., 2007), which was used in the current study. Fredrickson and Roberts (1997) described sexual
objectification as viewing a woman as the sum of her sexual parts rather than as a whole person. This objectification was theorized to occur through sexualized gaze directed towards women in their own interpersonal relationships, sexualized gaze in relationships portrayed in the media, and/or the media’s focus on women’s bodies and sexual parts rather than on them as whole, integrated, complex people. The Interpersonal Sexual Objectification Scale (ISOS; Kozee et al., 2007) highlights the experience of sexualized gaze within the context of girls’ and women’s personal experience with others, such as a woman being stared at by others or having other’s make sexual comments about her body. This emphasis on interpersonal objectification, however, does not fully capture Fredrickson and Roberts’ (1997) conceptualization of sexual objectification because it only focuses on the interpersonal experience element and does not include witnessing how women are treated/portrayed in the media or the generalized spotlight in western culture on women’s sexual utility rather than their whole personhood. It may be that direct objectifying experiences, such as being whistled at or having others stare at one’s sexual organs, do not necessarily communicate messages about the importance of sexual attractiveness. Instead, as originally theorized, these messages about the ultimate importance of the body as a sexual object are learned through general experiences with and messages about how women are expected to behave, how society views them (e.g., not as intelligent, capable people), and how others interact with them in social situations (e.g., sexualized). So, the lack of relationship between sexual and self-objectification (i.e., body surveillance) may be due to how sexual objectification has been conceptualized and measured.

Second, stronger support for the relationship between sexual objectification and body surveillance has been found in experimental studies (e.g., Harper & Tiggesmann, 2008) than in studies that have used self-report measures (e.g., the ISOS). When asked about sexual
objectification via self-report measures, women may not accurately appraise their experience as sexual objectification due to the typicality of the events that they are being asked to report on and/or due to potential problems with memory recall inherent in self-report. That is, the self-report questionnaires may not fully prompt and/or capture the extent of the experience of women’s sexual objectification. When objectifying experiences are experimentally induced, however, their salience is not in question and women have been found to report higher levels of body monitoring as a result (e.g., Fredrickson et al., 1998; Harper & Tiggemann, 2008). For example, undergraduate women who viewed advertisements spotlighting women who meet the thin ideal reported significantly greater body surveillance than those who viewed control advertisements that did not include thin ideal women (Harper & Tiggemann, 2008). Experimental manipulation, because of its immediacy and salience, and thus the minimization of recall problems or attentional biases, may more accurately induce the objectification experience in women that leads to the self-objectification processes.

Third, the findings in Model C suggest that other constructs, such as the experience and internalization of societal pressures about body, weight, and appearance, may better explain the presence of women’s self-monitoring behaviors. In this model, internalization, with indirect effects from pressures, increased the variance accounted for in body surveillance by 20-25% over that explained just by sexual objectification. This finding is consistent with previous research that has supported Internalization of the thin ideal as not only a precursor to body surveillant behaviors (e.g., Augustus-Horvath & Tylka, 2009; Moradi et al., 2005; Phillips 2010), but also as a mediator of the relationship between pressures about weight and body size and body monitoring (e.g., Calogero & Thompson, 2009; Fitzsimmons-Craft et al., 2012; Myers & Crowther, 2007). When girls and women perceive great pressure from important others that they
need to be thinner, have a perfect body, or go on a diet and subsequently adopt these pressures as
their own way, they have created a rigid set of standards by which to evaluate their physical
appearance. Such deeply engrained standards likely will result in body monitoring behavior; that
is, girls and women will compare themselves to others as well as this internalized standard to
evaluate their current level of attractiveness and the acceptability of their current body size and
shape. Such a process involves consistently monitoring ones looks and comparing that to the
internal and external standards.

Internalization to Body Appraisal

Central to each model was the relationship between internal processes, such as
internalization and/or body surveillance, and body appraisals, such as body shame or body
satisfaction. In Model A, the relationship between internalization and body satisfaction was only
significant in one sample and weaker in that sample than has been found in meta-analyses of
longitudinal and experimental studies (e.g., Stice 2002). This inconsistency may be due to the
strong direct influence of social pressures on body dissatisfaction, which lessens the effect of
internalization. In Models B and C body surveillance was significantly related to greater body
shame, which is consistent with past research findings (e.g., Augustus-Horvath & Tylka, 2009;
Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Mercurio & Landry, 2008; Moradi et al.,
2005; Phillips, 2010; Tylka & Sabik, 2010). For example, Moradi et al. (2005) found that body
monitoring behaviors accounted for higher levels of body shame in undergraduate women.
Greater habitual body monitoring, or increased time spent checking the body for potential flaws,
raises awareness of the outward appearance and likely increases the chances of finding
something that is inconsistent with sexual appealing characteristics. Over time the practice of
checking the body for imperfections or ways that the body is not sexually appealing can cause
the woman to accrue perceived flaws and be ashamed that her body is so discrepant from the sexually appealing appearance that is deemed feminine by society.

Body Shame appears to not only be influenced by body monitoring but also by the extent to which women have internalized societal appearance ideals (e.g., Augustus-Horvath & Tylka, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Mercurio & Landry, 2008; Moradi et al., 2005; Phillips, 2010; Tylka & Sabik, 2010). In a similar study, Moradi et al. (2005) found that internalization of the thin ideal accounted for higher levels of body shame in undergraduate women. The reality is that the majority of women will not match societal standards for a perfect body once they have gone through puberty (Stice, 1994). Adopting cultural norms for beauty as the standard for comparison can cause women to feel shame when they fall short of these body and appearance standards. In fact, it is through such social comparative processes, in which women judge their own bodies in relation to the internalized societal ideal, that they determine how closely they do (or most likely do not) measure up (Stice, 2001). As women begin to evaluate their bodies more regularly, constantly monitoring how they look in comparison to societal ideals, they may experience dissatisfaction with the size and shape of their bodies as well as feel shame over their physical shortcomings.

Pressures also are related to the appearance evaluations women make, including both dissatisfaction and shame, which confirms findings from past studies (e.g., Krones et al., 2005; Groesz, Levine, & Murnen, 2002; Phillips, 2010; Stice, Maxfield, & Wells, 2003). For example, in a sample of undergraduate women, those women who perceived greater pressure from their friends, families, and the media also reported greater body dissatisfaction (Krones et al., 2005). Although pressures’ effects may be indirect through the development of internalization, my findings also suggest they are related directly to women’s experience of body shame and
dissatisfaction, perhaps because of the importance placed on fitting in and meeting the expectations of others. In Western cultures, women, more so than men, tend to be strongly influenced by the spoken and modeled beliefs of their peer groups and families (Cross, 2009; Gore & Cross, 2006). For women, pressures from family, friends, partners, and the media emphasizing the importance of being thin, dieting, losing weight, and having a perfect body are therefore influential in how they view and interact with their world. These strong beliefs about the body communicated by important others and the media may be enough for girls and women to feel shame or dissatisfaction without personally internalizing the societal messages about beauty and appearance due to the ubiquity of these societal ideals. And, the more women are exposed to these pressures, the more opportunity they have to compare themselves to the ideal suggested by the pressures and the more likely they are to evaluate themselves in relation to it. My findings indicate that the societal metric of beauty does not have to be internalized to affect women’s body evaluations, rather women just have to experience it consistently.

Model C, which includes pressures, internalization, and body surveillance, appears to offer the most comprehensive and sophisticated explanation regarding the development of body shame. The more pressure women perceive from important others and the culture at large about being thin, dieting, having a perfect body, and/or losing weight, the more they appear to internalize those pressures as their own, forming a self-schema about beauty. In turn, higher levels of internalization may lead to more appearance monitoring to ensure that the women are adhering to these internalized standards. Finally, greater frequency of monitoring may cause women to experience more body shame as they are inevitably going to find that their current body and appearance fall short of the ideals, whether internalized as a self-schema or simply
omnipresent in society. It is likely, too, that these three variables interact reciprocally, which is a
question for future research.

**Body Appraisal to Bulimic Outcomes**

The final component of each model was the relationship between the body appraisal
variable (i.e., body satisfaction in Model A and body shame in Models B and C) to the outcome
of bulimic symptomatology. In Model A, body satisfaction was modeled directly to bulimic
symptomatology, whereas in Model B and C the effects of body shame were both direct and
through internal bodily awareness. Finally, Models A and C both included direct effects from
pressures to bulimic symptomatology, unrelated to the body appraisal variable.

In all three models, the relationship between the body appraisal variable and bulimic
symptomatology was significant; lower body satisfaction or more body shame was related
directly to bulimic symptomatology as found in past research (e.g., Augustus-Horvath & Tylka,
2009; Moradi & Huang, 2008; Lokken et al., 2008; McKnight Investigators, 2003; Stice, 2002).
In fact, shame and dissatisfaction are two primary precursors in the development of eating
disorders (Moradi & Huang, 2008; Stice, 2002). Women who have a high level of body
dissatisfaction or body shame are more motivated to change their bodies to adhere to the cultural
beauty ideal than are women who are comfortable and confident with their body size and shape.
When women believe their bodies are discrepant from the societal standards, whether
internalized or not, their level of dissatisfaction and/or shame will likely increase and create a
psychological drive to change appearance. Women who are highly ashamed or discontent with
their bodies may believe that highly restrictive diets and/or excessive exercise are the primary
ways for them to achieve the societal ideal (Stice, 2001). As highly dissatisfied or ashamed
women begin to exercise excessively and/or restrict food intake or attempt fad diets, they set
themselves up to binge eat when their physiology overcomes their cognitive restraint. Binges can actually increase their shame and dissatisfaction because they not only do not look the way they wish, but they may feel a personal sense of failure due to inability to “succeed” in weight loss attempts (Stice, 1994). These feelings and beliefs can lead to other more extreme forms of compensation, such as vomiting, laxatives, and/or diuretics. In this way, higher levels of discontent and shame may lead women to engage in dieting behaviors that turn into dangerous eating patterns (i.e., bulimic symptomatology).

In addition to dissatisfaction and shame, the women’s awareness of their internal bodily processes, such as their emotions and hunger and satiety, was related directly to bulimic symptomatology (e.g., Augustus-Horvath & Tylka, 2009; Daubenmier, 2005; Kozee & Tylka, 2006; Phillips, 2010; Tylka & Hill, 2004). Women who monitored their body experienced more body shame, which in turn was related to greater difficulties understanding internal bodily states. Greater shame about the body and less ability to understand internal bodily states helped explain the extent to which they reported bulimic symptoms. Women who have greater shame about their appearance are highly attentive to the outward state of their body, as they are selectively attending to the aspect of self that is causing them distress. The consequence of this selective focus may be a lack of emotional and cognitive resources available to attend to and understand what is going on with the body internally; that is, they may not be able to fully listen to or understand internal states such as how they are feeling and whether or not they are hungry. Inability to understand emotions can lead many women to eat in response to (or to suppress) negative feelings (e.g., sadness) and can lead to bingeing, just as disruption of hunger and satiety signals can cause binge eating due to not understanding when one is full. No matter what leads to bingeing, many women deal with the experience of over-eating by engaging in unhealthy
compensatory behaviors (e.g., laxative use, vomiting, and excessive exercise) and this can lead to a binge/purge cycle when the same risk factors for another binge continue to be present. In this way body shame contributes to bulimic symptomatology by lowering women’s awareness of their internal bodily states and emotional reactions.

In addition to its indirect effects through internalization, body shame or satisfaction, the experience of societal pressures about body, appearance, and eating was associated directly with higher levels of bulimic symptomatology. Although past studies generally have not examined this connection, Anderson et al. (2011) did find pressures from the sport environment about appearance and weight to be related directly to self-reported dietary restraint among female collegiate gymnasts and swimmers. As aforementioned, many women are highly susceptible to the opinions and beliefs of others (Cross, 2009; Gore & Cross, 2006). Women who believe that the opinions and behaviors of others are more important than their own may not necessarily need to experience discontent with their body to engage in pathological eating behaviors or hold pathogenic attitudes. They only may need the important others in their lives to communicate the need for change or the unacceptability of their bodies to begin unhealthy eating and weight control behaviors. Thus, with the experience of pressures that women should lose weight or be thin comes a greater likelihood that they will engage in weight loss behaviors, however inappropriate or dangerous.

Summary

The results of the model comparisons can be considered from both an outcome and process perspective, and each perspective offers a different way of interpreting the findings. From an outcome perspective, all three models explained an adequate and similar amount of variance in bulimic symptomatology (~ 50%; ranging from 44% to 53%). Although the revised
objectification model (Model C) demonstrated the highest amount of variance accounted for in
the outcome variable, the variance accounted for in the more simplistic sociocultural model was
not substantially lower. Therefore, when viewed from this perspective, the sociocultural model
that accounts for relatively similar variance, demonstrated the advantage, as it was also the most
parsimonious model tested.

When examining the results from a process perspective, the revised objectification
model, which integrated pieces from the other two more simplistic models, appears to provide a
more complete picture of the socialization experiences, internal processes, and body evaluation
that may contribute to women developing bulimic symptoms. It demonstrated that sexual
objectification, at least as currently measured, may not be as important as other socialization
experiences, specifically the experience and internalization of societal pressures about weight,
body, and appearance. In addition, the revised objectification model provided a more complex
picture of the relationship between internal processes and body evaluation, demonstrating that
both internal (i.e., internalization of the thin ideal and body surveillance) and external (i.e.,
sociocultural pressures) factors may contribute to negative body evaluation. Finally, this model
supported the importance of the relation between negative body appraisal and bulimic outcomes,
but also demonstrated that other factors play a role, including the perception of social pressures
about appearance and ones awareness of internal bodily states. Overall, the current study
suggests that the sociocultural model is likely the best model to parsimoniously account for
variance in bulimic symptomatology, but from a process perspective, the revised objectification
Theory model appears to provide more information about how women’s experiences within U.S.
society may culminate in disordered eating.
Limitations and Future Research

There are several limitations to the current study that warrant discussion. First as aforementioned, the ISOS, which was the measure of sexual objectification, contains only questions related to one’s personal experience of direct sexual objectification; it did not address indirect sexual objectification experienced through broader cultural messages about women as sexual objects. The construct of sexual objectification includes the element of women being immersed in a society where they are viewed primarily for their sexual utility (Fredrickson & Roberts, 1997), instead of being defined solely by specific and direct sexually objectifying experiences. Future research may want to examine other ways to measure sexual objectification that are more consistent with its theoretical conceptualization and includes questions regarding women’s exposure to a society that is sexual in nature and specifically toward women.

Second, the sample was comprised solely of female undergraduates, and though the ethnic distribution was representative of the university population from which it was drawn and consistent with past studies (e.g., Augustus-Horvath & Tylka, 2009; Kozee et al., 2007; Moradi et al., 2005), generalizability is limited to similarly educated, primarily White, non-Hispanic, young women. Future studies may want to examine large samples of women of different ages and racial/ethnic backgrounds and possibly different sexual orientations in order to broaden the applicability of the research findings. For example, previous studies have examined the development of eating disorders in Lesbian and Heterosexual women and found that there were differences amongst these women with regard to the strength of relationships between variables and frequency of experience of some of the variables, such as body surveillance and internal bodily awareness (Hill & Fischer, 2008; Kozee & Tylka, 2006). Additionally, future studies may want to test the current study’s models in elementary and middle school aged girls. Sociocultural
models in general posit that girls in Western culture are raised in a society that teaches about the importance of an attractive and sexually appealing body from a young age (Fredrickson & Roberts, 1992; Striegel-Moore & Bulik, 2007). Therefore, examining the proposed relationships in younger girls during the time in which they are learning about how U.S. society views the body would be an important step towards developing prevention programs aimed at reducing pressures in girls immediate social support or education aimed at developing healthier appraisals and reactions to those influences.

Third, all data were collected via self-report, which is subject to socially appropriate responding bias. Due to the sensitive nature of some of the questions (e.g., body shame, pathological eating behaviors), some women may not have felt comfortable answering honestly or may have minimized their own behaviors and beliefs in their responses. The way the survey was presented, however, did allow them to leave questions blank, if desired, giving them the option to skip more emotionally laden questions. And, only validated measures were used in the current study and the relationships within the models were similar in strength and direction to previous studies investigating these constructs. Further, correlations amongst the measures in the current study were not significantly different when controlling for social desirability, suggesting that socially appropriate responding was likely not a significant issue in how the women responded to the measures.

Fourth, the current study was descriptive in nature so temporal precedence amongst the variables could not be determined, nor can causal links be determined. Given that the relationships in this study, particularly in Model C, had not been tested previously, using a descriptive design was warranted (Stice, 2002). In future studies, however, researchers may want to examine the relationships prospectively to determine if body shame, for example, truly
precedes and contributes to the development of disruptions to internal processes (e.g., emotions) and of bulimic symptoms.

Finally, some of the latent constructs were defined by one parceled measure and Body Shame was represented by a four individual items. Ideally all constructs would be represented by multiple indicators to increase construct validity (Yang, 1998). Unfortunately, some proposed measured variables did not load as expected. Future research may want to investigate alternative measures that will load more consistently onto the proposed constructs.

Implications for Counseling

The results of this study have important implications for counseling interventions and possible prevention of bulimic symptomatology. The more integrated model suggests that there are many variables working in conjunction to explain how and why women may experience disordered eating. This broadened description enhances the knowledge available for psychologists to use when intervening with women who are at risk for disordered eating (e.g., college women) or who already qualify for a clinical diagnosis. For instance, therapeutic interventions may need to target the interaction of negative body evaluation and lowered ability to understand physiological and emotional cues rather than each individually. Alternatively, for women who have yet to demonstrate inappropriate eating, therapists can be aware that women who report increased pressure about their body and weight or who strongly believe that the culture’s idea of beauty is the most valuable are at greater risk for experiencing their body negatively and potentially engaging in dangerous eating behaviors. Additionally, the finding that pressures directly effects internalization, body shame, body satisfaction, and bulimic symptomatology suggests that this aspect of the woman’s experience could be important to address in settings, such as group psychotherapy. If part of the contributing factors to disordered
eating involves a deficit or negative aspect of a woman’s social support, group could be a place for her to learn new ways of interacting with others and receive other possible perspectives on her body and value. Further, the current study is congruent with previous research that has supported the use of cognitive dissonance (i.e., helping women recognize automatic reactions to messages about the thin ideal and modify subsequent behavior; Becker, Smith, Ciao, 2006) and media literacy (i.e., increasing awareness of the presence and effect of messages communicated by the media about the female body; Coughlin & Kalodner, 2006) interventions in group settings with college women. Even more broadly, the influence of Pressures in particular for these college women suggests college may be the most appropriate time to provide education about the influence of others and the media on a woman’s self-concept and subsequent behavior and encourage students to seek psychological counseling for distress related to pressures about weight and body size.

Conclusion

This study examined three different models of bulimic symptomatology development, including one that was an integration of the broader sociocultural theory and objectification theory. All three models predicted similar levels of bulimic symptomatology, but Model C, the integrated model, seems to be the most comprehensive in describing these women’s experience, as more processes were described in the development of disordered eating and the variables included were more fully explained in general. Better understanding of the full picture of eating disorder development has important implications for future research and counseling interventions.
APPENDIX A

SUPPLEMENTAL TABLES AND FIGURES
Table A.1
Descriptive Statistics and Correlations between Measured Variables in Sample A \((n = 343)\) and Sample B \((n = 339)\)

| Variable | No. Items | Sample A | | Sample B | | | | | | | |
|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|          | \(M\)     | \(SD\)   | \(\alpha\) | \(M\)     | \(SD\)   | \(\alpha\) | Range | 1       | 2       | 3       | 4       | 5       |
| 1. BSS   | 4         | 2.99     | 1.12     | .90       | 3.03     | 1.08      | .89     | 1-5     | .62**   | .42**   | .38**   | .36**   |
| 2. OBCS-S| 8         | 3.23     | 1.20     | .83       | 3.52     | 1.19      | .84     | 1-7     | .58**   | 1       | .41**   | .39**   | .30**   |
| 3. OBCS- | 4         | 4.46     | 1.09     | .66       | 4.52     | 1.10      | .70     | 1-7     | .36**   | .43**   | 1       | .69**   | .32**   |
| BS-par1  |           |          |          |           |          |           |        |         |         |         |         |         |         |
| 4. OBCS- | 4         | 4.93     | 1.07     | .63       | 4.95     | 1.12      | .69     | 1-7     | .33**   | .36**   | .71**   | 1       | .37**   |
| BS-par2  |           |          |          |           |          |           |        |         |         |         |         |         |         |
| 5. BAAR-PF| 9        | 4.54     | 1.16     | .86       | 4.62     | 1.09      | .84     | 1-7     | .24**   | .31**   | .37**   | .34**   | 1       |
| 6. BAAR-TA| 10       | 2.59     | 1.12     | .89       | 2.64     | 1.12      | .90     | 1-7     | .25**   | .41**   | .22**   | .16**   | .65**   |
| 7. EDI-2-IA-par1| 5 | 2.55 | 1.01 | .82 | 2.63 | 0.96 | .79 | 1-6 | .39** | .48** | .26** | .21** | .27** |
| 8. EDI-2-IA-par2| 5 | 2.73 | 0.93 | .76 | 2.78 | 0.89 | .75 | 1-6 | .36** | .45** | .24** | .23** | .22** |
| 9. ISOS-par1| 8 | 2.65 | 0.71 | .85 | 2.66 | 0.64 | .82 | 1-5 | .01 | .01 | .03 | .11 | .02 |
| 10. ISOS-par2| 7 | 2.17 | 0.69 | .83 | 2.17 | 0.65 | .81 | 1-5 | .07 | .06 | .04 | .02 | .09 |
| 11. PSPS-LW| 4 | 2.17 | 0.96 | .78 | 2.25 | 0.96 | .77 | 1-5 | .52** | .55** | .27** | .27** | .28** |
| 12. PSPS-TB| 4 | 2.21 | 0.98 | .79 | 2.32 | 1.00 | .79 | 1-5 | .48** | .49** | .30** | .32** | .36** |

*(table continues)*
| 1. BSS       | .33** | .51** | .51** | -.01 | -.08 | .53** | .52** | .53** | .46** | .49** | .49** | .44** |
| 2. OBCS-S    | .41** | .55** | .52** | .06  | -.01 | .59** | .55** | .60** | .46** | .50** | .65** | .53** |
| 3. OBCS-BS   | .28** | .34** | .31** | .19** | .08  | .32** | .33** | .33** | .29** | .30** | .43** | .36** |
| 4. OBCS-BS-par1 | .17** | .31** | .27** | .17** | .11  | .34** | .34** | .32** | .26** | .29** | .35** | .30** |
| 5. BAAR-PF   | .59** | .32** | .30** | .06  | -.01 | .31** | .36** | .28** | .32** | .30** | .29** | .22** |
| 6. BAAR-TA   | 1    | .31** | .33** | .01  | .01  | .28** | .32** | .30** | .31** | .31** | .34** | .25** |
| 7. EDI-2-IA-par1 | .38** | 1    | .83** | .08  | .04  | .39** | .44** | .47** | .48** | .46** | .59** | .58** |
| 8. EDI-2-IA-par2 | .33** | .81** | 1    | .03  | .04  | .36** | .38** | .44** | .43** | .41** | .50** | .49** |
| 9. ISOS-par1 | -.06 | .06   | .05** | 1    | .84** | .15** | .13*  | .16** | .11*  | .13*  | .12*  | .16** |
| 10. ISOS-par2 | .03  | .14** | .15** | .80** | 1    | .06  | .03   | .06   | .02   | .04   | .03   | .08   |
| 11. PSPS-LW  | .33** | .37** | .35** | .10  | .10  | 1    | .89** | .88** | .61** | .72** | .54** | .43** |
| 12. PSPS-TB  | .36** | .37** | .36** | .10  | .14** | .86** | 1    | .86** | .71** | .80** | .53** | .42** |

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Note. Sample A correlations are shown above the diagonal and Sample B below the diagonal. BSS = Body Shame Scale; OBCS-S = Objectified Body Consciousness Scale-Shame Subscale; OBCS-BS = Objectified Body Consciousness Scale-Body Surveillance Subscale (parcel 1 and 2); BAAR-PF = Beliefs About Attractiveness Scale-Revised, Importance of Being Physically Fit Subscale; BAAR-TA = Beliefs About Attractiveness Scale-Revised, Importance of Being Thin/Attractive Subscale; EDI-2-IA = Eating Disorders Inventory-2 Interceptive Awareness Subscale (parcel 1 and 2); ISOS = Interpersonal Sexual Objectification Scale (parcel 1 and 2); PSPS-LW = Perceived Sociocultural Pressures Scale, Pressure to Lose Weight Subscale; PSPS-TB = Perceived Sociocultural Pressures Scale, Pressure to Have a Thin Body Subscale; PSPS-D = Perceived Sociocultural Pressures Scale, Pressure to Diet Subscale; PSPS-ATT
Perceived Sociocultural Pressures Scale, Pressure to be More Attractive Subscale; PSPS-PB = Perceived Sociocultural Pressures Scale, Pressure to Have a Perfect Body Subscale; BULIT-R = Bulimia Test-Revised (parcel 1, 2, 3, and 4); SDS = Marlow-Crowne Social Desirability Scale Form B; SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire; BPSSR-B = Body Parts Satisfaction Scale Revised, Body Factor; BPSSR-OS = Body Parts Satisfaction Scale Revised, Overall Satisfaction factor; MBSRQ-AE = Multidimensional Body Self-Relations Questionnaire, Appearance Evaluation subscale; * = $p < .05$; ** = $p < .01$. 
Table A.2.

*Standardized Parameter Estimates for the Sociocultural Measurement Models (Sample A, n = 343; Sample B, n = 339)*

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*Note.* PSPS-LW = Perceived Sociocultural Pressures Scale, Pressure to Lose Weight Subscale; PSPS-TB = Perceived Sociocultural Pressures Scale, Pressure to Have a Thin Body Subscale; PSPS-D = Perceived Sociocultural Pressures Scale, Pressure to diet; PSPS-PB = Perceived Sociocultural Pressures Scale, Pressure to be have a Perfect Body Subscale; BAAR-PF = Beliefs About Attractiveness Scale- Revised, Importance of Being Physically Fit Subscale; BAAR-TA = Beliefs About Attractiveness Scale-Revised, Importance of Being Thin/Attractive Subscale; BPSSR-OS=Body Parts Satisfaction Scale, Overall Satisfaction factor; BPSSR-SI=Body Parts Satisfaction Scale, Body factor; SS = Body Shame Scale; BULIT-R = Bulimia Test-Revised (parcels 1, 2, 3, and 4).
Table A.3.

Standardized Parameter Estimates for the Original Objectification Measurement Models (Sample A, n = 343; Sample B, n = 339)

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Note. ISOS = Interpersonal Sexual Objectification Scale (parcel 1 and 2); OBCS-BS = Objectified Body Consciousness Scale- Body Surveillance Subscale (parcel 1 and 2); BSS = Body Shame Scale (Parcels 1,2,3, and 4); EDI-2-IA = Eating Disorders Inventory-2 Interoceptive Awareness Subscale (parcel 1 and 2); BULIT-R = Bulimia Test-Revised (parcel 1,2,3, and 4).
Table A.4.

*Standardized Parameter Estimates for Moradi’s Objectification Measurement Models (Sample A, n = 343; Sample B, n = 339)*

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<td>Lowered Internal Bodily Awareness</td>
<td>EDI-2-IA-par1</td>
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<td>.044</td>
<td>.892</td>
<td>.042</td>
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<tr>
<td></td>
<td>EDI-2-IA-par2</td>
<td>.872</td>
<td>.042</td>
<td>.884</td>
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Table A.4 (continue).

<table>
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<tr>
<th>Latent Variable</th>
<th>Observed Variable</th>
<th>Sample A Standardized Factor Loadings</th>
<th>Sample A Standard Error</th>
<th>Sample B Standardized Factor Loadings</th>
<th>Sample B Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulimic Symptomatology</td>
<td>BULIT-R-par1</td>
<td>.920</td>
<td>.034</td>
<td>.903</td>
<td>.033</td>
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<tr>
<td></td>
<td>BULIT-R-par2</td>
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<td>.035</td>
<td>.876</td>
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<td>BULIT-R-par3</td>
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<td>.029</td>
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<td>.028</td>
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<td></td>
<td>BULIT-R-par4</td>
<td>.912</td>
<td>.029</td>
<td>.892</td>
<td>.028</td>
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</table>

*Note. ISOS = Interpersonal Sexual Objectification Scale (parcel 1 and 2); PSPS-LW = Perceived Sociocultural Pressures Scale, Pressure to Lose Weight Subscale; PSPS-TB = Perceived Sociocultural Pressures Scale, Pressure to Have a Thin Body Subscale; PSPS-D = Perceived Sociocultural Pressures Scale, Price to diet; PSPS-PB = Perceived Sociocultural Pressures Scale, Pressure to be have a Perfect Body Subscale; BAAR-PF = Beliefs About Attractiveness Scale- Revised, Importance of Being Physically Fit Subscale; BAAR-TA = Beliefs About Attractiveness Scale-Revised, Importance of Being Thin/Attractive Subscale; OBCS-BS = Objectifieed Body Consciousness Scale- Body Surveillance Subscale (parcel 1 and 2); BSS = Body Shame Scale (Parcels 1,2,3, and 4); EDI-2-IA = Eating Disorders Inventory-2 Interceptive Awareness Subscale (parcel 1 and 2); BULIT-R = Bulimia Test-Revised (parcel 1,2,3, and 4).
Table A.5.
*Model Fit for all Models (Sample A, n = 343; Sample B, n = 339)*

<table>
<thead>
<tr>
<th>Model</th>
<th>df</th>
<th>$\chi^2$</th>
<th>CFI</th>
<th>SRMR</th>
<th>$R^2$ of outcome</th>
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<td><strong>Sociocultural Model</strong></td>
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<td>Measurement Model - Sample A</td>
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<td>.97</td>
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<td>.045</td>
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<td>.47</td>
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<tr>
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<td><strong>Original Objectification Theory</strong></td>
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<tr>
<td>Measurement Model – Sample A</td>
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<td>.98</td>
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<td>.044</td>
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</tr>
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<td>.53</td>
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</tbody>
</table>

*Note.* df = degrees of freedom; CFI = Comparative Fit Index (> .90 indicates good fit); SRMR = Standardized Root Mean Squared Residual (< .08 indicates good fit); $R^2$ of outcome = amount of variance accounted for in Bulimic Symptomatology variable
Figure A.1. Revised Model A with standardized parameter estimates and $R^2$ values for Samples A and B. Sample B values are provided in parentheses. *$p < .05$. 
Figure A.2. Model B with standardized parameter estimates and $R^2$ values for Samples A and B. Sample B values are provided in parentheses. *$p < .05$. 

$R^2 = .27$  
($R^2 = .20$)

$R^2 = .35$  
($R^2 = .21$)

$R^2 = .49$  
($R^2 = .49$)

Sexual Objectification Experiences

Body Surveillance

Body Shame

Lowered Internal Body Awareness

Bulimic Symptomology

$R^2 = .03$  
($R^2 = .01$)
Figure A.3. Model C with standardized parameter estimates and $R^2$ values for Samples A and B. Sample B values are provided in parentheses. *$p < .05$. 
APPENDIX B

CONSENT FORMS AND DEMOGRAPHICS QUESTIONNAIRE
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

**Title of Study:** Physical and Psychological Health of Undergraduate Women

**Principal Investigator:** Trent Petrie, Ph.D. University of North Texas (UNT) Department of Psychology

**Co-Investigator:** Whitney Neal, doctoral student in the University of North Texas (UNT) Department of Psychology

**Purpose of the Study:** You are being asked to participate in a research study that involves understanding the relationship between psychological and environmental variables and the health behaviors of college undergraduates.

**Study Procedures:** You will be asked to complete online questionnaires that will take about 45 minutes of your time.

**Foreseeable Risks:** The potential risks involved in this study are minimal, though you will be asked questions about your current and past physical health, psychological health, and sexual history that may be sensitive. At the end of the study, the researchers will provide you with a list of on-campus resources should you want to discuss any issues or topics that are covered during your participation in the study.

**Benefits to the Subjects or Others:** Your participation in this study will contribute to the field of psychology by allowing professionals to determine which specific factor best predict the physical and psychological health of college students.

**Compensation for Participants:** During the spring semester, if your class provides extra credit for participation you will receive one extra credit point for each half-hour of time spent participating in the study. After all participants have completed the questionnaires, you will be entered into a drawing for one of four $50.00 cash prizes.

**Procedures for Maintaining Confidentiality of Research Records:** The researcher will act to protect your confidentiality as a participant of this project. As such, you will provide no identifying information, such as your name, on the questions asked. Your responses will be identified only through code number. The only place where you will provide identifying information is on the final page at the end of the study. On that page we will request your name and email address so we may verify your participation in the study for any extra credit you may receive in conjunction with one of your classes and to notify you if you are selected as a winner.
of one of the $50.00 cash prizes. Your name and email will not be associated with the answers you provide on the questionnaires. Also, data from this study will be published or presented in aggregate form only, which means that no individual data will be disclosed.

Questions about the Study: If you have any questions about the study, you may contact Whitney Neal at telephone number (940) 565-2631 or Dr. Trent Petrie, Ph.D., UNT Department of Psychology, at telephone number (940) 565-2671.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants’ Rights: Clicking the “I Agree” button below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- The study has been explained to you and you have had the opportunity to ask questions.

-You have been told the possible benefits and the potential risks and/or discomforts of the study.

-You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel also may choose to stop your participation at any time.

-You understand why the study is being conducted and how it will be performed.

-You understand your rights as a research participant and you voluntarily consent to participate in this study.

• You have been told you may print this page to receive a copy of this form.
Debriefing Form

As a result of participating in this study, you may have learned something about yourself or your behaviors and may want additional information. Below are listed potential resources that may be helpful to you:

1. If you would like more information on eating disorders, you might contact any of the following:

   National Eating Disorders Association: [www.nationaleatingdisorders.org](http://www.nationaleatingdisorders.org)
   
   Federal source for women’s health: [www.womenshealth.gov](http://www.womenshealth.gov)
   
   To learn more about body image, healthy eating, staying active, eating disorders, and to view an online body-wise handbook: [www.4women.gov/bodyimage/index.cfm](http://www.4women.gov/bodyimage/index.cfm)

2. If you would like to learn about nutrition, you can contact:

   UNT’s Student Health & Wellness Center’s registered dietician at (940)565-2333 or email: routen@unt.edu
   
   To search for a dietician in your area: [www.findanutritionist.com](http://www.findanutritionist.com)
   
   To learn more about “steps to a healthier you” where you can learn the 2005 food pyramid guidelines and can design a pyramid-plan tailored specifically to you. Supported by the U.S. Dept of Agriculture, it offers tips, resources and dietary recommendations. [www.mypryamid.gov](http://www.mypryamid.gov)

3. If you would like to talk to someone about any thoughts or feelings that may have arisen as a result of your participation, you might consider the following options for counseling:

   UNT Texas Counseling and Testing Services located at 311 Chestnut Hall. Information about services is available at [www.unt.edu/cat](http://www.unt.edu/cat) or (940) 565-2741
   
   The Psychology Clinic, located on the UNT campus in 171 Terrill Hall. Information about services is available at [www.unt.edu/clinic/](http://www.unt.edu/clinic/) or (940)565-2631

4. If you would like to learn more about exercise and being physically healthy, you might consider contacting:

   UNT Recreation Center, located at 1900 Chestnut Dr. The UNT Recreation Center provides opportunities for fitness, physical activity and recreation. They also have fitness instructors and trainers to assist you in developing an exercise program. Information about services is available at [http://www.unt.edu/recsports/recsports/rec_center.html](http://www.unt.edu/recsports/recsports/rec_center.html) or (940)565-2275.

DEMOGRAPHICS

I. Background Information
1. Name: _______________
2. Email: _______________
3. Age: _______________
5. Current Academic Status: ___Freshman   ___Sophomore   ___Junior   ___Senior
   ___5th Year
6. Race/Ethnicity:
   _____Black, non-Hispanic
   _____American Indian
   _____Asian American/Pacific Islander
   _____White, non-Hispanic
   _____Hispanic/Latino/Mexican American
   _____Other (specify:__________________)

II. Weight History
1. Present height: ____________ feet _____________ inches
2. Present weight: _____________ pounds
   a. Length of time at current weight: ______ (months)
3. Are you satisfied with your current weight? ____ Yes    ____ No
   a. If NO, do you consider yourself to be: _____overweight _____ underweight
4. Ideal weight: _______________ pounds
5. My body frame is: _____Small    _____Medium    _____Large
6. Lowest weight in past 2 years:_______
7. Highest weight in past 2 years:_____

8. Have you ever been diagnosed or treated for:
   Anorexia Nervosa? _____ Yes _____ No (If YES, indicate when __________)
   Bulimia Nervosa? _____ Yes _____ No (If YES, indicate when __________)
   Other Eating Disorder _____ Yes _____ No
      (If YES, please indicate what disorder ________________________)

III. Menstrual History

1. Have you ever had a menstrual period? _____Yes _____No
   a. If YES, how old were you when you had your first menstrual period? _______

2. How many menstrual cycles have you had in the past 12 months? _______

3. On average, during the past 12 months, how many days have there been between your menstrual cycles? _______

4. On average, during the past 12 months, how many days do your periods (bleeding) last? _______

5. If you have taken hormone based birth control during the past 12 months, please indicate the effect it has had on your menstrual cycle.
   __________________________________________________________________________
APPENDIX C

DISSERTATION PROPOSAL
INTRODUCTION

Adolescence in Western culture is a time of physical and psychological change and challenge that includes experiences such as: developing self-identity, individuating or gaining independence from family, coping with rising achievement expectations, and establishing romantic and peer relationships (Striegel-Moore, 1995, Striegel-Moore, Silberstein, & Rodin, 1986; Tripp & Petrie, 2001). In addition to these general challenges, girls, in comparison to boys, face a unique set of stressors such as greater conflict with family, a higher level of emotional lability, more negative affect, and a greater sense of self-consciousness (Arnett, 1999; Harter, 1999; Striegel-Moore et al., 1986). They also have to balance seemingly contradictory societal messages – be independent, instrumental, high achieving, and successful, but also be traditionally feminine by appearing nonthreatening, self-denying, and relationally focused (Boskind-White, 1985; Orbach, 1985a, 1985b; Rudman & Glick, 2008; Smolak & Münstertieger, 2002; Steiner-Adair, 1986, 1988).

In navigating these socialization experiences, many girls lose touch with the sense of who they really are, what they really want in life, and how they feel, both physically and emotionally (Smolak & Münstertieger, 2002; Striegel-Moore et al., 1986; Taylor, Gilligan, & Sullivan, 1995). This lack of connection to the self increases the risk of being influenced by cultural messages about femininity, including the Western beauty ideal for women (i.e., young, thin, attractive), which is so ubiquitous that even girls at a very early age experience it and then learn to define themselves, their behaviors, and their value in relation to it (Polivy & Herman, 2004; Stice, 1994; Stice, Shaw & Nemeroff, 1998). This beauty ideal, and its connection to femininity, is perpetuated through the media (e.g., TV, magazines, movies) as well as communicated by family and friends (Fredrickson & Roberts, 1997; Morry & Staska, 2001).
Society’s praise for and the media’s frequent presentation of a thin body type as the beauty ideal, to the exclusion of other shapes and weights, presents the idea that only the slender body type is acceptable or attractive (Bartky, 1988; Markula, 1995; Wolf, 1990). In addition, overweight women, as compared to thin women, are often perceived as being weak-willed and morally impaired (Crandall, 1994) and it is not uncommon for women to use phrases such as “being good” or “sinning” when discussing eating patterns (Silberstein, Striegel-Moore, & Rodin, 1987). Thus, the thin-ideal is often viewed in Western culture as a moral, as well as physical, ideal, where the thin woman attains a measure of purity and inner strength because of her body size (Noll & Fredrickson, 1998), and where achieving a thinner, more fit body is framed as a positive change that will open the door to various opportunities for self-improvement (Markula, 1995). As a result of these ubiquitous pressures, girls and women internalize, to some degree, the visual representation of this societal body ideal. As they internalize this ideal, they compare themselves to it and, because most cannot attain it, feel upset and unhappy with their bodies and themselves (Stice, 2001). This type of negative body image can cause many women to engage in dieting and other body modification behaviors that may be precursors of more severe forms of eating pathology (Stice, 2001).

This sociocultural aspect of women’s experience that promotes adherence to rigid standards about the body has been a consistent focus of eating disorder theory development and research for the past two decades (e.g., Fredrickson & Roberts, 1997; Stice, 1994; van den Berg, Thompson, Obremzksi-Brandon, & Coovert, 2002). Objectification theory was specifically developed to explain how the socialization of women in Western culture ultimately puts girls and women at risk for developing disordered eating. Since its development, objectification theory has served as the basis for eating disorder research and many of the main pathways of the model
have been empirically supported (e.g., Augustus-Horvath & Tylka, 2009; Calogero, Davis & Thompson, 2005; Daubenmier, 2005; Koze & Tylka, 2006; McKinley, 2006; Moradi & Rottenstein, 2007; Moradi et al., 2005; Morry & Staska, 2001; Tylka & Hill, 2004). Recently, Moradi and her colleagues (Moradi, 2010; Moradi & Huang, 2008) modified the theory, expanding the model by identifying other variables to be included and suggesting other pathways among the variables to consider. However, since these changes have been proposed, no research has been done to examine the model in its entirety. Therefore, in this study, I will examine the development of eating pathology within the context of girls’ and women’s socialization experiences, using Moradi’s extended model of objectification theory (Moradi, 2010) as the guide for determining what variables to include and how the variables relate to one another.

**Original Objectification Theory**

In its initial conceptualization, objectification theory argued that it was through the socialization process that girls and women begin to self-objectify, which was viewed as a precursor to negative health outcomes (Fredrickson & Roberts, 1997). In Western society, girls are socialized within a culture that treats the female body as a sexual object, and from a young age, girls are exposed to the idea that a woman’s physical form can be separated from her other features, such as intellect, personality, relationships, and other redeeming features, as the sole determinant of her value (Fredrickson & Roberts, 1997). Repeated exposure to this sexual objectification process was thought to negatively influence girls and women, in that they too would be likely to adopt the societal perspective and view themselves as sexual objects (i.e., self-objectification). Girls’ and women’s emerging belief that their bodies defined their worth manifested itself through body monitoring, the process of constantly checking how they looked from an objective observer’s perspective. By constantly focusing on their outward physical
appearance, women would begin to react negatively to their bodies (i.e., experience shame and anxiety) and become less aware of their internal bodily states, such as emotions and cues for hunger. These two reactions were hypothesized to put women at risk for increased eating pathology (Fredrickson & Roberts, 1997).

Revisions of Objectification Theory

Recently Moradi and Huang (2008) reviewed the available literature for the constructs proposed by Fredrickson and Roberts (1997) and described empirical support for many of the connections and variables. The original model has been supported in the literature, including evidence for the constructs and configuration of sexual objectification, body surveillance, body shame, appearance anxiety, internal bodily awareness, and eating disorder symptomatology as initially proposed. Moradi and Huang’s model, therefore, used these constructs and additionally integrated internalization of cultural standards of beauty as another avenue by which sexual objectification leads to negative body reactions (i.e., body shame, appearance anxiety, and lowered internal bodily awareness). Although it was not proposed by Fredrickson and Roberts initially, the body of research on objectification suggests that internalization is a likely outcome of sexual objectification and an important predictor of negative body emotions (Moradi & Huang, 2008).

Subsequently, Moradi (2010) extended Moradi and Huang’s (2008) objectification theory model by shifting the conceptualization of the objectification process to better account for the development of eating pathology. An important expansion of the model was including other socialization processes that were thought to heighten girls’ risk, in particular the experience of perceived pressures about weight, appearance, dieting, and body shape (Moradi, 2010). From this perspective, an important part of growing up female in Western culture is being exposed to
the idea that caring about and trying to adhere to cultural standards of beauty is necessary for maintaining femininity and demonstrating personal value. Girls receive pressure from family, peers, and the media to meet societal criteria for beauty, and are told, through these same sources, about the rewards given to those who approximate the societal beauty ideal (Morry & Staska, 2001). Ultimately, through this exposure to pressures from the media and those around them, girls learn that they will be judged on the extent to which others perceive themselves as adhering to cultural standards of attractiveness (Striegel-Moore, 1995).

Another important extension to objectification theory was the re-conceptualization of the objectification process (Moradi, 2010). Though objectification theory originally suggested that self-objectification, operationalized through body monitoring, mediated the effects of sexual objectification on the development of body shame, and ultimately disordered eating, the new model posits that objectification is more complex and also involves the internalization of societal ideals about beauty and appearance. Socialization experiences, which include the experience of societal pressures about weight and body shape and the sexualization of women’s bodies, are suggested to lead many girls and women to not only begin to monitor their bodies, but also to internalize these messages such that they develop a societally-based framework through which they evaluate their bodies, appearance, worth, self, and behaviors (Moradi, 2010; Moradi & Huang, 2008). Through the combined process of internalizing society’s ideals and body monitoring, women may experience different negative body and appearance emotions, including body shame, appearance anxiety, and possibly lowered body satisfaction. These negative emotions toward the body and about appearance, in particular body shame, are hypothesized to lead women to become disconnected from their inner experience and have lowered internal bodily awareness, which is defined as insensitivity to or lack of awareness about cues related to
hunger, satiety, and emotion. Ultimately, negative body and appearance emotions and the disconnection from the internal bodily experience, put women at risk for developing eating pathology (Moradi, 2010).

In the sections that follow, I provide a more detailed description of pressures about weight and body shape and sexual objectification within the context of gender socialization, describe the internalized beliefs and behaviors resulting from these pressures, explain the influence of internalization on body and appearance emotions, and clarify how body and appearance emotions influence the inner body experience. Finally I will discuss how disconnection from and negative emotions about the body put women at risk for developing eating disorders (see Figure A.3).

**Current View of Objectification Theory**

*Socialization.* Adolescence is a time of significant physiological and psychological change. During this time girls strive to develop a personal identity, and separate from their family by developing and maintaining extra-familial relationships, such as with their peers and romantic partners (Striegel-Moore, 1995, Striegel-Moore et al., 1986; Tripp & Petrie, 2001). This critical period of identity development includes exposure to messages from all these relationships about the expectations for and characteristics associated with being a woman, essentially teaching them what it means to be feminine (Striegel-Moore, 1995). Two significant aspects of female socialization are the way in which girls learn to orient to their bodies as sexual objects (Fredrickson & Roberts, 1997) and begin to define themselves with regard to their physical appearance (Striegel-Moore, 1995).

From an early age, girls are presented with the idea that attractiveness for a woman lies not in her intelligence, personality, or abilities, but rather in her body and physical appearance
(Fredrickson & Roberts, 1997). This valuing of women for only their sexual parts or sexual functions is termed sexual objectification (Bartky, 1990), and permeates the social climate in Western culture (Fredrickson & Roberts, 1997). Essentially girls learn that part of their role as a woman and part of their female experience will be treatment as an object to be looked upon sexually and evaluated based on cultural standards of what is appealing. As a result, Fredrickson and Roberts suggested that simply becoming a woman whose body has developed to sexual maturity sets the stage for “a shared social experience, a vulnerability to sexual objectification” (p. 175).

Similarly, in Western society, concern with and efforts to enhance one’s appearance are central to the notion of being feminine (Rodin, Silberstein, & Striegel-Moore, 1984); however, some of the important physical characteristics associated with femininity (e.g., an ultra-slim body) are not attainable for most, particularly after going through puberty (Fredrickson & Roberts, 1997; Morry & Staska, 2001; Wolf, 1990). Given the centrality of appearance, girls grow up receiving messages that women who are physically attractive and thin are more feminine than unattractive or heavier women (Cash, Dawson, Davis, Bowen, & Galumbeck, 1989). This aspect of socialization is demonstrated clearly by the thin-ideal, or the expectation that girls and women are to be thin, young, and beautiful, which is ubiquitous in Western culture (Polivy & Herman, 2004; Stice, 1994; Stice et al., 1998). Pursuing a thin and attractive body affirms women’s femininity (Striegel-Moore, 1995), and girls learn through the socialization process that maintaining their femininity is contingent on their ability to meet society’s expectations about the female body (Striegel-Moore, 1995). Concurrently, as girls enter adolescence, they begin to experience multiple physiological changes (Lerner, 1987), including development of breasts, onset of menarche, decreases in the muscle to fat ratio, and increases in
the size of hips and thighs (Cross, 1993). Generally, these physical changes increase the
discrepancy between female adolescents’ bodies and the cultural thin beauty ideal (Cross, 1993)
and, as a result, may lead some adolescent girls to view negatively their maturing bodies
(Striegel-Moore, 1995).

Through the socialization process girls and women are exposed repeatedly to messages
and pressures regarding weight and physical appearance, which communicate the standards for
the female body based on the societal beauty ideal. These messages are thought to urge girls and
women to view the pursuit of the perfect body as being of prime importance and lead them to
believe that this pursuit is a natural, freely chosen part of the feminine condition (Costanzo,
1992). These societal pressures about weight and appearance generally come from the media
(i.e., TV, magazines, movies), but also may be communicated by family, peers, and romantic
partners (Fredrickson & Roberts, 1997; Morry & Staska, 2001).

Messages from the media about the necessity of women being thin are communicated
through the disproportionate representation of ultra-slender women and through advertisements
and “success” stories about weight lose (Morry & Staska, 2001). These images and messages are
of particular concern, because the media, such as books, magazines, television, and movies, is a
particularly influential source of information for the development of an adolescents’ view of self
(Garner, 1999; Jablin, 2001). In the different media outlets, such as TV and magazines, the
average weight of models and actresses has decreased significantly since the 1950’s (Morry &
Staska, 2001), to the point that they are typically much lighter than the average woman (Johnson,
Tobin, & Steinberg, 1988; Morry & Staska, 2001). For example, in an examination of Playboy
centerfolds over a nine year span (1979-1988), Wiseman, Gray, Mosimara, and Ahrens (1992)
found that the models weighed 13-19% less than the average woman. In a similar vein, Levine
and Smolak (1996) showed that fashion models are thinner than 98% of American women. The media’s presentation of the ultra slender female body, without also including women of other shapes and sizes, implies that other body types are not to be celebrated and considered worth viewing (Bartky, 1988; Markula, 1995; Wolf, 1990). For adolescent girls, who are particularly influenced by media (Jablin, 2001), this exaltation of slenderness sends the message that thinness is what is to be pursued and attained.

Another way in which the media influences girls and women’s attitudes towards weight and the shape of their bodies is by focusing on weight loss and dieting. Women’s magazines contain about 10 times as many articles or advertisements promoting weight lose than do men’s magazines (Andersen & DiDomenico, 1992), which suggests that women are exposed to messages that promote dietary restraint as a mechanism for being happy and achieving an ideal body. In addition, popular health and fitness magazines are riddled with “success” stories that emphasize women’s triumphs at losing weight and achieving a slender figure, rather than their journey to be physically healthy and active (Markula, 1995). The presence and influence of these messages could explain why girls often describe their bodies in terms of their physical appearance, rather than their physical competence or broader self-identity (Cross, 1993). The overrepresentation of slender women and messages about the necessity of dieting in the media send a strong message that the female body is malleable and efforts to improve it should be the focus for every woman (Markula, 1995).

Families also communicate messages about weight and physical appearance, particularly early in a girl’s life (Fredrickson & Roberts, 1997). This communication occurs through modeling and direct encouragement to modify the body to meet cultural standards (Pike & Rodin, 1991). For example, in one study, 83% of the women surveyed indicated that they had
modeled dieting behaviors for their daughters (Wertheim et al., 2002). In other studies, parents (17% of mothers, 15% of fathers) verbally encouraged their daughters to diet (Wertheim et al., 2002), and openly expressed their belief that their daughters should be thin or teased them about appearance and being heavy (Field et al., 2001; Keery et al., 2005). Siblings also communicate messages about physical appearance. Keery et al. (2005) reported that 29% of the girls in their sample experienced teasing about their weight from their sisters and brothers. Such modeled behaviors (e.g., dieting), teasing, and pressures to lose weight or meet a particular standard for physical appearance have a strong influence and many girls develop increased weight concerns and engage in subsequent dieting behavior as a result (Field et al., 2001; Keery, et al., 2005; Wertheim et al., 2002). These pressures from family members communicate specific appearance expectations to daughters and sisters that are not emphasized for boys (Keery et al., 2005; Wertheim, et al., 2002), and adolescent girls are left with the implicit message that they too must pursue a thin figure to be an attractive and valued woman (Wolf, 1990).

Friends and other same aged peers also can contribute to the societal pressures about body shape and weight (Fredrickson & Roberts, 1997) and what it means to be feminine (Striegel-Moore, 1995). Girls are influenced by their peers and look to them to determine what is normal. For example, when girls and women are around others who are body-dissatisfied and who restrict their food intake, they begin to engage in the same pathological behaviors and attitudes and view their behaviors as “normal” (Tiggemann & Lynch, 2001). Research has shown that there is a direct and positive relationship between friends’ use of extreme weight control behaviors and a girl’s own use of those same behaviors (Paxton et al., 1999). Similarly, Young, Clopton, and Bleckley (2004) found that peer pressure to achieve a thin body shape was a significant predictor of girls’ bingeing and use of inappropriate weight control behaviors. There
also are certain peer groups, such as cheerleading, dance, and sororities, which may have a particularly strong influence on girls’ attitudes toward their body shape and weight because of the behaviors, such as binge eating and purging, present in them (Crandall, 1988). Both general peer relationships in adolescence and particular subgroups present environments in which girls learn new behaviors and compare existing ones to other girls their age. When unhealthy practices about weight and eating are considered “normal” by peers, the idea that being feminine means being thin, defining self-worth through one’s physical appearance, and worrying about body size and shape is reinforced (Striegel-Moore, 1995).

In addition to these pressures from various sources that enhance the connection between appearance ideals and femininity, girls are immersed in a society where there are benefits and rewards inherent in adhering to societal standards of attractiveness and femininity (Fredrickson & Roberts, 1997; Striegel-Moore, 1995). When children as young as 3-5 years old were asked to pair “mean” and “nice” characters from a story with pictures of a thin and chubby child, they consistently paired the picture of the chubby child with the mean character and the picture of the thin child with the nice character, demonstrating an “anti-fat” bias (Cramer & Steinwert, 1998). Children also show a greater desire to play with thinner, as opposed to heavier, children; this preference is much stronger when children are describing their desire to interact with female, rather than male, playmates (Penny & Haddock, 2007), so girls especially learn from a young age that weight influences social interactions. Later in life, women who approximate the societal beauty ideal have many more opportunities in academics, such as increased likelihood of college acceptance (Puhl & Heuer, 2009; Wooley & Wooley, 1980), in dating and marriage (Margolin & White, 1987; Puhl & Heuer, 2009), and in the workplace (Fiske et al., 1991; Rudolph et al., 2009), than do those who are less attractive. This attractiveness “effect” appears greater for
women than for men (Puhl & Heuer, 2009), so girls and women are exposed to the idea that
greater opportunity is available for them if they are considered attractive or feminine by society
(Fredrickson & Roberts, 1997). In addition, there are cultural messages that attractive and thin
women are morally superior to unattractive or heavier women and some individuals make snap
judgments about moral character accordingly (Crandall, 1994). This moral association with the
body socializes girls to believe that having a physically attractive body can signal their goodness,
whereas a heavier body symbolizes their immorality or badness (Markula, 1995; Noll &
Fredrickson, 1998). These messages about the advantages of beauty that permeate Western
society have the potential to instill in girls and women the idea that their bodily appearance is the
key for successfully navigating many important aspects of society throughout the lifespan
(Fredrickson & Roberts, 1997).

Pressures from family, friends, and the media about the importance of physical
appearance and specific messages regarding benefits of adhering to beauty ideals are part of the
socialization process that steers girls towards a disproportionate focus on their physical
appearance (Fredrickson & Roberts, 1995; Striegel-Moore, 1995). As they develop in this type of
environment, many girls learn that their outward appearance is of prime importance in
representing them as a female to others (Fredrickson & Roberts, 1997). This belief that the body
and outward appearance is an essential piece of being female continues to be communicated to
girls as they mature and these pressures from family, friends and the media persist into adulthood
(Fredrickson & Roberts, 1995). As a result of these consistent pressures about weight and body
size and sexual objectification, both in adolescence and into adulthood, girls and women are at
risk for adopting society’s belief that the outward appearance is important in defining femininity
and worth as personally relevant (Rodin et al., 1984; Striegel-Moore & Bulik, 2007).
Internalization of beliefs and behaviors. The next step in the objectification process involves the integration of the messages and expectations about physical appearance, from socialization experiences, into personally relevant rules that govern one’s own attitudes and behaviors about the body, often called internalization (Stice, 1994; Striegel-Moore & Bulik, 2007; Thompson et al., 2004). Constant exposure to these messages about body, appearance, weight, and dieting, coupled with the idea that these appearance ideals are necessary to meet to be viewed as feminine, powerfully shape girls’ and women’s attitudes about their own bodies and femininity (Rodin et al., 1984; Striegel-Moore & Bulik, 2007). Some girls and women may focus on the rewards received by those women who have a culturally ideal body and anticipate a similar experience of power, respect, and life satisfaction if they also meet this societal standard (Nolen-Hoeksema & Girgus, 1994). Prolonged exposure to these various pressures to meet societal standards of attractiveness, especially during sensitive times like adolescence, can cause girls and women to believe that these standards are relevant to them and should dictate their value and own approach to physical appearance. In this way, girls and women turn societal standards into personal standards (Krones et al., 2005; Markula, 1995). Subsequently, they begin to judge themselves and other women through the same lens as society and attribute the societal value system to appearance (i.e., “I must be attractive and sexually appealing to be feminine, I must be thin to be attractive and sexually appealing;” Striegel-Moore, 1995).

This attitudinal acceptance of societal standards is paired with a behavioral component of internalization, referred to as body surveillance within objectification theory (Moradi, 2010), in which women begin to view themselves from an external perspective and check their bodies to determine the extent to which they are meeting societal standards (Thompson & Stice, 2001). These monitoring behaviors may develop, in part, because internalization of the thin-ideal entails
some acceptance of the idea that the female body is an object that defines a woman’s worth and should be closely scrutinized for flaws (Fredrickson & Roberts, 1997; Sinclair, 2006). When girls and women believe that their worth is represented by how they look, the importance of their physical appearance is significantly increased and they are likely to engage in constant checking of their bodies and appearance to determine if they meet society’s ideals (Fredrickson & Roberts, 1997). In this way, the behavioral component of thin-ideal internalization includes women adopting an outside observer’s stance towards their own bodies (Moradi, 2010; Moradi & Huang, 2008; Fredrickson & Roberts, 1997), causing them to disconnect from their bodies in order to observe themselves as objects.

Though the two variables are not often studied together, the relationships between perceived pressures about weight and body size, and the belief and behavioral components of internalization (i.e., internalization of the thin-ideal beliefs, body surveillance behaviors) have been supported individually in the literature (Moradi & Huang, 2008; Thompson & Stice, 2001). For example, in a sample of female undergraduates, those women who had greater awareness of media pressures to meet the thin-ideal reported more internalization (Myers & Crowther, 2007), which is consistent with other studies that have found a direct relationship between media awareness and pressure and thin-ideal internalization (Stice, 1994, 2002). Studies involving samples of undergraduate women also have shown that higher levels of perceived pressure about weight and appearance were related to greater body surveillance (e.g., Forbes, Jobe, & Revak, 2006). Similarly, Knauss, Paxton, and Alsaker (2008) found that adolescent girls who reported greater media awareness and pressure to meet societal standards of beauty reported higher levels of body monitoring behaviors and internalization of the thin ideal. Another study with adolescent girls showed that increased exposure to both the internet and television was predictive of
internalization of societal values about beauty (Tiggemann & Miller, 2010). A high degree of family pressure to be thin was related to greater internalization of the thin-ideal in young adult women (Twamley & Davis, 1999). Within middle school, those girls that reported higher levels of parental and sibling teasing about weight and body size also demonstrated higher levels of thin-ideal internalization beliefs (Keery et al., 2005).

Additionally, perceived pressures about weight and body size have been examined within the context eating disorder development, using integrated structural models. Tylka and Subich (2004) found that pressure from various sources, including family, peers, and the media, to achieve a thin body predicted unique variance in undergraduate women’s internalized attitudes about cultural standards of beauty (Tylka & Subich, 2004). Further, Phillips (2010) demonstrated that perceived pressures regarding weight, appearance, body and dieting were related individually to higher levels of body surveillance behaviors and internalization of the thin ideal in college women. Overall, pressures accounted for 20% to 36% of the variance in these two variables.

Similarly, sexual objectification has been empirically linked to internalization and body monitoring (Augustus-Horvath & Tylka, 2009; Kozee & Tylka, 2006; Kozee et al., 2007; Moradi et al., 2005). For example, Moradi et al. (2005) found that sexual objectification was related to both the belief and behavioral component of internalization in a sample of undergraduate women. These results were consistent with findings from Kozee et al. (2007), who found direct relationships between sexual objectifying experiences and body monitoring and internalization, respectively. Additionally, Augustus-Horvath and Tylka (2009) found a relationship between sexual objectification and body monitoring in both college women and women between the ages of 25 and 68. Similar results were seen with a group of lesbian women and a group of
heterosexual women, as both groups demonstrated a relationship between sexual objectification and body monitoring in a structural model, though the relationship was strongest for the heterosexual women (Kozee & Tylka, 2006).

Internalized beliefs about the thin-ideal also may influence the extent to which women engage in body surveillance behaviors. The belief that an attractive physique is what makes a woman feminine and valuable places a great deal of importance on maintaining certain aspects of the physique in order to meet social criteria; therefore, many women who internalize cultural ideas about beauty at the belief level, subsequently may begin to engage in body monitoring behavior as a means of checking their adherence to societal standards of beauty (Fredrickson & Roberts, 1997). In fact, the relationship between internalization and body surveillance has been empirically supported in previous studies. For example, in a sample of undergraduate women, Sinclair (2006) found a strong positive relationship between internalization and body surveillance. Forbes et al. (2006) obtained a similar result, reporting a positive relationship between general internalization and body surveillance in a group of college women, a large proportion of which were White/non-Hispanic. This relationship also held true in a sample of both undergraduate and community women (Morrison & Sheahan, 2009). Additionally, internalization has been shown to predict unique variance in body surveillance in both undergraduate women (Moradi et al., 2005; Myers & Crowther, 2007) and adolescent girls (Knauss et al., 2008).

Internalization of the thin ideal and body surveillance behaviors are hypothesized to result from the experience of perceived pressures about weight and body size (Moradi, 2010). These belief and behavioral components of internalization are of particular interest because they define how girls and women view, and behave toward, their bodies as objects capable of
conveying their worth to others (Fredrickson & Roberts, 1997). Although internalization of beliefs and behaviors allows girls and women to gauge their level of adherence to societal standards of beauty and femininity, the value now attached to the physical form and the hyper-vigilance about the body leaves them vulnerable to negative emotional reactions to their body and appearance, especially when considering their actual body in comparison to the societal ideal (Fredrickson & Roberts, 1997; Moradi, 2010; Stice, 2001).

**Body and appearance emotions.** Internalized beliefs about cultural standards for appearance and engaging in body monitoring behaviors to ensure adherence to these standards is hypothesized to lead to negative body and appearance related emotions (Moradi, 2010). This relationship is thought to be true because of the exaggerated amount of evaluative time spent on the physical form, and the discrepancy that exists between the girls’ or women’s actual body size, shape and appearance and the societal ideal that they have internalized (Fredrickson & Roberts, 1997). Wolf (1990) suggested that the societal beauty ideal is unrealistic and almost impossible to attain for most girls and women, setting up a situation of negative self-evaluation in comparison to the perceived ideal and the experience of shame, lowered satisfaction, and anxiety about body size and shape as a result (Moradi, 2010).

One negative body and appearance emotion that can result from internalized thin ideal beliefs and behaviors is bodily shame (Fredrickson & Roberts, 1997; Moradi, 2010; Moradi & Huang, 2008; Moradi et al., 2005). When a woman has heavily internalized cultural standards about appearance, the discrepancy between her actual body and the culturally dictated body is brought to her attention by constant surveillance behaviors and can cause her to be ashamed that her physique is different (Fredrickson & Roberts, 1997). In addition, she may begin to believe that she is unable to meet the rigid standards for this perfect body (Moradi et al., 2005), and her
“failure” to attain the ideal physique may result in a belief that she is a bad person or socially unacceptable (Fredrickson & Roberts, 1997).

In support of this connection, previous research consistently has demonstrated a positive relationship between internalized appearance attitudes and body surveillance behaviors and body shame. For example, in a sample of undergraduate women, internalization of cultural standards of beauty and body surveillance both predicted unique variance in body shame (Moradi et al., 2005). This result was consistent with subsequent studies of undergraduate women, where higher internalization of the thin ideal was related to higher levels of bodily shame (Calogero, Herbozo, & Thompson, 2009; Forbes, et al., 2006; Sinclair, 2006). In a mixed sample of women from the local community and university, internalization and body shame also were related positively to one another (Morrison & Sheahan, 2009). Additionally, in a group of physically active women between the ages of 18 and 30 years, body surveillance was related strongly to body shame (Greenleaf, 2005), which has been corroborated in studies with other independent samples of undergraduate women (Augustus-Horvath & Tylka, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Mercurio & Landry, 2008; Miner-Rubino, Twenge & Fredrickson, 2002; Muehlenkamp & Saris-Baglama, 2002; Phillips, 2010; Tylka & Hill, 2004; Tylka & Sabik, 2010). Researchers also have found that body shame mediates the relationship between body surveillance and eating pathology in both heterosexual and lesbian adult women (Kozee & Tylka, 2006; Phillips, 2010; Tylka & Hill, 2004; Tylka & Sabik, 2010).

Women who have high levels of internalized beliefs and behaviors also may be less satisfied with their bodies (Moradi & Huang, 2008). Body satisfaction is part of the attitudinal component of body image, specifically defined as positive evaluation or affect about one’s physical appearance (Cash, 1994). Conversely, lower body satisfaction, or body dissatisfaction,
is defined as the maladaptive, negative feelings and beliefs about one’s shape and weight (Garner, 2002). Body dissatisfaction often manifests itself as a belief that a specific part of the body (e.g., hips, buttocks, or abdomen) is too large, though it also may represent a general dissatisfaction with one’s overall body. In Western society, the ideal of beauty includes an ultra slender body that is unattainable for most women and girls, and appearance focused aspects of socialization for girls has led to a culture defined by a hyper-focus on the female body and disturbance in the perception of weight and shape for many girls and women (Tiggemann & Lynch, 2001). This pervasive disturbance has been demonstrated through multiple prevalence studies, as 40-53% of girls (Narring et al., 2004; Wardle & Marshland, 1990) and 40% of adult women (Muth & Cash, 1997) reported dissatisfaction with their bodies.

There is empirical support for the relationship between internalized beliefs and behaviors about cultural standards of beauty and body dissatisfaction (Calogero et al., 2009; Daubenmier, 2005; Forbes, et al., 2006; Stice, 1998, 2001; Stice et al., 1998, Stice, Ziemba, Margolis, & Flick, 1996). For example, Stice (2001) found that women who reported higher levels of internalization also reported lower body satisfaction. Additionally, internalization of the thin ideal has been shown to predict unique variance in body dissatisfaction with undergraduate women (Tylka & Subich, 2004) and adolescent girls (Tiggemann & Miller, 2010). Similarly, researchers have demonstrated that higher levels of internalization of cultural standards of beauty and body surveillance were related to lower levels of body satisfaction among university and community women (Morrison & Sheahan, 2009; Myers & Crowther, 2007). The relationship between body surveillance and body dissatisfaction may be even more pronounced in slightly overweight women because there is more discrepancy between their bodies and the thin ideal (Frederick, Forbes, Grigorian, & Jarcho, 2007). Longitudinal studies also support this
relationship, as internalization of the thin ideal has been shown to be a significant predictor of increased body dissatisfaction in girls and women over 1 and 1.5 year periods of time (Jones, 2004; Stice & Bearman, 2001; Stice & Whitenton, 2002).

Appearance related anxiety is another aspect of body and appearance emotion that can result from the internalized beliefs and behaviors (Fredrickson & Roberts, 1997; Moradi, 2010), and refers to excessive concern over the prospect of having one’s physical appearance evaluated and potentially criticized by others (Hart, Leary, & Rejeski, 1989). Given that Western culture emphasizes being thin and attractive, being a woman means always being at risk for having one’s physical appearance evaluated (Fredrickson & Roberts, 1997). When a woman has internalized cultural standards about appearance and engages in habitual body monitoring, she is likely to be thinking constantly about how her body does not match the ideal. As a result of this cognitive process, she can become anxious about the continued need to be vigilant about her appearance and about possible evaluation and disapproval by others (Fredrickson & Roberts, 1997; Aubrey, 2007). Lacking the knowledge of exactly when and how this evaluation will take place, in light of the ever-present risk of being evaluated, can cause anxiety about impending exposure (Fredrickson & Roberts, 1997).

This relationship between internalization beliefs and behaviors and appearance anxiety has been empirically supported, though more research has focused on the potential influence of body surveillance behaviors than internalized beliefs about the thin ideal. For example, in a sample of adolescent girls (i.e., ages 12-16 years), body surveillance predicted unique variance in appearance anxiety (Slater & Tiggemann, 2010). Szymanski and Henning (2007) used path analysis to examine a model of objectification theory and found that body surveillance predicted unique variance in appearance anxiety in a sample of adult women from the community and
several universities. This finding is consistent with results from a sample of adolescent dancers and non-dancers (Slater & Tiggemann, 2002), where body surveillance was related significantly to appearance anxiety. Finally, in a sample of undergraduate women both internalization of the thin ideal and body surveillance were significantly and positively related to appearance anxiety (Aubrey, 2007).

In addition to the supported connection between the internalization processes and these body and appearance emotions, there are some likely connections among the body related emotions themselves. For example, appearance anxiety and body dissatisfaction are likely to contribute to the experience of body shame. An increased amount of anxiety and dissatisfaction about appearance can put women at risk for experiencing the body as an important negative aspect of the self that others will also evaluate negatively, especially for women who have internalized cultural standards of attractiveness. This negative experience of the body may cause some women to perceive their body as shameful, because they will likely not be able to change their body to meet the rigid standards of bodily perfection outlined by society (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). This inability to meet standards of attractiveness may instead lead women to believe that they are, or will be, perceived as bad or unacceptable for not adhering to the important appearance aspects of femininity (Fredrickson & Roberts, 1997; Striegel-Moore, 1995).

Previous research has offered empirical support for the direct relationship between appearance anxiety and bodily shame. For example, in various samples of college women higher levels of appearance anxiety were related to greater body shame (Aubrey, 2007; Calogero, 2004; Fea & Brannon, 2006; Thompson, Dinnel, & Dill, 2003; Szymanski & Henning, 2007; Visser, Pozzebon, Bogaert, & Ashton, 2010). This result has held true for both physically active and
sedentary college women (Greenleaf & McGreer, 2006). Similarly, in adolescent girls, a direct relationship has been demonstrated between appearance anxiety and body shame (Slater & Tiggemann, 2010). In a longitudinal study, Aubrey (2006) found that, among undergraduate women, appearance anxiety was related directly to body shame at the first time of measurement and then again a year later. More importantly, this study demonstrated that the level of appearance anxiety at the first time of measurement was related significantly to the level of body shame at the second time of measurement, providing support for a temporal relationship between the two variables.

In addition, research supports the connection between body dissatisfaction and body shame, although there only have been a limited number of studies. For example, with a group of undergraduate Black, non-Hispanic and White, non-Hispanic women, body dissatisfaction was related significantly to body shame in women of both racial/ethnic backgrounds (Overstreet, Quinn, & Agocha, 2010). In undergraduate women (Avalos, Tylka, & Wood-Barcalow, 2005; Miner-Rubino et al., 2002) and adolescent girls (Knauss et al., 2008), body dissatisfaction has been shown to be associated with higher levels of negative affect, including bodily shame. Decreased body satisfaction also relates directly to body shame with both smokers and non-smokers (Fiissel & Lafreniere, 2006; Harell, Fredrickson, Pomerleau, & Nolen-Hoeksema, 2006).

Another intermingled relationship between the body and appearance emotions is the relationship between appearance anxiety and body satisfaction, such that this type of anxiety is thought to decrease a woman’s satisfaction with the shape and size of her body (Crawford & Eklund, 1994). Constant concern that others will be looking at the body may increase the amount of focus on the physical form and the desire to receive positive evaluation about one’s
appearance. This desire for approval can lead an individual to identify and potentially focus on the areas of the body that do not meet their satisfaction and might be the focus of others’ disapproval, especially with those women who are judging their bodies according to rigid cultural standards. In this way, searching for parts of the body that could potentially be negatively evaluated can lead to body dissatisfaction because of the constant labeling of certain body parts as inadequate.

Research on the relationship between appearance anxiety and body satisfaction is limited, though studies that have been conducted have shown consistent support for a connection between the two variables. Thompson and Chad (2002) found that high appearance anxiety was related to body dissatisfaction in adolescent girls. This relationship also has received support in samples of college athletes and non-athletes (Bartlewskei, Van Raalte, & Brewer, 1996; Lantz, Hardy, & Ainsworth, 1997), and among Black, non-Hispanic women (Russell & Cox, 2003). Similar findings have been obtained for other samples of adult women, as appearance anxiety was shown to be related strongly to body dissatisfaction in Turkish undergraduate women (Atalay & Gencoz, 2008; Koyuncu, Tok, Canpolat, & Catikkas, 2010), as well as in older Turkish women (i.e. up to age 60; Koyuncu et al., 2010).

Internalization of beliefs and behaviors regarding cultural standards of beauty appear to influence girls and women’s experience of their own body such that they begin to have negative emotional reactions to their appearance, such as body shame, lowered body satisfaction, and appearance anxiety, when viewing it in comparison to the thin ideal (Moradi, 2010). In addition, these negative body and appearance emotions may influence one another and can compound the experience of negativity about the body. In particular, the possible culmination of appearance anxiety and lowered body satisfaction into the experience of bodily shame can contribute to
negative outcomes for women, including disconnection from the physical body to the extent that internal cues about hunger, satiety, and emotion drop from awareness (Moradi & Huang, 2008).

*Internal bodily awareness.* The experience of body and appearance related emotions, specifically body shame, is hypothesized to lower women’s awareness of their internal bodily states, such as hunger, satiety, and emotional cues, for two main reasons (Fredrickson & Roberts, 1997). First, the focus on bodily appearance, and taking on the perspective of an observer when monitoring the body, which precedes body shame can cause some women to draw resources away and feel separate from their inner body, effectively minimizing their understanding of bodily cues and internal states (Fredrickson & Roberts, 1997). This pulling away from the body and lack of attending to internal bodily messages is compounded by shame about the body because a woman may feel that she is to blame for “failing” to meet societal standards of beauty and, as a result, separate herself further to avoid that painful emotional experience. Second, women who are ashamed of their bodies may suppress cues of hunger, satiety, and emotion because they perceive these messages as interfering with their attempts to minimize their shame by losing weight to more closely approximate the societal ideal (Fredrickson & Roberts, 1997; Tylka & Hill, 2004).

The relationship between body shame and internal bodily awareness has not typically been included in investigations of objectification theory; however, several recent studies have demonstrated connections between these two variables. For example, body shame accounted for unique variance in both heterosexual and lesbian adult women’s reporting of lowered internal awareness, although the pathway was stronger in heterosexual women (Kozee & Tylka, 2006; Tylka & Hill, 2004). Also, Augustus-Horvath and Tylka (2009) found support for a pathway between body shame and lowered bodily awareness in both undergraduate women (i.e., 18-24
years old) and older women (i.e., 25-68 years old). In addition to support for the direct relationship between body shame and internal bodily awareness, Phillips (2010) examined the two variables within the context of a structural model of eating disorder development. Results demonstrated that internal bodily awareness served as a mediator between body shame and bulimic symptomatology, confirming the role of lowered internal bodily awareness as an important consequence of increased bodily shame in the development of disordered eating.

Body shame seems to be an important precursor to the experience of lowered internal bodily awareness for women, a supposition that is supported by the aforementioned research. Due to the inability to understand the inner experience, internal bodily awareness may play a direct role in the occurrence of the final variable in objectification theory, disordered eating (Fredrickson & Roberts, 1997; Moradi, 2010). Internal bodily awareness, however, is not thought to be the sole predictor of eating pathology, as the various body and appearance emotions that lead to lowered awareness also may influence disordered eating patterns directly.

Disordered eating. Objectification theory, at its inception, was developed to explain the potential negative effects of gender socialization, particularly the results of objectifying young women and emphasizing physical attractiveness as necessary aspects of femininity, because these types of societal messages can increase girls and women’s likelihood of developing disordered eating (Fredrickson & Roberts, 1997). Research has supported many of the tenets of objectification theory, in particular the development of disordered eating as hypothesized (Augustus-Horvath & Tylka, 2009; Fredrickson & Roberts, 1997; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Moradi & Huang, 2008; Moradi & Rottenstein, 2007; Moradi et al., 2005; Muehlenkamp & Saris-Baglama, 2002; Noll & Fredrickson, 1998; Peterson, Grippo & Tantleff-
The final step within the objectification framework is the connection between negative body and appearance emotions and disconnection from internal bodily experience and the development of disordered eating (Fredrickson & Roberts, 1997). Many girls and women are motivated by their shame, dissatisfaction, or anxiety to change their physical appearance to adhere more closely to cultural standards of beauty. Unfortunately, this desire to minimize negative affect about the body by changing it can lead girls and women to engage in unhealthy eating and weight related behaviors (Noll & Fredrickson, 1998). For example, women may endanger their health and safety in order to modify their physical appearance by having elective cosmetic surgery or smoking cigarettes to control their weight (Fiissel & Lafreniere, 2006; Forbes et al., 2006; Harrell et al., 2006; Henderson-King & Henderson-King, 2005; Moradi & Huang, 2008; Muehlenkamp, Swanson, & Brausch, 2005), whereas others may severely restrict their eating or engage in excessive exercise in hopes of losing weight and changing their appearance (American Psychiatric Association, 2004; Fredrickson et al., 1998; Moradi et al., 2005; Muehlenkamp & Saris-Baglama, 2002; Noll & Fredrickson, 1998; Piran & Cormier, 2005; Tiggemann & Kuring, 2004).

Dieting and caloric restriction may attenuate the experience of negative emotion towards the body if weight is lost and the woman believes her body is becoming more like the thin-ideal (Fredrickson & Roberts, 1997); however, restrictive eating does not continue to provide relief on a long-term basis (Noll & Fredrickson, 1998). Girls and women may experience an increase in negative emotion and a decrease in their sense of personal control if their attempts to lose weight falter, as most do, and they do not achieve the culturally ideal body (Noll & Fredrickson, 1998).
In addition, caloric deprivation from dieting, and the associated negative affect, can cause some women to binge eat, because their dietary inhibition can be overridden by the negative emotion and lack of previous nutrition. The result of the binging, however, is more negative affect, which can contribute to further inappropriate compensatory behaviors (i.e., restrictive eating, purging, over exercising), building the basis for a binge-purge cycle to develop (Noll & Fredrickson, 1998).

Research strongly supports a predictive relationship between body shame and disordered eating. For example, the direct relationship between body shame and disordered eating has been seen in undergraduate women (e.g., Augustus-Horvath & Tylka, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Moradi et al., 2005; Noll & Fredrickson, 1998; Sanchez & Kwang, 2007; Tylka & Hill, 2004), adolescent girls (Slater & Tiggemann, 2002), and women between the ages of 25 and 68 (Augustus-Horvath & Tylka, 2009). Specifically, one study found that body shame predicted 29% of the variance in bulimic symptomatology and 27% of the variance in anorexic symptomatology (Noll & Fredrickson, 1998). Body shame also has been identified as a mediator of the relationship between body surveillance and drive for thinness among women seeking in-patient treatment for an eating disorder (Calogero, Davis, & Thompson, 2005). Finally, Fredrickson et al. (1998) found that women who were higher in body shame ate fewer cookies and candy in an experimental setting than women who were lower in body shame, providing causal support for the hypothesized relationship.

There also is empirical support for body dissatisfaction as a risk factor for disordered eating. For example, body dissatisfaction has been shown to predict unique variance in eating pathology in ethnically diverse samples of undergraduate women (Grupski & Espelage’s, 2005; Morrison & Sheahan, 2009; Tylka & Subich, 2004; van den Berg, Thompson, Obremski-
Brandon, & Coover, 2002) and specifically Black, non-Hispanic women (Wood & Petrie, 2010). Body dissatisfaction also has been related to bulimic symptomatology with adolescent girls (Hutchinson, Rapee, & Taylor, 2010) and college women (Tissot & Crowther, 2008). In addition, body dissatisfaction has been shown to predict unique variance in dietary restraint and drive for thinness in adolescent girls (Dunkley, Wertheim, & Paxton, 2001; Wertheim, Koerner, & Paxton, 2001) and women who were seeking in-patient treatment for eating disorders (Tasca et al., 2006). Finally, body satisfaction has been shown to mediate the relationship between internalization and restriction and bulimic symptomatology in adolescent girls (Keery et al., 2005).

Research also supports the relationship between appearance anxiety and disordered eating. For example, Frederick and Morrison (1998) found that appearance anxiety was an important predictor of eating pathology, as measured by the Eating Disorder Inventory (EDI-2; Garner, 1991) among college women. Specifically, appearance anxiety has been linked to both symptoms of bulimia and anorexia (i.e., drive for thinness) in undergraduate women (Tiggemann & Kuring, 2004), though the relationship has sometimes been stronger for bulimic symptomatology (Diehl, Johnson, Rogers, & Petrie, 1998). In a sample of adolescent female athletes and non-athletes, Hausenblas and Mack (1999) found that higher appearance anxiety was related to higher scores on the drive for thinness subscale of the Eating Disorder Inventory-2 (EDI-2; Garner, 1991). The same relationship has been found with adolescent girls as well (Thompson & Chad, 2002). This finding is consistent with the results of subsequent studies that demonstrate a strong relationship between appearance anxiety and eating pathology in Turkish and American undergraduate women (Atalay & Gencoz, 2008; Greenleaf & McGreer, 2006), and in women aged 20 to 84 years (Tiggemann & Lynch, 2001).
In addition to the connection between negative body and appearance emotions and disordered eating, lowered bodily awareness is hypothesized to increase disordered eating behaviors and attitudes (Fredrickson & Roberts, 1997). Over time, lack of attention to these internal processes is likely to cause difficulty in recognizing physical and emotional experiences and some girls and women may ignore important sensations that indicate hunger (Fredrickson & Roberts, 1997). Ignoring or suppressing these sensations of hunger and emotion can lead to general insensitivity to internal states (Fredrickson & Roberts, 1997). Being unaware of or ignoring these important bodily cues puts girls and women at increased risk for disordered eating (Garner, 1991; Pike, 1995; Tylka & Hill, 2004), because neglecting hunger cues can lead to restriction, ignoring satiety cues can lead to binge eating, and inability to understand emotions can lead to the use of inappropriate eating behaviors in order to handle the confusing sensations.

The relationship between internal bodily awareness and disordered eating has been supported in research, when internal awareness was measured as awareness of and responsiveness to emotions and hunger and satiety cues. For example, Kozee and Tylka (2006) and Tylka and Hill (2004) found that poor awareness of internal bodily states predicted unique variance in disordered eating symptomatology, as measured by the Eating Attitudes Test (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982) in undergraduate women. In a mixed sample of college and community women who regularly participated in yoga, those women who reported higher levels of internal awareness and greater responsiveness to their physical bodies also reported lower levels of eating pathology, as measured by Garner et al.’s (1982) Eating Attitudes Test (Daubcnmier, 2005). In addition, Augustus-Horvath and Tylka (2009) found support for this relationship in a sample of undergraduate women and women between the ages of 25 and 68. When internal awareness has been measured as the level of attentiveness to general bodily
sensations, however, research has not supported a relationship with disordered eating in undergraduate women (Szymanski & Henning, 2007; Tiggemann & Slater, 2001). Thus, in future research, internal bodily awareness should be measured as specific to bodily sensations related to emotion, hunger, and satiety.

Consistent with the current conceptualization of objectification theory (Moradi, 2010), disordered eating results from more disturbance in terms of body and appearance emotions and lower awareness of internal bodily cues. When a woman develops a negative view of her body, her likelihood of engaging in disordered eating behavior increases, because she may view these dysfunctional behaviors as effective ways to change her body, and thereby lessen her shame, dissatisfaction, and anxiety. In addition, disconnection from the inner experience leaves girls and women with a decreased understanding of the hunger, satiety, and emotional messages from their body that are meant to help steer them away from dysfunctional eating behaviors. Although, caloric restriction, purging, and excessive exercise provide temporary relief from increased negative affect and confusion about bodily cues, the patterns that develop when these behaviors are continuously repeated leave women in an unhealthy and potentially dangerous lifestyle (Sullivan, 1995).

Summary and Conclusions

Western culture places a heavy emphasis on the appearance of the female body, and in doing so has socialized women to value their appearance more than other aspects of the self in determining their worth and femininity (Striegel-Moore, 1995; Fredrickson & Roberts, 1997). Specifically, a slender physique is the ideal body type in this society (i.e., the thin-ideal; Stice, 1994) and socialization messages and pressures about the importance of having a thin body are communicated through the media, friends and family (Fredrickson & Roberts, 1997; Morry &
Staska, 2001). Individuals are socialized to make value judgments of girls and women based on their physical appearance and appeal as a sexual object, and many girls and women begin to evaluate their own bodies in the same way (Fredrickson & Roberts, 1997). Internalized beliefs about cultural appearance standards and seeing oneself and one’s body from the perspective of an observer are the likely results of this type of cultural socialization and mark the beginning of the process of objectification (Fredrickson & Roberts, 1997; Moradi, 2010). These internalized beliefs and behaviors about societal beauty standards can lead to negative body and appearance emotions, such as body shame, lowered body satisfaction, and appearance anxiety. These negative body emotions, especially body shame, put women at risk for disconnection between their psychological and physiological selves and, ultimately, this process of objectification can increase a woman’s likelihood of developing disordered eating patterns (Moradi, 2010).

Examining the pathways proposed in this literature review (see Figure A.3) will provide an empirical test of the current version of objectification theory and the model proposed by Moradi (2010). The information gleaned from an empirically validated and integrated model, such as the one proposed, can provide direction for future research and for specific prevention and intervention efforts aimed at reducing the eating disorders and pathogenic weight control behaviors among girls and women in Western culture.

**Current Study**

The purpose of the current study is to empirically test the original model of objectification theory (Fredrickson & Roberts, 1997), a revision of Moradi’s (2010) model, and an alternate revision of Moradi’s model. Based on previous research and Moradi’s (2010) model of objectification theory, the following hypotheses are proposed for the current study:
1. As a test of the original model of objectification theory (Fredrickson & Roberts, 1997), it is hypothesized that higher levels of sexual objectification will be related to higher levels of body monitoring. Higher levels of body surveillance will be associated with increased body shame and appearance anxiety and lowered internal bodily awareness, and in turn these three constructs will be related to higher levels of disordered eating.

2. As an extension of Moradi’s (2010) model of objectification theory, it is hypothesized that higher levels of societal pressure from family, peers, and the media to meet cultural standards of beauty will be associated with greater internalization of the thin-ideal and greater body surveillance. Higher levels of sexual objectification also will be related to greater internalization of the thin-ideal and greater body surveillance. Higher levels of internalization of cultural standards of beauty will be related to increased body shame and appearance anxiety and lower levels of body satisfaction. Higher levels of body surveillance will be associated with greater body shame and appearance anxiety and less body satisfaction. Higher body shame will be related to lower internal bodily awareness and disordered eating. Higher levels of appearance anxiety, as well as lower levels of body satisfaction will all be related to disordered eating.

3. For the alternative revision to Moradi’s (2010) model, in addition to the pathways already suggested in the second model, it is hypothesized that internalization of cultural standards of beauty will be associated with body surveillance. Higher appearance anxiety will be associated with higher body shame and lower body dissatisfaction. Finally, lower body dissatisfaction will be related to higher body shame.
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