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THE DEVELOPMENT AND PSYCHOMETRIC EVALUATION OF A
NEW MEASURE OF SELF-OBJECTIFICATION

by

DANIELLE M. LINDNER
B.A., Nazareth College of Rochester, 2007
M.S. University of Central Florida, 2010

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
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Major Professor: Stacey Tantleff Dunn

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ABSTRACT

Researchers have traditionally used two measures of self-objectification, the Self-Objectification Questionnaire (Noll & Fredrickson, 1998) and the Objectified Body Consciousness Body Surveillance subscale (McKinley & Hyde, 1996), to demonstrate that self-objectification is related to body shame and dissatisfaction, appearance anxiety, decreased awareness of internal states, decreased flow experiences, disordered eating, depression and sexual dysfunction. Although the SOQ and OBC have been used widely, they also have several limitations, including problems with missing data, lack of generalizability, and concerns about content validity. The purpose of this study was to develop and validate a new measure of self-objectification called the Self-Objectification Beliefs and Behaviors Scale (SOBBS). Male and female college students (473 women and 202 men) completed an online questionnaire including a pool of items designed to measure self-objectification. The item pool was constructed through focus groups and consultation with subject matter experts. Participants also completed two existing measures of self-objectification and related constructs (i.e., interpersonal sexual objectification, body image, disordered eating behavior, depressive symptoms, and sexual functioning), and a subset of participants completed the new measure at a two-week interval. A 12-item, 2-factor measure of self-objectification was derived through exploratory factor analysis. Overall, the newly developed measure demonstrated excellent internal consistency and test-retest reliability. Data also supported the convergent, discriminant, and incremental validity of the scale as a measure of self-objectification for women and men. Implications for research in the area of self-objectification and for the prevention and treatment of eating disorders will be discussed.

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TABLE OF CONTENTS

LIST OF FIGURES	viii
LIST OF TABLES	ix
CHAPTER ONE: INTRODUCTION.....	1
Sexual Objectification as an Antecedent to Self-Objectification.....	1
Defining Self-Objectification.....	3
Consequences of Self-Objectification.....	5
Body Image Disturbance	6
Decreased Flow Experiences and Interference with Cognitive Functioning	7
Eating Disorder Symptoms.....	8
Depression	10
Poor Sexual Functioning	11
Self-Objectification in Men.....	12
Measuring Self-Objectification.....	14
The Current Study	20
CHAPTER TWO: METHOD.....	24
Participants	24
Procedure.....	25
Measures.....	25
Self-Objectification and Body Surveillance	25
Sexual Objectification	28
Body Image.....	29
Eating Disorder Symptoms.....	30
Depression	31
Sexual Functioning	32
Narcissism	33
Demographic Questionnaire	33
CHAPTER THREE: RESULTS.....	34
Data Screening	34

Hypothesis 1	35
Examination of Women’s Data	36
Examination of Men’s Data.....	37
Derivation of Combined Scale for Use with Women and Men.....	38
Hypothesis 2	39
Hypothesis 3	39
Hypothesis 4.....	40
Hypothesis 5	40
Path Analysis of Women’s Data.....	41
Path Analysis of Men’s Data	44
Hypothesis 6.....	45
Hypothesis 7.....	47
CHAPTER FOUR: DISCUSSION	48
Development of the SOBBS	48
The SOBBS vs. Existing Measures of Self-Objectification.....	50
Theoretical Implications.....	51
Clinical Implications	54
Limitations	55
Future Directions.....	56
APPENDIX A: FIGURES AND TABLES	58
APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER.....	83
APPENDIX C: SELF-OBJECTIFICATION QUESTIONNAIRE	85
APPENDIX D: OBJECTIFIED BODY CONSCIOUSNESS BODY SURVEILLANCE SUBSCALE	87
APPENDIX E: INTERPERSONAL SEXUAL OBJECTIFICATION SCALE.....	89
APPENDIX F: OBJECTIFIED BODY CONSCIOUSNESS BODY SHAME SUBSCALE	91
APPENDIX G: MULTIDIMENSIONAL BODY-SELF RELATIONS QUESTIONNAIRE APPEARANCE EVALUATION SUBSCALE	93
APPENDIX H: APPEARANCE ANXIETY SCALE	95
APPENDIX I: EATING ATTITUDES TEST-26.....	97
APPENDIX J: ZUNG SELF-RATING DEPRESSION SCALE	99

APPENDIX K: FEMALE SEXUAL FUNCTION INDEX	101
APPENDIX L: INTERNATIONAL INDEX OF ERECTILE FUNCTION	107
APPENDIX M: NARCISSISTIC PERSONALITY INVENTORY-16	112
APPENDIX N: DEMOGRAPHIC QUESTIONNAIRE	114
REFERENCES	116

LIST OF FIGURES

Figure 1. Women’s Self-Objectification and Body Shame as Predictors of Disordered Eating ..	59
Figure 2. Women’s Self-Objectification and Body Shame as Predictors of Depression.....	60
Figure 3. Women’s Self-Objectification and Body Shame as Predictors of Sexual Functioning	61
Figure 4. Women’s Self-Objectification and Appearance Anxiety as Predictors of Disordered Eating	62
Figure 5. Women’s Self-Objectification and Appearance Anxiety as Predictors of Depression .	63
Figure 6. Women’s Self-Objectification and Appearance Anxiety as Predictors of Sexual Functioning	64
Figure 7. Men’s Self-Objectification and Body Shame as Predictors of Disordered Eating.....	65
Figure 8. Men’s Self-Objectification and Body Shame as Predictors of Depression.....	66
Figure 9. Men’s Self-Objectification and Body Shame as Predictors of Sexual Functioning.....	67
Figure 10. Men’s Self-Objectification and Appearance Anxiety as Predictors of Disordered Eating	68
Figure 11. Men’s Self-Objectification and Appearance Anxiety as Predictors of Depression	69
Figure 12. Women’s Self-Objectification and Appearance Anxiety as Predictors of Sexual Functioning	70

LIST OF TABLES

Table 1. Demographic Characteristics of Validation Study Participants by Gender.....	71
Table 2. Item Pool and Corrected Item-Total Correlations by Gender.....	72
Table 3. Factor Loadings for Retained Items by Gender.....	74
Table 4. Factor Loadings for New Measure by Gender.....	75
Table 5. Descriptive Statistics and Correlations among Study Variables	76
Table 6. Fit Indices for Self-Objectification and Body Shame as Predictors of Mental Health Risks in Women.....	77
Table 7. Fit Indices for Self-Objectification and Appearance Anxiety as Predictors of Mental Health Risks in Women	78
Table 8. Fit Indices for Self-Objectification and Body Shame as Predictors of Mental Health Risks in Men	79
Table 9. Fit Indices for Self-Objectification and Appearance Anxiety as Predictors of Mental Health Risks in Men.....	80
Table 10. Incremental Validity of the SOBBS Relative to the SOQ	81
Table 11. Incremental Validity of the SOBBS Relative to OBC-Surveillance	82

CHAPTER ONE: INTRODUCTION

Fredrickson and Roberts (1997) developed objectification theory as a framework for describing women's experiences in Westernized cultures and the associated mental health risks, focusing specifically on eating disorders, depression, and sexual dysfunction. Objectification theorists argue that constant exposure to media images depicting women as "*a body* valued predominately for its use (or consumption) by others" socializes women to view their bodies as others do (Fredrickson & Roberts, 1997; p. 174). This behavior has been labeled self-objectification, which is best defined as the extent to which a woman takes on an observer's perspective when she thinks about her own body (Fredrickson, Roberts, Noll, Quinn & Twenge, 1998). Self-objectification also is described as a form of self-consciousness or concern about how one's body appears to others (McKinley & Hyde, 1996). Although the conceptual definition of self-objectification is quite clear, its behavioral and attitudinal manifestations are far more abstract. The review that follows summarizes the extant literature related to self-objectification, describes the limitations of the current tools used to measure self-objectification, and presents and argument for the development and validation of a new measure of self-objectification, the Self-Objectification Beliefs and Behaviors Scale (SOBBS).

Sexual Objectification as an Antecedent to Self-Objectification

According to Bartky (1990), a woman is sexually objectified when her body parts or sexual functions are separated from her personal attributes and used to represent who she is as a person. Smolak and Murnen (2011) described sexual objectification as treating women's bodies as objects for men's sexual pleasure. The sexual objectification of girls and women is ubiquitous in Westernized cultures, present in media depictions of women, in the types of clothing and

appearance-enhancing products and procedures available to women (and increasingly, to girls), and in interpersonal interactions (Levin & Kilbourne, 2008; Smolak & Murnen, 2011).

The cultural practice of sexually objectifying women in the media has increased markedly over the past twenty to thirty years (Reichert & Carpenter, 2004). Advertisements routinely show deconstructed women (e.g., the curve of a woman's hip behind a liquor bottle), and sometimes, the focus on women's bodies is so significant that the product being advertised is not immediately apparent. Smolak and Murnen (2011) suggested that sexually objectifying messages in the media are so commonplace that they often are not processed consciously or critically, rather, they create a general cultural climate in which the sexual objectification of women is acceptable. They argued that repeated exposure to these kinds of messages tell both men and women what is normative, and as such, men are socialized to view women in terms of their body parts and functions, and women are socialized to view themselves in the same way.

Although the effects of the larger cultural practice of sexually objectifying women are somewhat subtle, experiences of interpersonal sexual objectification, including the "objectifying gaze" and other things like leering, cat calls, or sexual harassment, are more likely to generate a more immediate response from women (Aubrey, 2006; Fredrickson & Roberts, 1997; Smolak & Murnen, 2011; Swim, Hyers, Cohen, & Ferguson, 2001). Beginning in elementary and middle school, girls experience more sexual harassment than boys (Bryant, 1993; Murnen & Smolak, 2000; Murnen, Smolak, Mills, and Good, 2003), and this pattern continues into adulthood. Adult women are more likely to feel "looked at" following interpersonal interactions and often, the objectifying male gaze is accompanied by comments about a woman's appearance (Fredrickson & Roberts, 1997). A series of daily diary studies demonstrated that a sample of women ages 18 to 44 years experienced an average of one to two instances of sexual objectification or sexual

harassment per week (Swim et al., 2001). In a sample of over 600 women ages 18 to 73, 82.00% reported ever experiencing an unwanted sexual advance, and 55.40% reported experiencing an unwanted sexual advance in the last year. 83.80% of women reported that they had been forced to listen to sexually degrading jokes within the last year (Klonoff & Landrine, 1995).

Sexual objectification experiences play an important part in gender role socialization, ultimately teaching women that being a sex object is one of their primary roles. Frequent exposure to images that display the female body in an objectified manner and experiences of sexual objectification or harassment lead girls and women to engage in self-objectification, internalizing the third-person perspective and thinking about the way their own bodies must appear to others (Smolak & Murnen, 2011) . Data from cross-sectional studies demonstrate that the more frequently a woman experiences sexual objectification, the more likely she is to engage in self-objectification (Kozee, Tylka, Augustus-Horvath, & Denchik, 2007; Moradi, Dirks, & Matteson, 2005). In a two-year longitudinal study, frequent exposure to sexually objectifying media at Time 1 predicted increased self-objectification at Time 2 (Aubrey, 2006). Experimental studies have shown that exposure to sexually objectifying experiences like trying on a bathing suit (Fredrickson et al., 1998; Quinn, Kallen, Twenge, & Fredrickson, 2006) or anticipating the male gaze (Calogero, 2004) are related to increased self-objectification and a number of other consequences (e.g., body shame, restrained eating, decreased cognitive performance).

Defining Self-Objectification

Fredrickson and Roberts (1997) first described self-objectification as the act of taking on an observer's perspective when she thinks about her own body. In a retrospective essay about the development of objectification theory, self-objectification was defined as "the tendency to introject an objectifying third-person perspective on one's own body, evaluating it in terms of its

value and attractiveness to others, rather than its value and function for the self” (Fredrickson, Hendler, Nilsen, O’Barr, & Roberts, 2011, p. 690). Self-objectification also has been described as “an anonymous [patriarchal] Other” (Bartky, 1990, p. 72). As a result of sexual objectification experiences, women are socialized to view themselves in this manner and to ultimately treat themselves as if they will be looked at and evaluated on the basis of their appearance (Fredrickson & Roberts, 1997).

Self-objectification is best conceptualized as both a trait and a state variable. That is, each woman likely has a general tendency toward self-objectification that remains stable over time (Tiggemann, 2011) but may also experience temporary increases or decreases in state self-objectification as a result of specific situational factors (e.g., being at the beach, being subject to a cat call; Calogero, Tantleff-Dunn, & Thompson, 2011). Experimental evidence supports the distinction between trait and state self-objectification, with pre-test levels of trait self-objectification often moderating the impact of sexually objectifying situations on one’s body image or cognitive functioning (e.g., Fredrickson et al., 1998; Quinn et al., 2006).

Fredrickson and Roberts (1997) posited that self-objectification is tied to having a reproductively mature body. Specifically, they suggested that having a reproductively mature body increases the risk of sexual objectification which in turn leads to increases in self-objectification. Evidence about the experience of self-objectification over the lifespan generally supports this claim, with self-objectification increasing between the ages of 10 and 19 (Harrison & Fredrickson, 2003), and the highest levels of self-objectification typically reported among female college students and women in early adulthood (Tiggemann & Lynch, 2001). As age increases throughout middle- and late-adulthood, self-objectification tends to decrease (Greenleaf, 2005; Roberts, 2004; Tiggemann & Lynch, 2001).

As Fredrickson and Roberts (1997) and Noll and Fredrickson (1998) were conducting early research on objectification theory and operationalizing self-objectification, McKinley and Hyde (1996) published a paper about objectified body consciousness, which relates closely to self-objectification. McKinley and Hyde described objectified body consciousness as the objectified relationships that women have with their bodies and proposed that it included three components: body surveillance, body shame, and appearance control beliefs. Body surveillance, which can best be described as the act of monitoring one's own appearance, is most closely related to self-objectification. Many researchers have come to use the term body surveillance nearly interchangeably with self-objectification. While a debate exists as to whether the two constructs are the same, a large part of the literature shows that self-objectification and body surveillance are related to a number of negative outcomes for women (Calogero, 2011).

Consequences of Self-Objectification

Objectification theory suggests that women learn to engage in self-objectification and body surveillance as a result of the cultural practice of sexual objectification. Self-objectification then leads to psychological consequences, including body shame, body dissatisfaction, appearance anxiety, disrupted flow and cognitive performance, and decreased internal awareness. For many women, the direct psychological consequences of self-objectification translate into mental health risks, including the development of eating disorder symptoms, depressive symptoms, or problems with sexual functioning (Fredrickson & Roberts, 1997; Calogero, Tantleff-Dunn, & Thompson, 2011).

Body Image Disturbance

Body shame refers to the extent to which a woman feels badly about her body upon realizing that it does not live up to cultural standards of beauty (Miner-Rubino, Twenge, & Fredrickson, 2002; Noll & Fredrickson, 1998). It is the most widely-studied consequence of self-objectification. Trait-level self-objectification and body surveillance were positively correlated with body shame in adolescent girls (Grabe, Hyde, & Lindberg, 2007; Harrison & Fredrickson, 2003; Lindberg, Grabe, & Hyde, 2007; Slater & Tiggemann, 2002), college-age women (e.g., Calogero, 2009; McKinley & Hyde, 1996; Lindner, Tantleff-Dunn, & Jentsch, 2012; Noll & Fredrickson, 1998; Steer & Tiggemann, 2008, Tiggemann & Kuring, 2004, Tylka & Hill, 2004), and adult women in the community (e.g., McKinley, 2006; Tiggemann & Lynch, 2001) in the United States and Australia. Self-objectification elicited in the lab using Fredrickson and colleagues' (1998) popular swimsuit versus sweater paradigm in which participants are directed to try on either a swimsuit (high self-objectification condition) or a sweater (low self-objectification condition) causes increases in body shame in undergraduate women. Other experimental manipulations of state self-objectification through exposure to sexually objectifying words (Roberts & Gettman, 2004) or anticipation of the male gaze (Calogero, 2004) also led to increased body shame.

Although related to body shame, body dissatisfaction simply refers to a woman's negative evaluation of her body. It does not include the moral component that exists with body shame (Miner-Rubino et al., 2002). Cross-sectional studies have shown that self-objectification and body surveillance are related to body dissatisfaction among college-age women in the United States and Australia (Daubenmier, 2005; Lindner et al., 2012; McKinley, 1998; McKinley & Hyde, 1996; Strelan & Hargreaves, 2005). Harper and Tiggemann (2008) also demonstrated that

exposure to thin-ideal images in the lab led to increases in state self-objectification and body dissatisfaction in a sample of Australian undergraduate females.

Fredrickson and Roberts (1997) proposed that women would likely experience appearance anxiety as a result of self-objectification. Cross-sectional studies conducted in Australia have shown that self-objectification is related to appearance anxiety in girls ages 12 to 16 (Slater & Tiggemann, 2002), college age women (Tiggemann & Slater, 2001), and a community sample of women ages 20 to 84 (Tiggemann & Lynch, 2001). Similar to other aspects of body image, experimental manipulations of self-objectification have also led to increases in appearance anxiety in laboratory settings (Harper & Tiggemann, 2008; Roberts & Gettman, 2004). Despite its relationship to body image, self-objectification is understood to be uncorrelated with body-mass-index (BMI). Women of any shape or size may report a tendency to view their bodies as others do and to experience more negative body image as a result (Calogero, 2011).

Decreased Flow Experiences and Interference with Cognitive Functioning

Though not a specific focus of the proposed project, Fredrickson and Roberts (1997) suggested that self-objectification has the ability to interfere with women's ability to have flow experiences (states of intense concentration and focus) and their cognitive performance because it taxes attentional resources. Specifically, they stated, "we posit that in a culture that objectifies the female body, whatever girls and women do, the potential always exists for their thoughts and actions to be interrupted by images of how their bodies appear" (p. 180). The internalization of an observer's perspective that is characteristic of self-objectification is diametrically opposed to the complete lack of self-consciousness required to achieve a state of flow (Csikzentmihalyi, 1990). Researchers have found relationships between self-objectification or body surveillance

and decreased flow experiences in female undergraduate students (Breines, Crocker, & Garcia, 2008; Tiggemann & Kuring, 2004), as well as in women ages 18 to 65 (Greenleaf, 2005; Szymanski & Henning, 2007).

Several experimental studies have shown that increases in state self-objectification lead to poorer cognitive performance. State self-objectification elicited using the swimsuit versus sweater paradigm led to poorer performance on a math test in female undergraduate students (Fredrickson et al., 1998; Hebl, King, & Lin, 2004). Female undergraduates who tried on a swimsuit also exhibited poorer performance on a Stroop task in a subsequent study, suggesting that the findings of poorer math performance reported previously were not simply due to stereotype threat (Quinn et al. 2006). Other studies that have tried to elicit self-objectification using more ecologically valid manipulations, including the presence of “fat talk” (Gapinski, Brownell, & LaFrance, 2003) or visual cues like scales and mirrors (Tiggemann & Boundy, 2008), have yielded mixed findings regarding the extent to which self-objectification impacts women’s cognitive performance in their daily lives.

Eating Disorder Symptoms

Fredrickson and Roberts (1997) argued that the extent of the objectification of women in Westernized cultures may be one of the reasons eating disorders are more common in women than in men. Cross-sectional studies have shown that self-objectification is related to disordered eating attitudes in adolescent girls (Harrison & Fredrickson, 2003; Slater & Tiggeman, 2002). Self-objectification and body surveillance are also related to eating disorder symptoms (e.g., drive for thinness, bulimic symptoms) in undergraduate women (e.g. Calogero, 2009; Daubenmier, 2005; Lindner et al., 2012; Moradi et al., 2005; Muehlenkamp & Saris-Baglama,

2002; Myers & Crowther, 2008; Noll & Fredrickson, 1998; Tiggemann & Slater, 2001; Tylka & Hill, 2004) and in a community sample of adult women (Tiggeman & Lynch, 2001).

Body image plays a role in the relationship between self-objectification and eating disordered behaviors. Specifically, body shame has emerged as a partial mediator of the relationship between self-objectification or body surveillance and eating disorder symptomatology in several studies (e.g., Lindner et al., 2012; Moradi et al., 2005; Noll & Fredrickson, 1998; Tiggemann & Lynch, 2001; Slater & Tiggemann, 2002). In three studies, body shame was a full mediator (Calogero, 2009; Hurt et al., 2007; Tiggemann & Slater, 2001). Evidence for the mediating role of appearance anxiety has been mixed, with Tiggemann and Kuring (2004) demonstrating that appearance anxiety fully mediated the relationship between self-objectification and eating disorder symptoms, and Tiggeman and Slater (2001) finding no evidence for the mediating role of appearance anxiety.

Because restricting one's food intake requires ignoring bodily signals of hunger, researchers have also examined the relationships among self-objectification or body surveillance, awareness of internal states, and eating disorder symptoms. Findings have been mixed, with several studies finding no relationship (Daubenmier, 2005; Tiggeman & Kuring, 2004; Tiggemann & Slater, 2001). Muehlenkamp and Saris-Baglama (2002) found that body surveillance was related to awareness of internal states in undergraduate women but that this awareness did not mediate the relationship between body surveillance and eating disorder symptomatology. Tylka and Hill (2004) found that body surveillance was related to general interoceptive awareness, and Myers and Crowther (2008) found that self-objectification was related to interoceptive awareness of hunger and satiety. Interoceptive awareness of hunger and

satiety partially mediated the relationship between self-objectification and eating disorder symptomatology.

Some researchers have used tasks designed to measure restrained eating to try to shed light on the relationship between self-objectification and eating disorder symptoms. For example, Fredrickson and colleagues (1998) found that women who tried on a swimsuit (high self-objectification condition) rather than a sweater (low self-objectification condition) reported greater body shame and in turn ate most but not all of a chocolate chip cookie in the lab. A second study described in the same paper yielded similar findings with restrained eating of candy. However, Hebl, King, and Lin (2004) found that trying on a swimsuit led to body shame and decreased state self-esteem in undergraduate women, but there was no evidence of restrained eating of candy. Additional experimental research in this area, perhaps using ecological momentary assessment techniques that would allow for data collection under more ecologically valid circumstances (e.g., immediately after meals) could help clarify the exact nature of the relationship between self-objectification and eating disorder symptoms.

Depression

Fredrickson and Roberts (1997) also proposed that depression was a potential consequence of women's experiences with sexual objectification and the resulting self-objectification. To date, there are no studies examining the relationship between self-objectification and depressive symptoms in a clinical sample. However, body surveillance was related to depressive symptoms in a sample of girls ages 10 to 12 at the time of initial data collection and at follow up two years later. Body surveillance at Time 1 was also uniquely predictive of depressive symptoms at Time 2 in this sample (Grabe et al., 2007). Several cross-sectional studies have shown that self-objectification and body surveillance are related to

depressive symptoms in undergraduate women (Grabe & Jackson, 2009; Haines et al., 2008; Hurt et al., 2007; Miner-Rubino et al., 2002; Muehlenkamp & Saris-Baglama, 2002; Muehlenkamp et al., 2005; Szymanski & Henning, 2007; Tiggemann & Kuring, 2004).

Body image variables have been examined as mediators between self-objectification or body surveillance and depressive symptoms. Body shame has emerged as a full mediator of this relationship in several studies (Haines et al., 2008; Hurt et al., 2007; Szymanski & Henning, 2007; Tiggemann & Kuring, 2004). Appearance anxiety also fully mediated the relationship between self-objectification or body surveillance and depressive symptoms in two of the aforementioned studies (Szymanski & Henning, 2007; Tiggemann & Kuring, 2004).

There is some experimental evidence to support the relationship between self-objectification and depressive symptoms. Using the swimsuit versus sweater paradigm, Gapinski, Brownell, and LaFrance (2003) found that women in the high self-objectification condition reported greater negative emotionality (e.g., self-consciousness, fearfulness, and humiliation) than women in the low self-objectification condition, even after they had returned to their street clothes. They did not test specifically for depressive symptoms. Harper and Tiggemann (2008) found that undergraduate women who viewed thin ideal images experienced increases in state self-objectification and in negative mood.

Poor Sexual Functioning

Fredrickson and Roberts (1997) argued that self-objectification's impact on body image and awareness of internal states had the potential to interfere with sexual functioning. In a cross-sectional study of college women from Australia, Steer and Tiggemann (2008) found that self-objectification and body surveillance were related to body shame, appearance anxiety, and body self-consciousness during sexual activity, which in turn predicted poorer sexual functioning.

Body shame and appearance anxiety partially mediated the relationship between body surveillance and sexual functioning, and body self-consciousness during sex fully mediated this relationship. Similarly, Calogero and Thompson (2009) found that body surveillance was related to body shame, decreased sexual self-esteem, and decreased sexual satisfaction in college women. In an experimental study, Roberts and Gettman (2004) elicited state self-objectification by exposing participants to sexually objectifying words in a scrambled sentences task. After exposure to these words, participants reported increased body shame and appearance anxiety and decreased appeal of sexual activity. Taken together, findings from the few studies examining the impact of self-objectification on sexual functioning suggest that self-objectification may lead women to be less interested in sexual activity and to find sexual activity less pleasurable or satisfying.

Self-Objectification in Men

Although objectification theory was originally developed to explain women's mental health risks, there has been a growing interest in applying objectification theory to men's experiences as well. Similar to the effects of exposure to sexually objectified media images on women, the proliferation of the muscular ideal (Pope et al., 2000; Thompson & Cafri, 2007) has been proposed to lead men to engage in self-objectification (Daniel & Bridges, 2004). In an experimental study, Michaels, Parent, and Moradi (2012) found that exposure to sexually objectified images of men which emphasized muscularity resulted in increased body surveillance, body shame, and social physique anxiety for gay men but not heterosexual men. Cross-sectional evidence suggests that on average, gay men report higher levels of self-objectification than heterosexual men. When self-objectification is measured with the SOQ, gay

men report levels of self-objectification that are similar to women and heterosexual men report lower levels of self-objectification (Martins, Tiggemann, & Kirkbride, 2007).

Although self-objectification research involving males is still in its infancy, several findings from studies involving male samples mirror those obtained using female samples. Experimental studies have shown that state self-objectification can be elicited by asking males to try on a Speedo-style bathing suit and doing so results in increased body shame and body dissatisfaction (Hebl et al., 2004; Martins et al., 2007). Martins and colleagues (2007) found that increased state self-objectification and body shame predicted restrained eating in gay undergraduate men, whereas Hebl and colleagues (2004) found no effect on eating behavior in a sample of gay and heterosexual males but did find that state self-objectification resulted in poorer performance on a math test. In a cross-sectional study of male undergraduate students in Australia, Tiggemann and Kuring (2004) found that self-objectification and body surveillance predicted body shame which in turn predicted disordered eating behavior, with body shame fully mediating this relationship. Self-objectification and body surveillance were also related to depressed mood, although flow experiences mediated these relationships rather than body shame, as has been observed in women. There have not yet been any studies examining the impact of self-objectification or body surveillance on men's sexual functioning.

The emerging literature on self-objectification in men suggests that men experience many of the same consequences as women do when they think about their bodies from a third-person perspective, including body image problems, changes in eating behavior, depressed mood, and fewer flow experiences (Hebl, et al., 2004; Martins et al., 2007; Tiggemann & Kuring, 2004). These findings suggest that objectification theory is a useful framework for explaining men's experiences as well as women's. As research continues to grow in this area, it will be important

to consider how self-objectification may manifest differently in men, including the potential for increased drive for muscularity or utilization of appearance change behaviors beyond change in eating behavior (e.g., steroid use, excessive exercise). It will also be important to evaluate existing self-report measures for their appropriateness with both female and male samples.

Measuring Self-Objectification

The two primary measures of self-objectification are the Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998) and the Body Surveillance subscale of the Objectified Body Consciousness Scale (OBC; McKinley & Hyde, 1996). The SOQ, which appears in Appendix C, was designed to measure “the extent to which individuals view their bodies in observable, appearance-based (objectified) terms versus non-observable, competence based (non-objectified) terms” (Noll & Fredrickson, 1998; p. 628). The SOQ aims to measure concern with one’s appearance without an evaluative or judgmental component, and as such, is different from measures of body satisfaction. The measure was developed based on the premise that the negative consequences of self-objectification arise from general concern with one’s appearance rather than from body dissatisfaction.

The most widely utilized form of the SOQ contains ten items, five of which are appearance-based (i.e., weight, sex appeal, physical attractiveness, firm/sculpted muscles, and measurements) and five of which are competence-based (i.e., physical coordination, health, strength, energy level/stamina, and physical fitness level). Individuals complete the questionnaire by ranking the importance of each attribute to their physical self-concept, where the attribute with the greatest importance receives a score of nine and the attribute with the least importance receives a score of 0. Participants are instructed not to assign the same rank to more than one attribute. A total self-objectification score is calculated by subtracting the sum of the

competence-based items from the sum of the appearance-based items, with possible total scores ranging from -25 to +25. Positive scores reflect greater emphasis on one's physical appearance (Noll & Fredrickson, 1998).

Although the SOQ is used often in body image research, it has several limitations. First, because of the structure of the measure, it is impossible to calculate Cronbach's alpha as an estimate of the scale's internal consistency. It is possible to obtain an estimate of internal consistency by calculating the correlation between the sum of the appearance-based items and the sum of the non-appearance-based items, but this procedure has not been widely adopted. The only available internal consistency estimate for the SOQ ($r = -.81; p < .001$) comes from the work of Hill and Fischer (2008). In addition to the lack of evidence for the scale's internal consistency, there is only one available test-retest reliability estimate which is based on unpublished raw data from one of the scale's developers ($r = .91, p < .001$; [Fredrickson, 1999]). The SOQ is generally thought to demonstrate adequate construct validity. Scores on the SOQ are positively correlated with appearance anxiety and body dissatisfaction and are uncorrelated with body-mass-index (BMI; Noll & Fredrickson, 1998). Because this measure has been used in a number of studies, it is typically regarded as valid. However, because a measure can only be as valid as it is reliable, the small amount of data to support the scale's reliability calls its validity into question.

There are also significant practical concerns associated with the SOQ. The questionnaire's format, which requires rank ordering of ten attributes, is often confusing to participants. Many researchers who publish studies using the SOQ report that a sizeable number of participants, sometimes up to 26%, are excluded from analyses due to missing data because participants either complete the questionnaire incorrectly (e.g., by assigning the same rank to

more than one attribute) or because they fail to complete the questionnaire altogether (Grippio & Hill, 2008; Lindner et al., 2012; Myers & Crowther, 2007; Nowatski & Morry, 2009; Sanchez & Broccoli, 2008). Because of the scale's design, a mean substitution cannot be used and exclusion is the only option in the case of missing data.

The SOQ has been used with a variety of samples, including American women from adolescence through late adulthood (e.g., Gay & Castano, 2010, Grippo & Hill, 2008; Harrison & Fredrickson, 2003; Noll & Fredrickson, 1998), Australian women from adolescence through late adulthood (e.g., Slater & Tiggemann, 2002, Tiggemann & Kuring, 2004; Tiggemann & Lynch, 2001), college-aged British (Calogero, 2009) and Canadian women (Morry & Staska, 2001), women of different ethnicities (e.g., Buchanan, Fischer, Tokar, & Yoder, 2008; Grabe & Jackson, 2009; Mitchell & Mazzeo, 2009) and heterosexual and lesbian college students (Hill & Fischer, 2008). Although the SOQ has been used with women of different ethnicities, Calogero (2011) raised the concern that the appearance items of the SOQ may not be comprehensive enough to fully capture the self-objectification experience of women from different ethnic backgrounds, citing evidence that skin color is an important component of body image (Cafri, Thompson, Jacobsen, & Hillhouse, 2009; Cafri et al., 2006, Jackson & Aiken, 2000). Interestingly, Noll and Fredrickson's (1998) original version of the SOQ contained 12 items, one of which was skin color. The reason for the removal of skin color (appearance-based) and stamina (competence-based) from the SOQ is unclear. Calogero (2011) also suggested that it may be important to consider other body parts that are commonly sexually objectified, such as lips and hair.

Researchers have used the SOQ to measure self-objectification in men (e.g., Daniel & Bridges, 2010, Grieve & Helmick, 2008). However, men and women tend to respond differently

to the SOQ, with mean scores for male samples typically being negative and mean scores for female samples typically being positive (e.g., Calogero, 2009; Fredrickson et al., 1998; Hallsworth, Wade, & Tiggemann, 2005; Tiggemann & Kuring, 2004). Among men, heterosexual men tend to score lower on the SOQ while gay men's scores tend to be more similar to those observed in female samples (Martins et al., 2007). While it could be that there are simply different norms for male and female samples, it is more likely that because the SOQ was designed for use with women, the content of scale items does not accurately reflect men's self-objectification experiences. For example, given the pervasiveness of the muscular ideal for men (Thompson & Cafri, 2007), the competence-based attributes of strength and physical fitness level may be more reflective of a man's tendency to define himself in appearance-related terms (Calogero, 2011).

The second existing measure of self-objectification is the OBC Body Surveillance subscale (McKinley & Hyde, 1996), which was designed to measure the extent to which women view their bodies as an outside observer. This measure appears in Appendix D. The OBC Body Surveillance subscale contains eight items rated on a 7-point Likert scale, with higher scores indicating greater surveillance or self-objectification. The original version of the measure also includes an N/A response option, which many authors do not include so as not to introduce missing data (Kroon van Diest, Lindner, & Perez, 2012). As McKinley and Hyde (1996) reported in the scale development article, internal consistency ranged from .79 to .89, and test-retest reliability was .79 for female undergraduates. The measure also demonstrated adequate construct validity, as body surveillance was negatively correlated with body esteem and positively correlated with disordered eating. Body surveillance is also related to public self-consciousness and public body consciousness and unrelated to private self-consciousness and private body

consciousness, reflecting the fact that the OBC Body Surveillance subscale was designed to measure one's attention to how she looks to others rather than how she feels about her body (Calogero, 2011).

The OBC Surveillance subscale has some distinct advantages over the SOQ. First, the measure demonstrates sufficient reliability and validity. Second, the items are global statements as opposed to specific appearance attributes, which may make the measure more useful than the SOQ when assessing self-objectification in other populations (e.g., males, ethnic minorities). In addition, fewer authors report difficulties with missing data relative to the SOQ (Calogero, 2011). However, there are two primary limitations of the OBC Surveillance subscale. First, researchers disagree about the extent to which self-objectification and body surveillance are the same construct and can be used interchangeably in research (Calogero, 2011). Some researchers conceptualize body surveillance as a behavioral manifestation of self-objectification and use SOQ scores as predictors of body surveillance scores in structural equation models (e.g., Steer & Tiggemann, 2008; Tiggemann & Kuring, 2004; Tiggemann & Slater, 2001). Other authors have used both measures as indicators of the same construct (e.g., Hill & Fischer, 2008; Liss, Erchull, & Ramsey, 2011; Miner-Rubino et al., 2002; Roberts, 2004), and still others have used body surveillance alone as an indicator of self-objectification (e.g., Augustus-Horvath & Tylka, 2009; Carr & Szymanski, 2011; Lindner et al., 2012). Calogero (2011) argued that at a conceptual level, there is a distinction between valuing appearance over competence as measured by the SOQ and engaging in appearance monitoring behavior as measured by the Body Surveillance subscale of the OBCS. It is possible for women to place value on appearance but engage in different levels of body surveillance behavior (Calogero, Herbozo, & Thompson, 2009).

A second potential limitation of the OBC Surveillance subscale is that some of the items appear to reflect related but different constructs (e.g., social comparison) despite factor analytic studies which suggest that the subscale itself measures one construct (McKinley & Hyde, 1996). While social comparison is related to body shame, body dissatisfaction, and eating disorder symptomatology, the act of engaging in social comparison is conceptually distinct from surveillance of one's own appearance. Lindner and colleagues (2012) found that social comparison is a mediator of the relationships between body surveillance and body shame, body dissatisfaction, and eating disorder symptomatology.

The Body Surveillance subscale of the OBCS has been used to measure body surveillance or self-objectification in a wide range of samples, including adolescent and adult women in the United States (e.g., Lindberg, Hyde, & McKinley, 2006; Tylka & Hill, 2004; McKinley, 2006; McKinley & Hyde, 1996) and Australia (e.g., Slater & Tiggemann, 2002; Tiggemann & Kuring, 2004; Tiggemann & Lynch, 2001), British undergraduate women (Calogero & Thompson, 2009), women of diverse ethnic backgrounds (Breitkopf, Littleton, & Berenson, 2007; Crawford et al., 2009), heterosexual and lesbian women (Kozee & Tylka, 2006) and heterosexual and gay men (e.g., Martins et al., 2007; McKinley, 1998; Tiggemann & Kuring, 2004). Because the Body Surveillance subscale of the OBCS is not subject to the same kinds of problems with missing data as the SOQ and appears to be more applicable to women and men from different backgrounds (e.g., ethnicity, sexual orientation), it has actually been used more frequently as a measure of self-objectification in recent years than the SOQ (Kroon Van Deist, Lindner, & Perez, 2012).

Recently, Daniel, Bridges, and Martens (2013) published an article describing the Male Assessment of Self-Objectification (MASO). The MASO was based in part on the SOQ and also

sought to address two of the primary limitations of the SOQ: limited applicability to male samples and problems with the scoring procedure. The final version of the MASO contains 13 appearance items (e.g., upper arm diameter, stomach appearance, penis size) and seven competency items (e.g., flexibility, endurance, coordination). Participants are asked to rate the importance of each body attribute with regard to how they view their body and its abilities (0 = not important at all to 6 = very important). Responses for each subscale are averaged and the competence score is subtracted from the appearance score. High scores reflect higher levels of self-objectification. The MASO demonstrated adequate psychometric properties in the initial series of studies associated with its development; however, its long-term utility remains to be seen. In addition, one of the critical limitations that the MASO does not address is how to compare self-objectification experiences between men and women, as this questionnaire is not appropriate for female samples and there is no other suitable analog (e.g., a female version, a revised version of the SOQ).

The Current Study

The review of the literature points to two key conclusions. First, objectification theory has proven to be a useful perspective from which to understand women's body image, eating disorder symptoms, depressive symptoms, and sexual and cognitive functioning, and it is increasingly applicable to men. Second, our understanding of the effects of self-objectification in particular is limited by the self-report measures currently used to study it. Development of a new measure of self-objectification will allow researchers to clarify the relationship between self-objectification and body surveillance and explore gender similarities and differences in self-objectification. It will also facilitate study of the pathways from self-objectification to its associated mental health consequences, each of which have far-reaching effects. 5.90% of

women and 2.8% of men suffering from eating disorders including anorexia nervosa, bulimia nervosa, and binge eating disorder (Hudson, Hiripi, Pope, & Kessler, 2007), and 16.60% of the population suffering from depression over the course of their lifetime (Kessler et al., 2005). Although self-objectification is certainly not the only cause of these difficulties, it is more easily modified than other risk factors (e.g., genetics). Efforts to provide women with information about the cultural practice of sexual objectification and strategies for reducing self-objectification have yielded positive results (see Tylka & Augustus-Horvath, 2011, for a review), and continuing to use theoretical knowledge about self-objectification and the cultural context in which mental health problems occur to develop prevention and intervention programs will be an important area for future study.

The aim of this study was to develop and validate a new measure of self-objectification that could be used to measure the construct in both women and men. An initial item pool was developed based on qualitative data obtained from focus group discussions with female and male college students from various racial and ethnic backgrounds. This item pool was further refined based on quantitative and qualitative feedback from three subject matter experts. To derive the final scale from the item pool and examine its underlying factor structure, the initial item pool was administered to a large sample of undergraduate students. Participants also completed other measures of self-objectification and its correlates, focusing specifically on body image variables (i.e., body shame, body satisfaction, appearance anxiety) and mental health risks (i.e., eating disorder symptoms, depressive symptoms, sexual functioning), so that the validity of the new measure could be examined. A subset of participants also completed the newly developed measure of self-objectification twice (two-week interval), providing an initial estimate of the measure's test-retest reliability. Specific hypotheses were as follows:

1. Exploratory factor analysis (EFA) of the item pool will yield a three-factor solution, with factors reflecting each of the key conceptual definitions of self-objectification: (a) taking on an observer's perspective; (b) viewing the body as if it is capable of representing the self; and (c) valuing physical appearance over physical competence. Though individual items may differ across genders, the underlying factor structure is expected to be the same.
2. Scores on the newly developed measure of self-objectification will be positively correlated with scores on the SOQ and Body Surveillance subscale of the OBCS, providing evidence of the measure's construct validity.
3. Scores on the new measure of self-objectification will be positively correlated with sexual objectification experiences, body shame, appearance anxiety, eating disorder symptoms, and depressive symptoms. Scores on the newly developed measure of self-objectification will be negatively correlated with body satisfaction and sexual functioning. Support for these hypotheses would provide evidence of the measure's convergent validity.
4. Scores on the newly developed measure of self-objectification will be unrelated to body-mass-index (BMI) and narcissism, providing evidence of the measure's discriminant validity.
5. The theoretical models suggested by objectification theory, whereby sexual objectification experiences predict self-objectification, self-objectification predicts body shame and appearance anxiety, and self-objectification and body shame or appearance anxiety predict mental health risks (i.e., eating disorder symptoms, depressive symptoms, and sexual functioning) will demonstrate adequate fit for the data when the newly

developed measure is used as an indicator of self-objectification, providing further evidence of the measure's construct validity. Further, models including the newly developed measure will fit the data better than those using the SOQ or OBC-Surveillance as indicators of self-objectification. Body shame and appearance anxiety will be targeted in the theoretical models because they have received the most consistent empirical support as mediators of the relationships between self-objectification and mental health risks.

6. Scores on the newly developed measure of self-objectification will predict body shame, appearance anxiety, body satisfaction, eating disorder symptoms, depressive symptoms, and sexual functioning above and beyond SOQ and OBC Surveillance scores. Support for this hypothesis would provide evidence of the newly developed measure's incremental validity.
7. The newly developed measure will demonstrate stability over a two-week test-retest interval for both women and men.

CHAPTER TWO: METHOD

Participants

Data from 675 participants (473 women and 202 men) were analyzed. Participants ranged in age from 18 to 35 years, with a mean age of 21.08 years ($SD = 3.48$). Mean BMI was 24.94 ($SD = 5.88$; range = 15.35 to 60.22), which corresponds with the average range according to the Centers for Disease Control (2009). Most participants identified as Caucasian ($n = 399$; 59.11%) and heterosexual ($n = 601$; 89.04%). Additional demographic information appears in Table 1.

A subset of participants who completed the study during the Spring 2014 semester were also invited to complete all measures of self-objectification two weeks after their initial participation in order to establish an estimate of the newly developed measure's test-retest reliability. Of 78 female participants who received an invitation to complete test-retest measures, 19 opted to do so (participation rate of 24.36%). These participants ranged in age from 19 to 35 ($M = 17.74$, $SD = 4.46$). Mean BMI was 22.66 ($SD = .46$, range = 16.44 to 33.83), which, similar to the initial sample, corresponded to the average category according to the CDC (2009). Most participants who completed test-retest measures identified as Caucasian (73.7%, $n = 14$) and heterosexual (89.5%, $n = 17$).

Comrey and Lee (1992) suggested that for factor analysis, a sample size of 200 is fair and 300 is good. Based on these criteria, the sample sizes for women and men were both adequate for exploratory factor analyses. The path model examined in this study contains 17 parameters to be estimated. According to Jackson (2003), an N-to-q ratio of 10 to 20:1 is optimal, with larger samples being providing more stable estimates. Based on this ratio, the sample sizes for women and men were adequate for the purposes of path analysis.

Procedure

Following approval of the project by the Institutional Review Board (Appendix B), participants were recruited using Sona Systems, an online research participation program for students currently enrolled in psychology courses. Male and female students ages 18 and older were eligible for participation in this study. There were no exclusion criteria. Participants completed all study measures anonymously online using the Qualtrics system. A subset of individuals who participated in the study during the Spring 2014 semester were contacted via SONA Systems and offered the opportunity to complete measures of self-objectification at a two-week interval. Participants were granted course credit for their participation.

Measures

Self-Objectification and Body Surveillance

Participants completed three measures of self-objectification or its behavioral manifestation of body surveillance in this study. The Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998) (Appendix C), as previously described, is a 10-item self-report measure of the extent to which a woman describes her body in appearance-based or competence-based terms. Participants ranked each of the ten attributes in order of their importance to their physical self-concept. Scores on the SOQ ranged from -25 to +25, with higher scores reflecting greater self-objectification. Most researchers consider the SOQ to possess adequate construct validity. Cronbach's alpha cannot be calculated due to the structure of the scale.

The second measure of self-objectification used in this study was the Body Surveillance subscale of the Objectified Body Consciousness Scale (OBC-Surveillance; McKinley & Hyde, 1996) (Appendix D). As described previously, the OBC-Surveillance subscale consists of 8 items

which are rated on a 7-point Likert scale. A mean score was calculated, with higher scores reflecting greater body surveillance. The OBC-Surveillance subscale previously demonstrated adequate construct validity, internal consistency reliability, and test-retest reliability ($r = .79$) in a female undergraduate sample. It has also been used extensively with male undergraduate samples (e.g., Martins et al., 2007; McKinley, 1998; Tiggemann & Kuring, 2004). Internal consistency in the present sample was .82 for both women and men.

Nunnally and Bernstein (1994) highlighted the importance of clearly defining the domain of interest prior to scale development. As it was originally understood, self-objectification was described as the extent to which an individual takes on an observer's perspective when thinking about his or her own body (Fredrickson & Roberts, 1997; Fuller-Tyzkiewicz et al., 2012). Self-objectification has also been described as the act of viewing one's body in terms of observable, appearance-based characteristics rather than non-observable, competence-based characteristics (Calogero, 2011; Noll & Fredrickson, 1998), or as viewing and treating oneself as a sexual object (Watson et al., 2012).

Though there is a general consensus in the field regarding the conceptual definition of self-objectification, operationalizing self-objectification for the purposes of measuring it has proven much more difficult. As part of the process to ensure that the new measure of self-objectification developed in this project measured self-objectification, five focus groups were conducted with male and female college students from a variety of racial and ethnic backgrounds to learn more about how self-objectification manifests itself in people's daily lives. A total of 19 undergraduate students from various student organizations on campus (8 women and 11 men) participated in the focus groups. Participants ranged in age from 18 to 23 years ($M = 20.00$; $SD = 1.70$). Six participants (31.6%) self-identified as Caucasian, six as African American (31.6%), 5

as Latino/Hispanic (26.3%) and 2 (10.5%) as Asian/Pacific Islander. Each focus group discussion was transcribed, and transcripts were reviewed. Focus group content, including specific aspects of appearance, situations, behaviors, and attitudes mentioned by participants were used to generate a large pool of items.

Three researchers who study self-objectification and have an interest in its measurement were identified as subject matter experts and were asked to provide feedback regarding the initial item pool. Subject matter experts included two women and one man; two subject matter experts self-identified as Caucasian and one as a member of an ethnic minority group. All three were trained as clinical psychologists. Subject matter experts provided their feedback via an online survey in which they were asked to rate the extent to which each item reflected the construct of self-objectification (1 = characteristic of someone who engages in a very low level of self-objectification to 7 = characteristic of someone who engages in a very high level of self-objectification) in reference to the definition of self-objectification provided to them. Subject matter experts were also able to offer qualitative feedback regarding each item and to provide other general qualitative feedback after rating all of the items. Items that did not discriminate (i.e., had mean ratings close to 4.0 and/or large standard deviations suggestive of disagreement among subject matter experts) were discarded from the item pool or modified based on qualitative feedback.

The final item pool consisted of 55 items worded such that higher scores reflected greater self-objectification. All items were worded in a positive direction given recent research suggesting that the potential benefit of being able to detect non-content-based responding via negatively worded items is outweighed by the potential for factor analysis to yield method factors (i.e., one factor with positively worded items and a second with negatively worded items)

rather than factors reflective of underlying constructs (DeVellis, 2012). Participants were asked to rate their level of agreement with each item using a five-point Likert-type scale (1 = Strongly Disagree to 5 = Strongly Agree). The initial item pool consisted of items reflecting the various conceptual definitions of self-objectification that described in the research literature: (a) taking on an observer's perspective about one's body parts or one's body in general (29 items); (b) valuing the appearance of one's body over competence (5 items); and (c) viewing one's body as if it is capable of representing the self (10 items). Eleven additional items reflected specific behaviors reflective of self-objectification. The item pool appears in Table 2 along with corrected item-total correlations. Development of the final version of the new self-objectification measure is further described in the Results section.

Sexual Objectification

Because sexual objectification is conceptualized as an antecedent of self-objectification, participants completed the Interpersonal Sexual Objectification Scale (ISOS; Kozee et al., 2007) (Appendix E). The ISOS is a 15-item measure of the frequency of sexual objectification experiences within the past year (1 = Never to 5 = Almost Always). The scale has two factors: Body Evaluation, which consists of items assessing the extent to which women feel "looked at" in interpersonal interactions (e.g., "How often have you felt someone staring at your body?") and items assessing the frequency of sexually objectifying comments (e.g., "How often have you heard a rude, sexual remark made about your body?"), and Unwanted Explicit Sexual Advances, which assesses the frequency with which the respondent experiences such acts (e.g., "How often have you been touched or fondled against your will?"). A series of three studies examining the psychometric properties of the ISOS in undergraduate females demonstrated that the scale has excellent internal consistency reliability ($\alpha = .92$) and test-retest reliability over a three-week

interval (.90). The ISOS has also demonstrated satisfactory construct validity, as evidenced by its correlations with sexist degradation, self-objectification, and body shame, and its lack of a relationship with social desirability (Kozee et al., 2007). Although the ISOS is most commonly administered to female samples, Engeln-Maddox, Miller, and Doyle (2011) found that the scale demonstrated adequate internal consistency in a sample of male and female undergraduate participants. The only modification required to use the scale with a coed sample is to change the word “breasts” to the word “body” in one item. The internal consistency estimate of the scale in the present study was .92 for both women and men.

Body Image

Consistent with the self-objectification literature, participants completed measures of body shame, body satisfaction, and appearance anxiety. The Objectified Body Consciousness Body Shame subscale (OBC-Shame; McKinley & Hyde, 1996, Appendix F) was used to assess the extent to which participants feel badly about themselves when they realize they do not meet cultural standards related to appearance. Similar to the OBC-Surveillance subscale, the OBC-Shame subscale consists of 8 items which are rated on a 7-point Likert scale, with higher scores reflecting greater body shame. This subscale demonstrated adequate construct validity and test-retest reliability in a female undergraduate sample ($r = .79$). Internal consistency in a female undergraduate sample was .75. Internal consistency in the present study was .84 for women and .80 for men.

The Appearance Evaluation Subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ-AE; Cash, 2000) (Appendix G) is a global measure of satisfaction with appearance. Each of the scale’s seven items is rated on a 5-point Likert scale and the mean score for all items is obtained, with higher scores reflecting greater body satisfaction. The MBSRQ-AE

is widely utilized, especially in non-clinical samples, and has been validated with both men and women. In a sample of over 2,000 participants, internal consistency was .88 for both males and females (Brown, Cash, & Mikulka, 1990). One-month test-retest reliability for the MBSRQ-AE was .91 (Brown et al., 1990). Internal consistency was .92 for women and .90 for men.

The Appearance Anxiety Scale (AAS; K.L. Dion, K. K. Dion, & Keelan, 1990) (Appendix H) consists of 14 items reflecting apprehension or anxiety about one's physical appearance and the extent to which it will be evaluated by others (e.g., "I feel nervous about aspects of my physical appearance," "I worry about how others are evaluating how I look."). Participants respond to each item using a 5-point rating scale ranging from 1 (never) to 5 (almost always). A mean score was obtained and high scores reflect greater appearance anxiety. Internal consistency for the 14-item version of the AAS was .91 in college-age females (Tiggeman & Slater, 2001). In previous studies, scores on the AAS were positively correlated with scores on measures of social anxiety, self-esteem, and shyness in undergraduate men and women (Dion et al., 1990). The internal consistency estimate for the scale was .94 for women and .92 for men in the present study.

Eating Disorder Symptoms

The Eating Attitudes Test (EAT-26; Garner, Olmstead, Bohr, & Garfinkel, 1982) (Appendix I) was used to assess eating disorder symptoms including dieting, preoccupation with food, and bulimic behavior. Respondents answered each of the scale's 26 items using a 6-point rating scale (1 = Always to 6 = Never). To determine eating disorder risk, a total score is obtained by assigning each Always response 3 points, each Usually response 2 points, each Often response 1 point, and all Sometimes, Rarely, and Never responses zero points and summing the point values for each item. Higher scores are indicative of greater eating disorder

symptomatology, with a cutoff score of 20 indicating the likely presence of a DSM-IV eating disorder. The measure can also be scored continuously by reverse scoring all but one item and then summing item responses; the continuous scoring procedure will be used for the purposes of this study. The EAT-26 is often used as a screening tool and can reliably distinguish between clinical and non-clinical samples (Mintz & O'Halloran, 2000). Estimates of internal consistency reliability fall between .83 and .90 for female undergraduates (Garner et al., 1982) and between .80 and .90 for male undergraduates (Engeln-Maddox et al., 2011). The measure has demonstrated satisfactory construct validity in male and female samples (e.g., Engeln-Maddox et al., 2011; Garner et al., 1982; Tylka, 2011). Internal consistency in the present study was estimated at .92 for women and .86 for men.

Depression

The Zung Self-Rating Depression Scale (SDS; Zung, 1965) (Appendix J) is a reliable and valid measure of affective, somatic, and cognitive symptoms of depression. This scale consists of 20 items rated on a four-point scale (1 = none or a little of the time to 4 = most or all of the time). A mean score was obtained for all items, with higher scores indicating greater depressive symptoms. Internal consistency was .92 in a sample of men and women ages 20 to 39 years in a general medical setting (Zung, 1986) and .85 in a sample of female undergraduates (Szymanski & Henning, 2007). The measure has been validated as a screening tool for use in general medical practice (Zung, 1990). The internal consistency in the present study was .87 for women and .81 for men.

Sexual Functioning

Female participants completed the Female Sexual Function Index (FSFI; Rosen et al., 2000) (Appendix K), a 19-item measure of female sexual functioning consisting of six factors: sexual interest/desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and sexual pain. Items were rated on 5-point or 6-point scales, and anchors depend on item content (e.g., very satisfied to very dissatisfied, or very low or no confidence to very high confidence). Internal consistency for the entire scale was .97 in a sample of adult women, with individual factor alphas ranging from .89 to .96. Test-retest reliability for the full scale was .88 and individual factor test-retest reliability coefficients ranged from .79 to .86. Scores on this measure are correlated with other indices of sexual functioning. The measure can be used for research and clinical purposes (Rosen et al., 2000). Individual factor internal consistency estimates ranged from .87 to .98 in the present study and was .98 for the full scale.

Male participants completed the International Index of Erectile Function (IIEF; Rosen, Riley, Wagner, Kirkpatrick, & Mishra, 1997) (Appendix L), a 15-item measure of male sexual functioning consisting of five factors: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Internal consistency estimates for the five factors ranged from .73 to .99 across three studies of adult men. Test-retest reliability for the entire scale was .82 and individual factor test-retest reliability coefficients ranged from .64 to .81. Scores on this measure are correlated with scores on other indices of sexual functioning and the scale can be used in research and clinical settings (Rosen et al., 1997). In the present study, individual factor internal consistency estimates range from .79 to .95, with an overall internal consistency estimate of .95 for the full scale.

Narcissism

The Narcissistic Personality Inventory-16 (NPI-16; Ames, Rose, & Anderson, 2006) (Appendix M) is a measure of subclinical narcissism. Narcissism was included in the present study for the purposes of demonstrating the SOBBS' discriminant validity. The scale consists of 16 forced-choice pairs of contradictory items (e.g., "I like to be the center of attention, vs. I prefer to blend in with the crowd.") The NPI is scored by computing the total proportion of responses consistent with narcissism, with total scores ranging from 0 to 1. The measure demonstrated adequate convergent and discriminant validity in a sample of undergraduate students; NPI scores were correlated positively with openness to experience, conscientiousness, extraversion, and self-esteem (Ames et al., 2006). Test-retest reliability over a 5-week interval was .85. Cronbach's alpha for the present study was .67 for women and .75 for men.

Demographic Questionnaire

On the questionnaire in Appendix N, participants provided their height and weight in order to calculate Body-Mass-Index (BMI). In addition, participants reported other demographic variables including age, sexual orientation, ethnicity, and relationship status. Participants were also asked to report on their athletic involvement based on feedback from subject matter experts. Participants were asked to provide information regarding several variables including age, sexual orientation, relationship status, ethnicity, and education. Height and weight were assessed as part of a separate instrument.

CHAPTER THREE: RESULTS

Data Screening

Data were analyzed using IBM SPSS Statistics 20 (IBM Corporation, 2013b) and IBM SPSS AMOS 20 (IBM Corporation, 2013a). Questionnaires were completed by a total of 827 participants, 556 women and 271 men. One hundred and two participants (12.33%) were dropped from the analyses because they missed at least one of two items designed to detect non-content-based responding, leaving 725 participants. Of those participants, 195 (26.90%) had missing data points despite completing all study measures (e.g., a skipped item). Little's (1998) test of missingness indicated that data for the women were missing completely at random, $\chi^2(df = 229) = 214.83, p = .74$. Missing data for men were not missing completely at random, $\chi^2(df = 153) = 196.71, p = .01$; however, follow up *t*-tests revealed no significant differences in age, BMI, or other study variables among male participants with no missing data and those with missing data on one or more study measures. Thus, these data were considered missing at random. Given that no pattern could be detected to the missing data, a regression approach to multiple imputation was used to replace missing values, thereby avoiding substantial reduction in sample size and statistical power. Thirty-eight participants over the age of 35 (27 women and 11 men) were dropped from the analyses given evidence that self-objectification decreases with age among women (Tiggemann & Lynch, 2001). Data were also screened for univariate and multivariate normality prior to proceeding with analyses. Twelve participants were determined to be multivariate outliers based on Mahalanobis' distance and were dropped from the analyses, yielding the final sample size of 675 participants (473 women and 202 men).

As has been the case in other research (e.g., Lindner, Tantleff-Dunn, Jentsch, 2012), there were problems with the completion of the Self-Objectification Questionnaire. Of the 675

participants retained for data analysis, 96 participants (14.22%; 74 women and 32 men) assigned the same rating to more than one appearance attribute despite explicit instructions not to do so. There were no significant differences in age, BMI, or other study variables between participants who completed the SOQ correctly and those who did not. These participants were retained, as excluding them would have resulted in a substantial reduction in sample size and statistical power. Analyses involving the SOQ were completed using only those participants who completed the measure properly.

Hypothesis 1

Given concerns that self-objectification may manifest differently for women than it does for men (Calogero, 2011), exploratory factor analysis (EFA) of the item pool data was conducted separately for women and men. Analyses were conducted as follows. First, skewness and kurtosis values for individual items were examined to ensure that they were acceptable for factor analysis. Among women and men, skewness values were below three and kurtosis values were below ten, indicating that data were suitable for factor analysis (Kline, 2005). Next, corrected item-total correlations were examined. Items with corrected item-total correlations less than .5 were excluded from the analyses and all remaining items were entered into EFA. Factors were extracted using principal axis factoring with direct oblimin rotation. Delta weight was set at zero to allow for moderate correlation among factors. Items with a primary factor loading greater than .5 and no cross loadings greater than .3 were retained. Several successive EFA were conducted to further refine the item pool and derive the most appropriate set of items and underlying factor structure for both genders. This iterative process is described below.

Examination of Women's Data

Corrected item-total correlations for all 55 items appear in Table 2. Five items with corrected item-total correlations less than .5 among female participants were removed. Fifty items were entered into the first EFA. The number of factors to be extracted was initially constrained to three based on the theoretical assumptions underlying development of this scale. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .97 and Bartlett's test of sphericity was statistically significant, $\chi^2(1275) = 15484.45, p < .001$, indicating that the data were appropriate for factor analysis. Three factors were retained based on parallel analysis (Horn, 1965). Twenty items were removed because they did not have a primary loading and/or were cross-loaded onto other factors.

Thirty items were entered into a second EFA. KMO (.97) and Bartlett's test of sphericity, $\chi^2(435) = 8497.99, p < .001$ again indicated that data were suitable for factor analysis. Three factors were retained, and three items were dropped from the analysis (two due to lack of primary loadings and one due to cross-loading). A third EFA was conducted with the remaining 27 items. The data were appropriate for factor analysis, as KMO was .97 and Bartlett's test of sphericity was statistically significant, $\chi^2(358) = 8228.67, p < .001$. Two factors were retained based on parallel analysis. Eight items were excluded from the analyses due to lack of a primary factor loading. The 19 retained items were entered into EFA, with the number of factors constrained to 2 based on the retention of 2 factors in the previous iteration. One additional item was dropped from the analyses because its communality was below .4.

The final EFA solution for women included 18 items retained on 2 factors based on parallel analysis (Horn, 1965). KMO was .95 and Bartlett's test of sphericity was statistically significant, $\chi^2(153) = 5056.58, p < .001$, indicating that data were suitable for factor analysis.

Thirteen items were retained on Factor 1 (Observer's Perspective) and five items on Factor 2 (Body as Self), with the 2-factor solution accounting for 54.80% variance. Items and factor loadings for this solution appear in Table 3. Inter-item correlations ranged from .13 to .74 with a mean of .45.

Examination of Men's Data

Corrected item-total correlations for the 55 items in the item pool appear in Table 2. Eight items with low corrected item-total correlations for men were removed, resulting in retention of 47 items for first EFA. The number of factors to be extracted was initially constrained to three based on the theoretical assumptions underlying development of this scale. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .95 and Bartlett's test of sphericity was statistically significant, $\chi^2(1081) = 5864.82, p < .001$, indicating that the data were appropriate for factor analysis. Two factors were retained based on parallel analysis (Horn, 1965). Nineteen items were removed because they did not have a primary loading or cross-loaded onto multiple factors.

Twenty-eight items were entered into a second EFA. Factor extraction was constrained to two factors based on results of parallel analysis. KMO (.95) and Bartlett's test of sphericity, $\chi^2(378) = 3292.54, p < .001$ again indicated that data were suitable for factor analysis. Two factors were retained, and five items were dropped from the analysis due to lack of a primary factor loading. A third EFA was conducted with the remaining 23 items. The data were appropriate for factor analysis, as KMO was .96 and Bartlett's test of sphericity was statistically significant, $\chi^2(378) = 2676.70, p < .001$. Two factors were retained based on parallel analysis. One item was excluded from the analyses due to lack of a primary factor loading. The 22 retained items were entered into EFA, with the number of factors constrained to 2 based on the

retention of 2 factors in the previous iteration. One additional item was dropped from the analyses because its communality was below .4.

The final EFA solution for men included 21 items retained on 2 factors. KMO was .95 and Bartlett's test of sphericity was statistically significant, $\chi^2(210) = 2488.38, p < .001$, indicating that data were suitable for factor analysis. Thirteen items were retained on Factor 1 (Observer's Perspective) and eight items on Factor 2 (Body as Self), with the two-factor solution accounting for 53.22% variance. Items and factor loadings for this solution appear in Table 3. Inter-item correlations ranged from .16 to .71, with a mean of .45.

Derivation of Combined Scale for Use with Women and Men

Separate EFA of women's and men's data suggested that self-objectification has the same underlying factor structure regardless of gender, with the first factor representing taking on an observer's perspective and the second representing viewing the body as being capable of representing the self. Examination of items retained across analyses revealed considerable overlap, such that the two scales shared nine items on Factor 1 and five items on Factor 2. These 14 items were entered into EFA (conducted separately by gender). The two-factor structure was retained. One item was removed, as it was cross-loaded for men. An additional item was removed because, after removal of the preceding item, it was the only item that reflected a specific social situation in which self-objectification might occur. The final scale consisted of 12 items, with 7 items on factor 1 and 5 items on factor 2. This solution accounted for 58.72% variance among women and 54.04% of the variance among men. The correlation between factors was .54 for women and .57 for men. Items and factor loadings for items retained in the final scale appear in Table 4.

Although not entirely consistent with Hypothesis 1 in that a three-factor structure did not emerge, this measure represents two of the three proposed components of self-objectification and demonstrates similarity in factor structure between genders as well as adequate internal consistency reliability. Cronbach's alpha for the 12-item scale was .91 for women, with individual factor internal consistency estimates of .91 and .86 for Factors 1 and 2, respectively. Inter-item correlations ranged from .22 to .74 with a mean of .45. Among men, Cronbach's alpha for the 12-item scale was .90 and internal consistency estimates for Factors 1 and 2 were .91 and .85. Inter-item correlations ranged from .17 to .67 with a mean of .43.

Hypothesis 2

Descriptive statistics and correlations among study variables appear in Table 5. As hypothesized, scores on the SOBBS were positively correlated with scores on the SOQ for women, $r = .44, p < .001$, and for men, $r = .28, p < .001$. SOBBS scores were also positively correlated with scores on OBC-Surveillance for women, $r = .73, p < .001$, and for men, $r = .49, p < .001$. Positive correlations among the SOBBS and existing measures of self-objectification provide evidence for the newly developed measure's convergent validity.

Hypothesis 3

Table 5 shows that SOBBS scores were positively correlated with sexual objectification experiences, body shame, appearance anxiety, disordered eating, and depressive symptoms in both women and men. SOBBS scores also were negatively correlated with body satisfaction for women and men. In addition, they were negatively correlated with sexual functioning for women and uncorrelated with sexual functioning in men. With the exception of the finding that SOBBS

scores were uncorrelated with sexual functioning in men, correlations were consistent with Hypothesis 3 and provide additional evidence for the measure's convergent validity.

Hypothesis 4

Contrary to Hypothesis 4, women's SOBBS scores had a small but statistically significant correlation with BMI for women ($n = 473$), $r = .13$, $p = .004$, and men ($n = 202$), $r = .15$, $p = .03$. With regard to existing measures of self-objectification, women's SOQ scores were uncorrelated with BMI ($n = 399$), $r = .06$, $p = .25$, as were men's ($n = 170$), $r = -.03$, $p = .70$. Women's OBC-Surveillance scores were correlated with BMI ($n = 473$), $r = .11$, $p = .02$, but men's OBC-Surveillance scores were not ($n = 202$), $r = .09$, $p = .21$.

Consistent with Hypothesis 4, women's SOBBS scores were uncorrelated with NPI scores ($n = 473$), $r = -.04$, $p = .37$. Men's SOBBS scores were also uncorrelated with narcissism ($n = 202$), $r = -.07$, $p = .33$. By way of comparison, women's SOQ scores were correlated with narcissism ($n = 399$), $r = -.11$, $p = .02$, but men's SOQ scores were not ($n = 170$), $r = -.03$, $p = .67$. Women's OBC-Surveillance scores were uncorrelated with NPI scores ($n = 473$), $r = -.06$, $p = .19$, as were men's ($n = 202$), $r = .03$, $p = .71$.

Hypothesis 5

Path models reflecting the relationships among interpersonal sexual objectification, self-objectification, body shame, and mental health risks central to objectification theory (i.e., disordered eating, depression, sexual functioning) were tested to provide evidence of the SOBBS' construct validity. In each model, interpersonal sexual objectification predicted self-objectification which in turn predicted body shame/appearance anxiety and one of the three outcome variables: disordered eating, depression, or sexual functioning. Body shame and

appearance anxiety also predicted the outcome variables. In addition, BMI was added to the model as a control variable given its statistically significant correlation with some indices of self-objectification in this study. Pathways from BMI to interpersonal sexual objectification were included given that a statistically significant correlation between the two variables was observed for women. Last, as is the case in most body image research, a path was added from BMI to body shame/appearance anxiety given the relationship between BMI and body image.

Path Analysis of Women's Data

Graphical representations of the measures of self-objectification as predictors of body shame and disordered eating appear in Figure 1, followed by measures of self-objectification as predictors of body shame and depression in Figure 2 and measures of self-objectification as predictors of body shame and sexual functioning in Figure 3. In Figures 1, 2, and 3, (a) displays path coefficients when the SOBBS was used as an indicator of self-objectification, (b) displays path coefficients when the SOQ was used as an indicator of self-objectification, and (c) displays path coefficients when OBC-Surveillance was used as an indicator of self-objectification. Fit indices for these models appear in Table 6. Across models predicting disordered eating and depression, all three measures of self-objectification demonstrated good fit based upon the Comparative Fit Index (CFI), Normative Fit Index (NFI), Squared Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The chi-square statistic for the model in which the SOBBS predicted disordered eating was not significant, suggesting excellent model fit. Chi-square statistics for models predicting depressive symptoms were significant for all three measures of self-objectification. In models predicting sexual functioning, those using the SOBBS and OBC-Surveillance demonstrated good fit based upon the CFI and NFI.

Examination of path coefficients among these models shed additional light on which measure(s) of self-objectification yielded a model that was most consistent with the tenets of objectification theory. Two pathways pointed to problems with the SOQ as a measure of self-objectification in these models. First, the path from sexual objectification to self-objectification as measured by the SOQ was non-significant, but objectification theory argues that sexual objectification experiences lead to self-objectification. Second, SOQ scores do not predict female sexual functioning either directly or indirectly via body shame. This also is not consistent with objectification theory. With regard to OBC-Surveillance as a measure of self-objectification, its relationships with other variables in the model are generally consistent with objectification theory. However, like the SOQ, OBC-Surveillance did not predict women's sexual functioning directly or indirectly via body shame, violating a central assumption of objectification theory. Across all three models, path coefficients for the SOBBS were statistically significant and consistent with objectification theory; the SOBBS was also the only measure of self-objectification to predict women's sexual functioning across these analyses. Modification indices did, however, suggest that adding a pathway from interpersonal sexual objectification to sexual functioning would improve explanatory ability of the model.

Self-objectification and appearance anxiety are depicted as predictors of disordered eating in Figure 4, followed by depression in Figure 5 and sexual functioning in Figure 6. As with figures 1 to 3, (a) displays path coefficients when the SOBBS was used as an indicator of self-objectification, (b) displays path coefficients when the SOQ was used as an indicator of self-objectification, and (c) displays path coefficients when OBC-Surveillance was used as an indicator of self-objectification. Fit indices for these models appear in Table 7. As with models using body shame as a mediator, models using appearance anxiety as a mediator to predict

disordered eating and depression were the best-fitting. Models predicting disordered eating and depression demonstrated good fit as indicated by the NFI, CFI, and SRMR. The RMSEA value for the SOQ as a predictor of depression also suggested good fit. Models predicting sexual functioning did not predict the data as well, with the NFI and CFI reflecting good fit for the SOBBS and OBC-Surveillance only. The CFI is the only indicator of good fit for the SOQ. Overall, models relying on appearance anxiety as a mediator fit the data less well than models with body shame as the mediator despite consistent empirical evidence for the mediational role of both. Modification indices reviewed as part of the evaluation process suggest that models involving appearance anxiety would benefit from the addition of paths from sexual objectification to appearance anxiety and from interpersonal sexual objectification to sexual functioning to improve model fit.

Examination of path coefficients for above models suggested that all pathways in models using the SOBBS as an indicator and appearance anxiety as a mediator were statistically significant and in the anticipated direction. This supported the construct validity of the measure. In models using the SOQ as an indicator of self-objectification, the pathway from interpersonal sexual objectification to self-objectification was not statistically significant, contrary to objectification theory. In these models, self-objectification also did not predict depression or sexual functioning directly or indirectly. Models using OBC-Surveillance as an indicator of self-objectification generally had path coefficients that were statistically significant and in the anticipated direction or, in the case of the path from self-objectification to depressive symptoms, were fully mediated by appearance anxiety.

Path Analysis of Men's Data

Path models illustrating self-objectification and body shame as predictors of disordered eating, depression, and sexual functioning in men appear in figures 7, 8, and 9, respectively. In Figures 7 to 9, (a) displays path coefficients when the SOBBS was used as an indicator of self-objectification, (b) displays path coefficients when the SOQ was used as an indicator of self-objectification, and (c) displays path coefficients when OBC-Surveillance was used as an indicator of self-objectification. Fit indices for these models appear in Table 8. Similar to women's data, all three measures of self-objectification demonstrated good fit based on the CFI, NFI, and RMSEA in models predicting disordered eating and depression. Standardized Root Mean Square Residual (SRMR) values were at or below the cutoff for good fit. Chi-square values were significant for models predicting disordered eating but not significant for models predicting depression. The model using the SOBBS and body shame to predict male sexual functioning demonstrated good fit based on the NFI and CFI; models using the SOQ and OBC-Surveillance as predictors did not demonstrate adequate fit for the data.

Path coefficients for models using self-objectification and body shame as predictors of men's mental health outcomes were variable in their support of objectification theory. An important caveat to these findings is that self-objectification in men has been far less well-studied, and there is less certainty about the relationships among sexual objectification, self-objectification, and related outcomes in men than in women. The most salient finding regarding male participants is that regardless of the measure of self-objectification used, it did not predict sexual functioning directly or indirectly. Body shame, another key component of objectification theory, also did not predict sexual functioning. With regard to the SOQ in particular, it did not predict disordered eating or depression among men in this sample, meaning that the SOQ did not

predict any of the three mental health risks proposed by objectification theory and therefore may not be an appropriate measure of self-objectification in men. OBC-Surveillance performed somewhat better, predicting disordered eating and depression directly and indirectly via body shame. However, ISOS scores did not predict OBC-Surveillance; this again is contrary to the relationships suggested by objectification theory.

Path diagrams modeling self-objectification and appearance anxiety as predictors of disordered eating appear in Figure 10, followed by depression in Figure 11, and sexual functioning in Figure 12. In Figures 10, 11, and 12, (a) displays path coefficients when the SOBBS was used as an indicator of self-objectification, (b) displays path coefficients when the SOQ was used as an indicator of self-objectification, and (c) displays path coefficients when OBC-Surveillance was used as an indicator of self-objectification. Table 9 displays fit indices for these models. Models predicting disordered eating and sexual functioning from self-objectification and appearance anxiety did not demonstrate adequate fit for the data. However, all three models using self-objectification and appearance anxiety as predictors of depression fit the men's data. The SOBBS demonstrated good fit based on the NFI and CFI, while the SOQ and OBC-Surveillance demonstrated good fit based on NFI, CFI, RMSEA, and SRMR. The chi-square statistic for the model involving the SOQ also was not significant, reflecting good model fit.

Hypothesis 6

Consistent with Hypothesis 6, hierarchical multiple regressions demonstrated that the SOBBS had the ability to predict most outcome variables above and beyond the capabilities of the existing measures of self-objectification. Results of these analyses appear in Table 10 (comparison with SOQ) and 11 (comparison would OBC-Surveillance). Among women, SOQ

scores predicted body shame, body satisfaction, appearance anxiety, disordered eating, and depressive symptoms. After the SOBBS was entered into the second step of the regression, the SOQ was no longer a statistically significant predictor of the aforementioned outcome variables. Though the SOQ was not a significant predictor of sexual functioning in step 1 of the regression, the SOBBS predicted sexual functioning in step 2. Similarly, OBC-Surveillance scores for women predicted body shame, body satisfaction, appearance anxiety, disordered eating, and depressive symptoms. Entering the SOBBS into the second step of the regression yielded a significant R^2 change in each for each outcome variable. As with the SOQ, OBC-Surveillance was no longer a statistically significant predictor of body satisfaction, disordered eating, and depressive symptoms when the SOBBS was included in the regression equation. OBC-Surveillance remained a statistically significant predictor of body shame and appearance anxiety when the SOBBS was entered into the second step of the regressions; however, the SOBBS was also a unique predictor in these analyses. OBC-Surveillance did not predict women's sexual functioning in the first step and SOBBS scores also did not predict sexual functioning when added to the regression equation in the second step.

Among male participants, the SOQ alone was not a statistically significant predictor of body shame, body satisfaction, disordered eating, depression, or sexual functioning. The SOBBS emerged as a significant predictor of body shame, body satisfaction, appearance anxiety, disordered eating and depression when entered into the second step of the equation. SOBBS scores did not predict sexual functioning when added to the regression equation. Unlike the SOQ, OBC-Surveillance was a statistically significant predictor of men's body shame, body satisfaction, appearance anxiety, disordered eating, and depression when entered in step 1 of the regression equation. In step 2, SOBBS scores predicted these variables and OBC-Surveillance

was no longer a statistically significant predictor. As was the case with the SOQ, OBC-Surveillance and the SOBBS did not predict scores of sexual functioning among male participants.

Hypothesis 7

A subset of 78 female participants who participated in the study during the Spring 2014 semester were invited to complete measures of self-objectification (SOBBS, SOQ, and OBC-Surveillance) two weeks after their initial participation. Nineteen female participants completed the measures a second time, for a response rate of 24.36%. Though participants received the invitation to participate on the 14th day, Time 2 participation ranged from 14 to 28 days after Time 1 ($M = 17.74$, $SD = 4.46$). The SOBBS demonstrated excellent test-retest reliability, $r = .90$, $p < .001$, as did OBC-Surveillance, $r = .81$, $p < .001$. Test-retest reliability was below expectation for the SOQ, $r = .624$, $p = .006$. Overall, the SOBBS and OBC-Surveillance outperformed the SOQ with regard to test-retest reliability estimates in a sample of college-age women.

An additional 44 men who participated in the study during the Spring 2014 semester were invited to complete test-retest reliability measures as described above. Only 6 participated, for a response rate of 13.60%. For the combined sample (19 women and 6 men), Time 2 participation ranged from 14 to 28 days after Time 1 ($M = 17.20$, $SD = 4.17$). The test-retest reliability of the SOBBS was $.77$ ($p < .001$). This was similar to the test-retest reliability coefficient OBC-Surveillance, $r = .79$, $p < .001$. In the combined sample, the SOBBS and OBC Surveillance again outperformed the SOQ, $r = .66$, $p < .001$.

CHAPTER FOUR: DISCUSSION

The primary goal of this research was to develop a new measure of self-objectification that addressed the limitations of existing measures, including the frequency of missing data and concerns about generalizability and construct validity. With the assistance of focus groups and subject matter experts, a 12-item, two-factor measure of self-objectification was developed and evaluated, with the two factors representing two of three key definitions of self-objectification described in the literature: (1) the act of taking an observer's perspective toward one's body; and (2) viewing the body as if it is capable of representing the self. The measure demonstrated adequate internal consistency reliability and test-retest reliability. Examination of correlation coefficients and theoretical models provided evidence for the measure's convergent and discriminant validity, and hierarchical regressions provided evidence for the SOBBS' incremental validity relative to existing measures of self-objectification. As validation is an ongoing process, additional study is needed to more fully explore the utility of the SOBBS as a measure of self-objectification.

Development of the SOBBS

As mentioned above, the SOBBS consists of twelve items loading onto two factors. A third factor was hypothesized, representing the valuation of what one's body looks like (appearance) over what it can do (competence). The SOQ was based on this definition, and items were included in the item pool to reflect valuing appearance over competence (e.g., "My physical appearance is more important than my physical abilities," or "I spend more time thinking about how my body looks to others than about how physically healthy I am,"). These items were not retained in EFA for women or for men, nor was a third factor retained. It may be

that the third factor did not emerge because a person's feelings about the competence of their body is too closely tied to what the body looks like for many people. For example, the physical ability of strength or stamina can also be related to how toned one's body appears. An alternative explanation is that for some, exercise may be motivated by a desire to manage physical appearance more so than a desire to achieve physical fitness.

The final scale was derived from the item pool using EFA conducted separately by gender. For both women and men, there were items that loaded onto one of the two derived factors that were not common to the other gender. Given that the purpose of this study was to develop a measure of self-objectification that would facilitate comparison between women and men, only shared items were retained in the final scale. Gender-specific items with clear factor loadings that were not retained in the final measure shed light on differences in self-objectification between women and for men. For example, the items "I often think about how my family members will view my body," and "I often think about how my friends view my body," were retained on Factor 1 for women but not for men. It may be that women's self-objectification is tied more to thoughts about specific others rather than a more generic "other person." Another possibility is that women are so aware of the potential for sexual objectification that they think they will be objectified even by family and friends. For men, the item, "How toned my body look says something about who I am as a person," was retained on Factor 2. This item was not retained among women but is certainly consistent the idea that the pursuit of the "muscular ideal" has had an adverse effect upon men's body image and mental health. An item reflecting the thin ideal (e.g., "How slim my body looks says something about who I am as a person,") was retained for both women and men, suggesting that while attention to muscularity

may be a component of self-objectification for men alone, thinness/slimness is a component of self-objectification for both genders.

Another finding to emerge from development of the scale was the lack of items reflecting self-objectification of specific body parts retained as part of the final scale. While many items of this kind were included in the initial item pool with the expectation that several critical body parts may emerge and thus shed light on how self-objectification takes place, that was not the case. For women, the only item retained that referenced a specific body part was, “I frequently think about how others will view my legs.” Women’s legs are certainly subject to sexual objectification at a cultural level; however, many of women’s other body parts are subject to sexual objectification (e.g., breasts, butt), and items related to these body parts were not retained. Among men, the only item retained regarding a specific body part was “I frequently think about how my chest/breasts look to others.” This is not surprising given that the size of a man’s chest is closely tied to the muscular ideal. However, it is unexpected that it was retained on Factor 1 for men alone and given that women’s breasts are a common target for sexual objectification. Overall, the retention of items that describe taking an observer’s perspective regarding general appearance suggests that self-objectification is characterized by an overall stance that one needs to be aware of how the body appears to others, with self-consciousness about specific body parts playing a less central role.

The SOBBS vs. Existing Measures of Self-Objectification

In general, the SOBBS functioned as well or better than the SOQ or OBC-Surveillance subscale as a measure of self-objectification. SOBBS scores were positively correlated with all variables that would be expected according to objectification theory: interpersonal sexual objectification, body shame, appearance anxiety, disordered eating, and depression in both

women and men and sexual functioning in women only. SOBBS scores were uncorrelated with narcissism, providing evidence of the scale's discriminant validity. There was a small but statistically significant correlation between BMI and self-objectification. Though objectification theory contends that self-objectification should occur independent of BMI (Calogero, 2011), this finding is not entirely surprising given that self-objectification is a body image variable and many aspects of body image are related to BMI.

Most theoretical models involving SOBBS scores as an indicator of self-objectification fit the data well. When they did not, as was the case for models predicting sexual functioning, modification indices suggested that relationships among other variables (e.g., interpersonal sexual objectification and appearance anxiety or sexual functioning) contributed to problems with fit. In addition, hierarchical regressions demonstrated that SOBBS scores predicted body shame, appearance anxiety, and mental health risks (i.e., disordered eating, depressive symptoms, and sexual functioning) above and beyond the SOQ and OBC-Surveillance, again with the exception of men's sexual functioning. The SOBBS contains more items than the SOQ and OBC-Surveillance, so one explanation for the increased ability of the SOBBS to predict outcome variables is that more complex scales are generally better predictors than shorter ones. A more likely explanation, however, is that the two-factor structure of the SOBBS offers improved content validity relative to the SOQ or OBC-Surveillance, as it combines multiple aspects of self-objectification into a single scale.

Theoretical Implications

The development of the SOBBS facilitates additional study in the area of objectification theory, as the measure itself offers several practical advantages over existing measures of self-objectification (e.g., developed for use with women and men, ability to impute missing data,

fewer missing data than other measures of self-objectification). In addition, the process of developing and validating the scale led to several implications for objectification theory. First, it raised the question of how researchers define self-objectification. While multiple conceptual definitions of self-objectification exist in the literature, this study offered an opportunity to explore how the definitions fit together and which aspects are most essential to the construct. The results of this study suggest that self-objectification can best be defined as the practice of viewing one's own body from an observer's perspective, as if the appearance of the body is capable of representing other aspects of the self. It may be that the conceptual definition underlying the SOQ, valuing physical appearance over competence, is part of believing the appearance of the body is capable of representing other aspects of the self. If this were the case, it would make sense that the third factor originally proposed as part of this measure was not retained. However, items designed to capture this aspect of self-objectification were also not retained on Factor 2, suggesting that there is more to understand about whether people make the distinction between appearance and competence in their self-perceptions, and, if so, how that distinction relates to self-objectification.

In addition to the development of the SOBBS, this study also contributes to the literature by being one of few to test the full theoretical model suggested by objectification theory. The two proposed causes of self-objectification are exposure to sexually objectifying images and experiences of interpersonal sexual objectification. In particular, the latter is often not included in empirical investigations of objectification theory, with researchers focusing instead on the consequences of self-objectification. While objectification theory posits that sexual objectification causes self-objectification, it fails to address how sexual objectification may be related to body shame, appearance anxiety, or mental health risks. Correlation coefficients and

modification indices examined during the model evaluation process suggest that the role of sexual objectification extends beyond causing self-objectification and potentially has a more direct impact on body image (particularly appearance anxiety) and mental health risks (especially sexual functioning in women). Another possibility to consider is whether exposure to sexually objectifying media and interpersonal sexual objectification are the only causes of self-objectification or if there are other potential contributors (e.g., repetitive feedback from others regarding appearance).

Related to clarification of the construct of self-objectification and consideration of additional precursors is the larger issue of examining how objectification theory applies to populations other than women. Researchers have grown increasingly interested in applying objectification theory to a number other groups and sub-groups, including heterosexual and gay men, lesbian women, men and women above the age of 35, members of ethnic minority groups, and athletes. While interest in these areas has grown, the majority of objectification research still involves college-age women. Study of objectification theory in various groups would be enriched by examining not only how the existing theoretical model applies among these groups but whether modifications to the model can be made to better explain the experiences of different populations. The retention of both a common core of items as well as additional gender-specific items following factor analysis suggests that there are some components of self-objectification that are unique to women or to men; this may also apply to members of different ethnic groups, to athletes and non-athletes, or to other groups. In addition, the relationships among variables or the variables for inclusion themselves may differ depending upon the group under examination. For example, the retention of an item about muscle tone following factor analysis of men's data in the current study suggests that drive for muscularity may be an important variable to consider

when approaching men's body image and/or mental health from an objectification theory perspective.

Clinical Implications

Improving researchers' abilities to define and measure self-objectification as was done in this study likely translates into greater ability to predict mental health risks stemming from self-objectification in particular and poor body image in general. The more we understand how body image predicts mental and physical health, the greater likelihood that resources will be devoted to the design and implementation of programs that foster improved body image in rather than programming solely designed to prevent a particular clinical condition (e.g., eating disorders). One of the criticisms of eating disorder prevention efforts is that they can be resource-intensive but benefit a relatively small proportion of the population given the base rate of eating disorders. It is possible that targeting body image will translate into not only decreased risk of eating disorders but also decreased risk of depression, improved sexual functioning, and potentially improvements in other areas, and therefore positively impact a wider range of individuals.

An additional benefit to understanding the causes and underlying structure of self-objectification is that it may be possible to empower individuals to respond to messages in Westernized culture in a more adaptive manner. Changing people's reactions to cultural influences is important because the cultural shift needed to facilitate decreased self-objectification is not likely to occur in the near future. Understanding the essential elements of self-objectification points toward potential targets for intervention (e.g., teaching people to recognize that what the body looks like is only one component of self-concept), and researchers have begun to integrate self-objectification into eating disorder prevention programs. A recent study showed that integrating self-objectification into eating disorder prevention programs led to

short-term and long-term reductions in self-objectification, body dissatisfaction, and eating disorder symptoms, suggesting that self-objectification can indeed be modified and that intervening at that level translates into changes in mental health risks (Kroon Van Diest & Perez, 2013).

Limitations

A particular strength of this study is that the SOBBS was developed with potential gender differences in mind, rather than developing a body image measure with women and applying it to men as is commonly done. However, one of the primary limitations of this study is that it involved a primarily Caucasian, heterosexual college student sample and as such, results are not generalizable to other populations, including younger or older males and females and those from minority groups.

Second, although this study involved a comprehensive test of objectification theory, only one proposed precursor to self-objectification (interpersonal sexual objectification) was examined. Objectification theory also argues that exposure to sexually objectifying media socializes women, and now men, to engage in self-objectification. Inclusion of this variable may shed additional light on self-objectification and its effects. This may be especially important for individuals and perhaps populations who engage in self-objectification but report a low level of interpersonal sexual objectification experiences. For example, in this study, men reported significantly lower levels of interpersonal sexual objectification than women, $t(673) = 12.82, p < .001$.

The final limitation of this study relates to examination of the SOBBS in relation to the SOQ. A substantial minority of participants failed to correctly complete the SOQ, resulting in a reduced sample size for all analyses involving the SOQ. Though multiple imputation was used to

replace missing data for other study variables, the structure and scoring of the SOQ makes it such that imputing missing data via regression is illogical. As there were no significant differences between participants with missing data on the SOQ and those without, it was decided that the benefits of retaining all participants in order to maintain sample size and statistical power for primary analyses outweighed the disadvantages of unequal sample sizes. This very limitation highlights two reasons why the SOQ may not be preferable as a measure of self-objectification: (a) a high proportion of missing data across multiple studies (Grippio & Hill, 2008; Lindner et al., 2012; Myers & Crowther, 2007; Nowatski & Morry, 2009; Sanchez & Broccoli, 2008); and (b) the inability to impute missing data.

Future Directions

This study points to several avenues for future study of objectification. First, additional evaluation of the newly developed measure of self-objectification is warranted. Though the initial psychometric properties were good, it would be premature to advise that this measure be used instead of other measures of self-objectification. It would be best for researchers to begin using the SOBBS in addition to existing measures of self-objectification to further validate its use in a wider range of populations.

An additional area for future study involves further development of the overall theoretical model representing objectification theory. This would include exploration of new relationships among constructs already included in this framework (e.g., interpersonal sexual objectification as a direct predictor of appearance anxiety and sexual functioning) as well as integration of other relevant constructs (e.g., drive for muscularity, other aspects of body image) to create a more comprehensive model explaining how cultural forces impact mental health. Consideration of additional causes of self-objectification may also lead to development of additional targets for

prevention, which may in turn translate into greater impact on observed mental health risks than existing models.

APPENDIX A: FIGURES AND TABLES

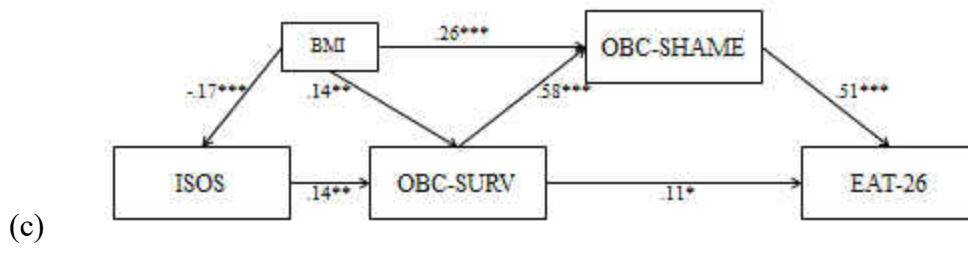
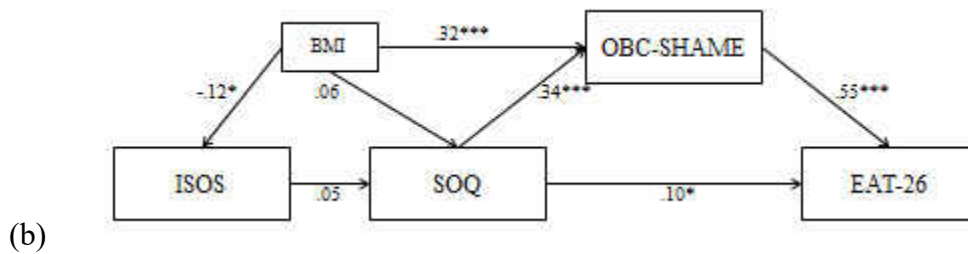
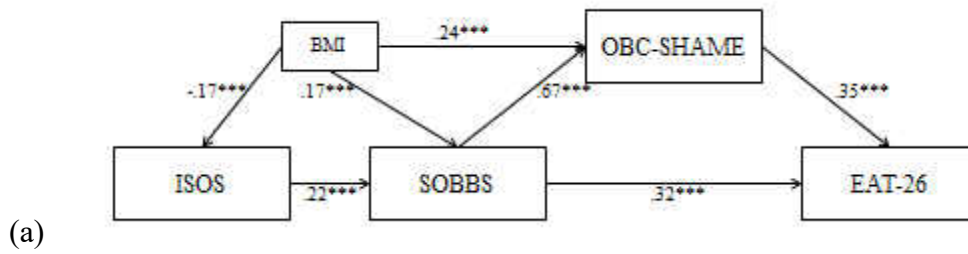


Figure 1. Women's Self-Objectification and Body Shame as Predictors of Disordered Eating

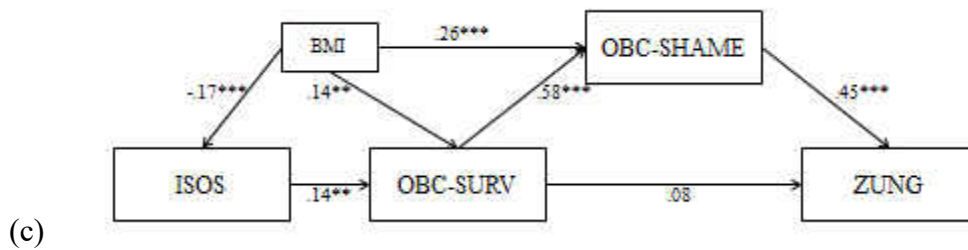
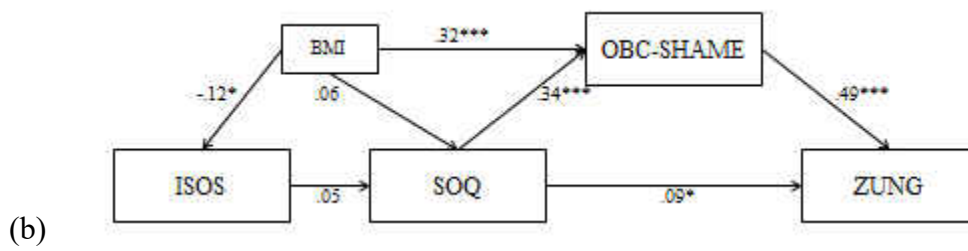
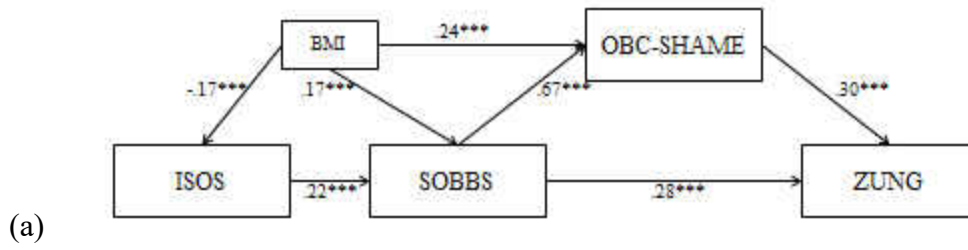


Figure 2. Women's Self-Objectification and Body Shame as Predictors of Depression

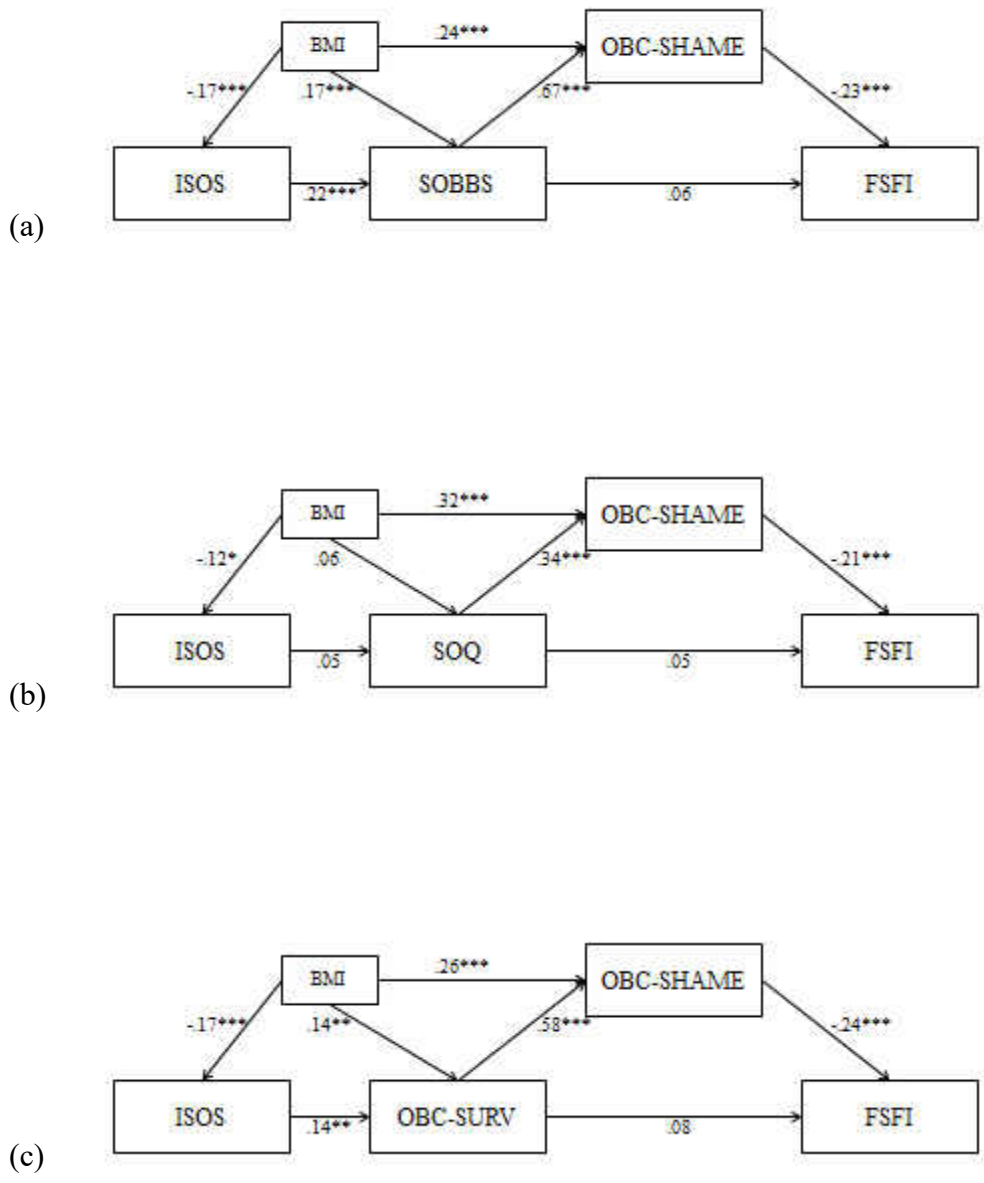


Figure 3. Women’s Self-Objectification and Body Shame as Predictors of Sexual Functioning

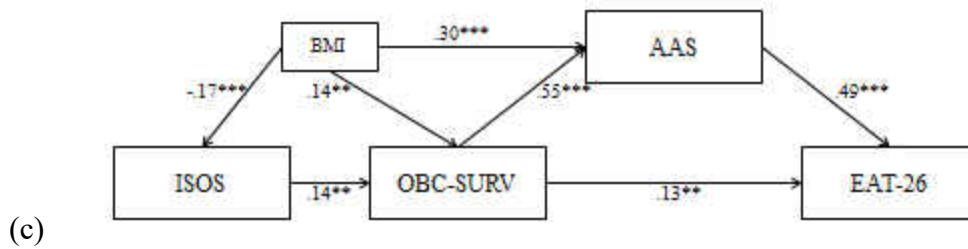
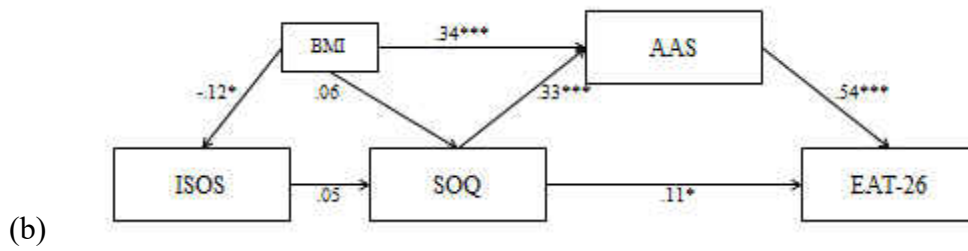
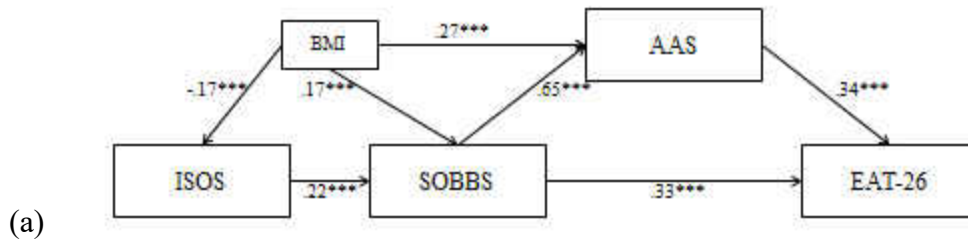


Figure 4. Women's Self-Objectification and Appearance Anxiety as Predictors of Disordered Eating

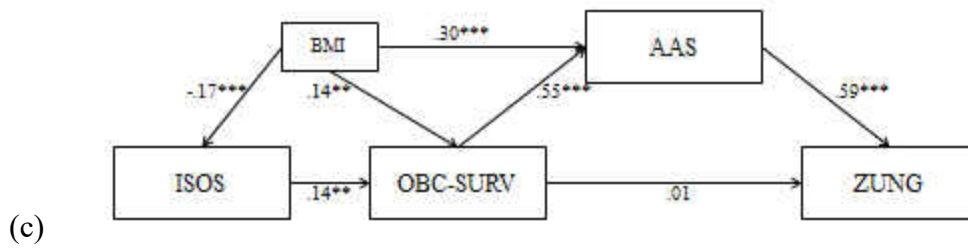
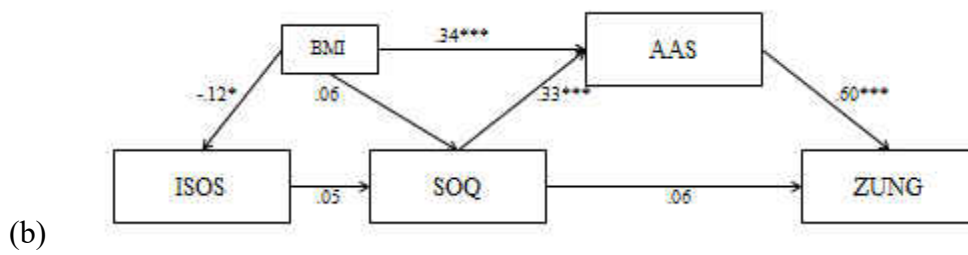
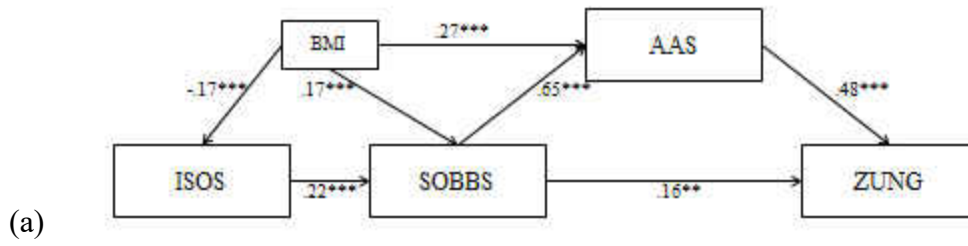


Figure 5. Women's Self-Objectification and Appearance Anxiety as Predictors of Depression

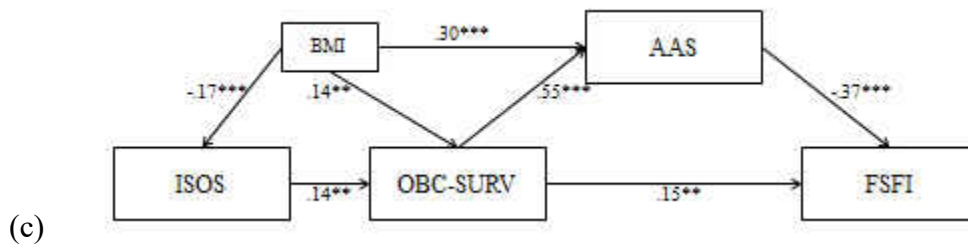
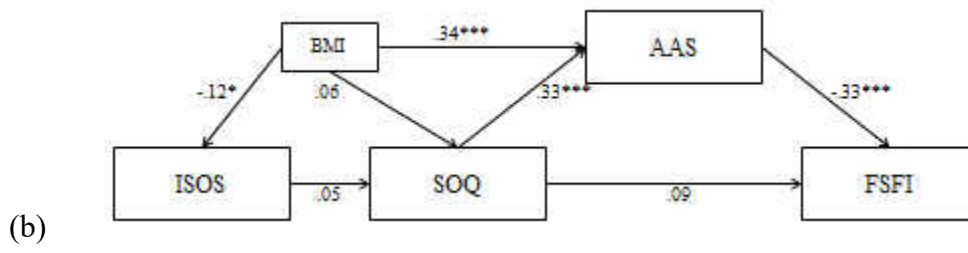
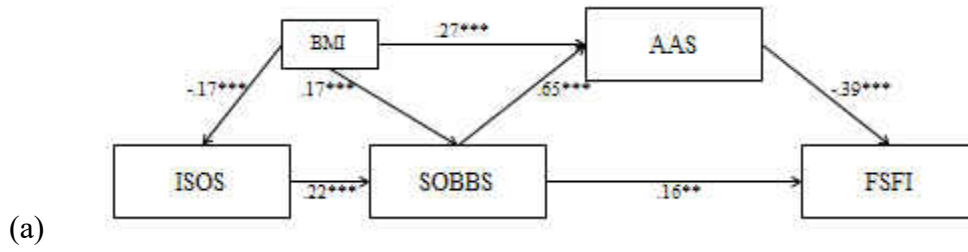


Figure 6. Women’s Self-Objectification and Appearance Anxiety as Predictors of Sexual Functioning

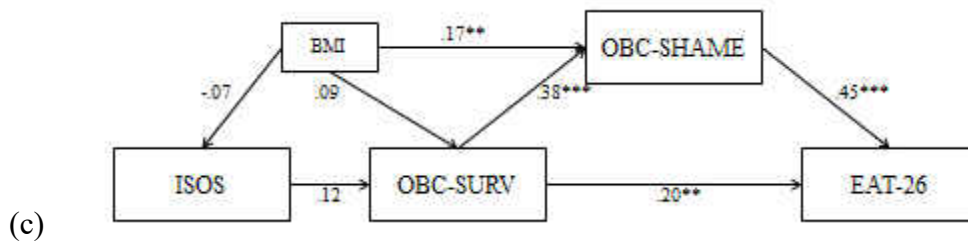
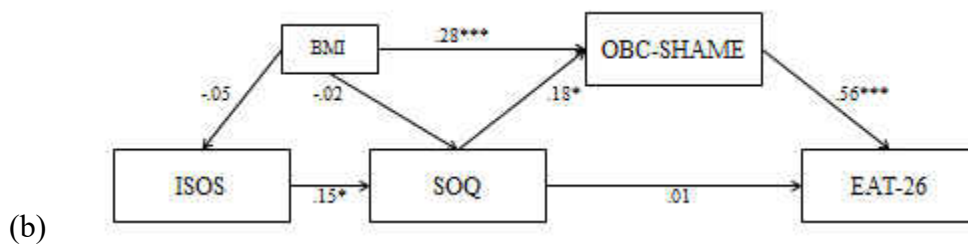
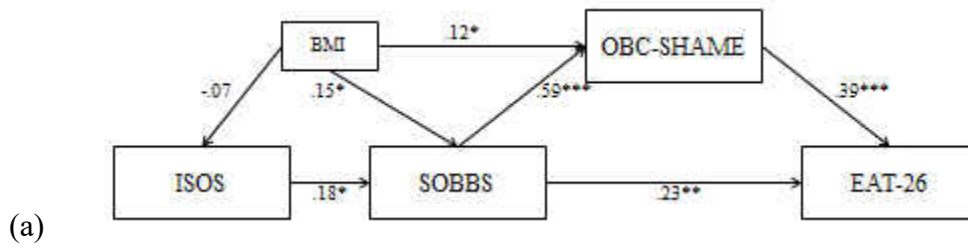


Figure 7. Men's Self-Objectification and Body Shame as Predictors of Disordered Eating

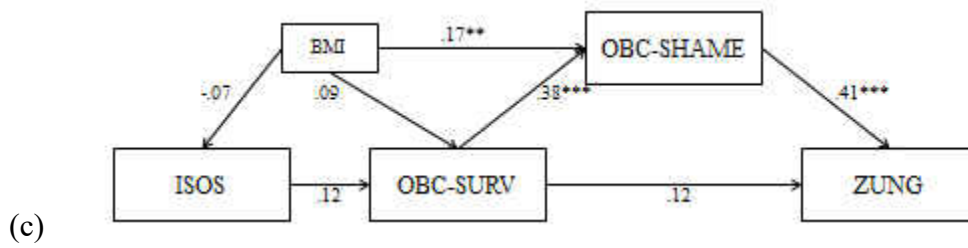
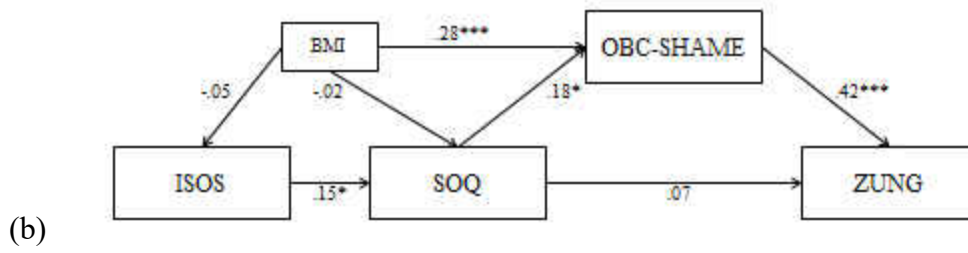
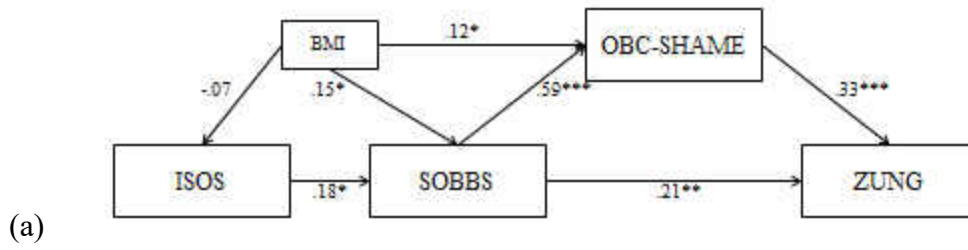


Figure 8. Men's Self-Objectification and Body Shame as Predictors of Depression

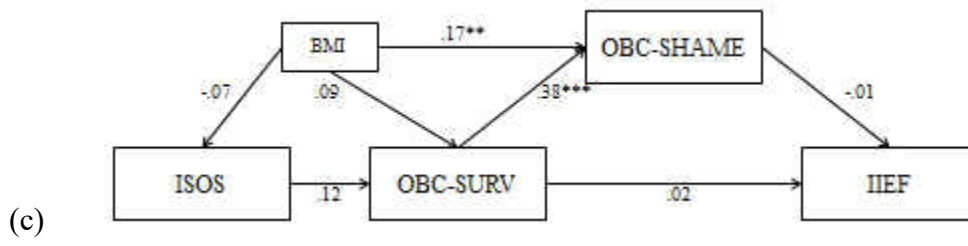
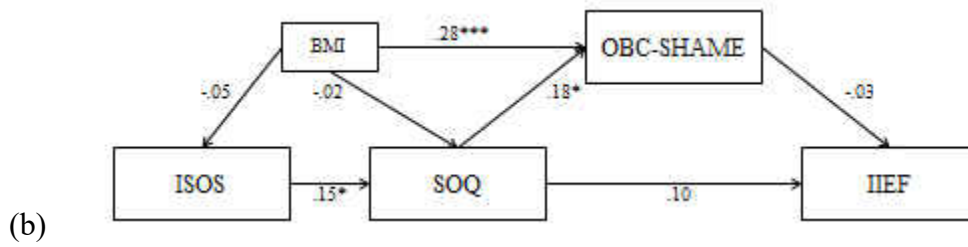
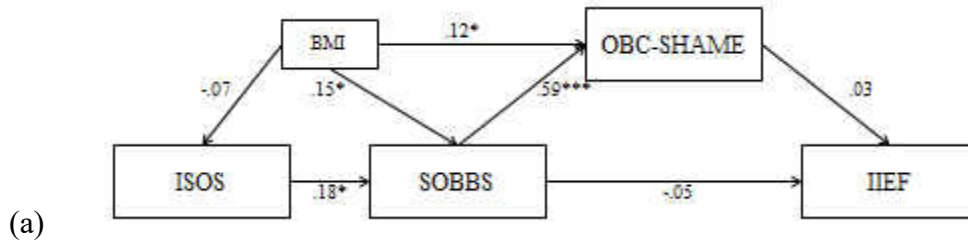


Figure 9. Men's Self-Objectification and Body Shame as Predictors of Sexual Functioning

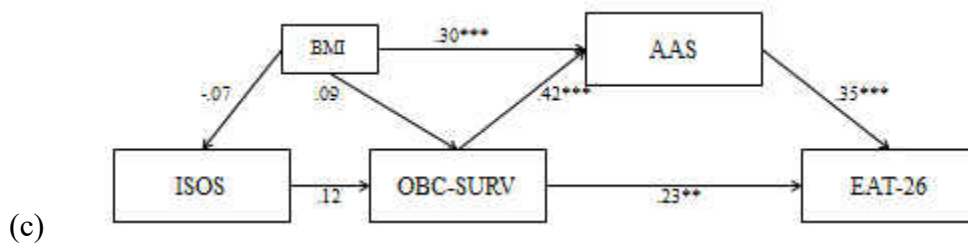
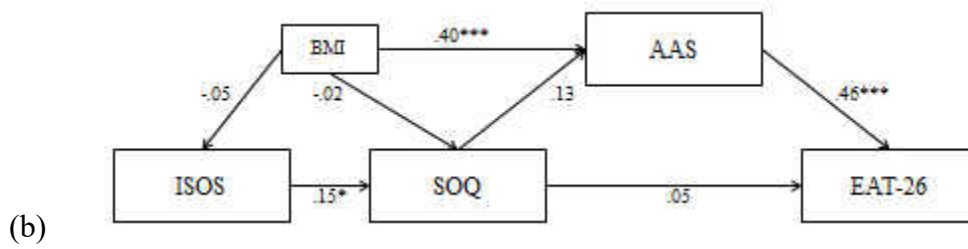
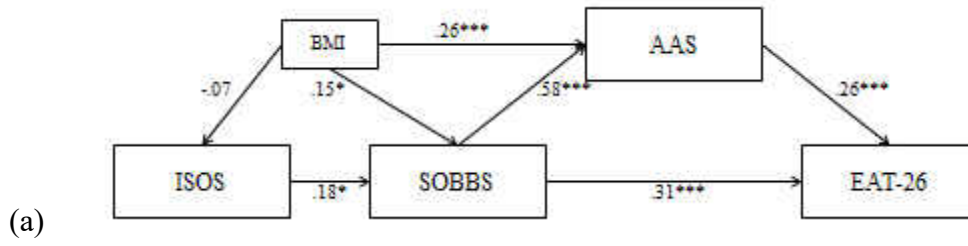


Figure 10. Men's Self-Objectification and Appearance Anxiety as Predictors of Disordered Eating

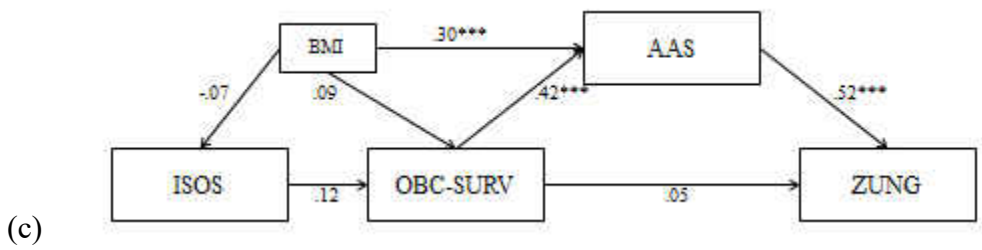
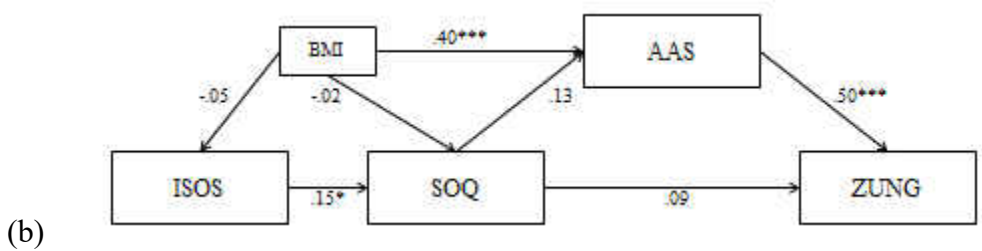
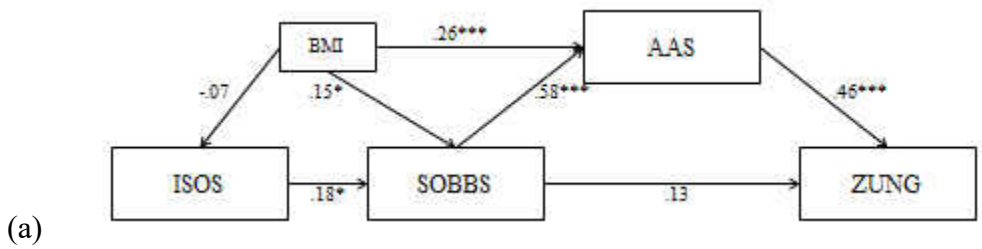


Figure 11. Men's Self-Objectification and Appearance Anxiety as Predictors of Depression

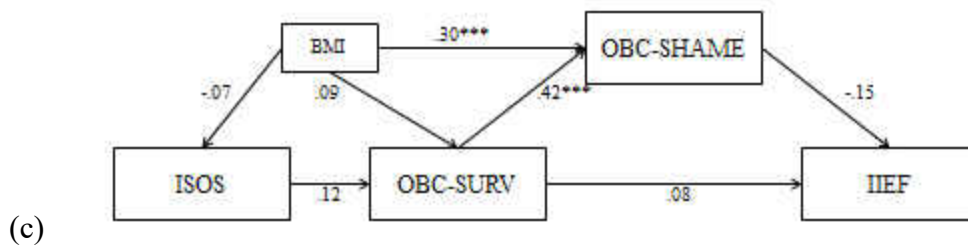
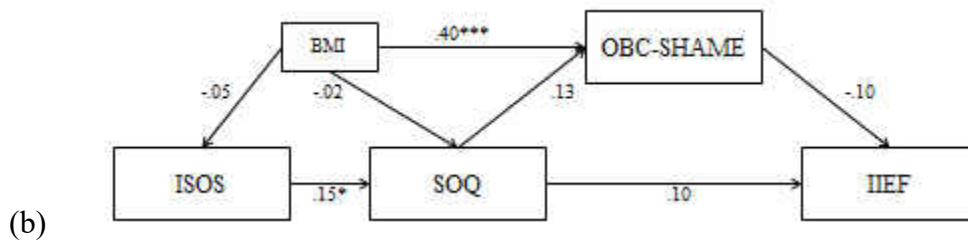
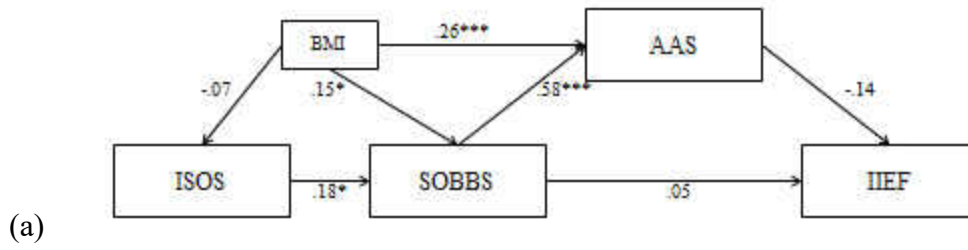


Figure 12. Women’s Self-Objectification and Appearance Anxiety as Predictors of Sexual Functioning

Table 1. Demographic Characteristics of Validation Study Participants by Gender

Variable	Women		Men	
	<i>M (SD)</i>	<i>n (%)</i>	<i>M (SD)</i>	<i>n (%)</i>
Age	21.32 (3.65)		20.51 (2.96)	
BMI	23.60 (5.25)		28.04 (6.11)	
Ethnicity				
African American		47 (9.94%)		14 (6.93%)
Asian/Pacific Islander		23 (4.86%)		9 (4.46%)
Biracial		11 (2.33%)		4 (1.98%)
Caucasian		287 (60.68%)		112 (55.45%)
Native American		5 (1.06%)		2 (0.99%)
Latino/Hispanic		82 (17.34%)		56 (27.72%)
Other		18 (3.81%)		4 (1.98%)
Sexual Orientation				
Heterosexual		426 (90.06%)		175 (86.63%)
Bisexual		27 (5.71%)		9 (4.46%)
Homosexual		15 (3.17%)		16 (7.92%)

Table 2. Item Pool and Corrected Item-Total Correlations by Gender

<u>Item</u>	<u>Corrected Item-Total r</u>	
	<u>Women</u>	<u>Men</u>
1. I think about how my body will look to others if I assume a particular pose/position (e.g., if I sit down).	.584	.491
2. My physical appearance is a more important contributor to my self-worth than my level of physical fitness.	.550	.502
3. My body is what I value about myself.	.230	.231
4. When preparing for work events where I will be seen by others (e.g., giving a presentation), I think a lot about how others will view my body.	.555	.583
5. When getting ready to go to a business or a social event, I am more concerned about what people will think about my appearance than about how the event will go.	.566	.516
6. Looking attractive to others is more important to me than being happy with who I am inside.	.617	.584
7. How slim my body looks says something about who I am as a person.	.610	.562
8. I frequently think about how others will view my arms.	.612	.651
9. My primary motivation when I exercise is to ensure that I look good for others.	.651	.506
10. I try to imagine what my body looks like to others (i.e., like I am looking at myself from the outside).	.666	.631
11. I think more about how my body looks than how healthy I feel when I am exercising.	.607	.546
12. If I think someone else won't like my appearance, I do something to try to fix it before I leave the house.	.638	.543
13. I frequently think about how others will view my lips.	.400	.381
14. How I look is more important to me than how I think or feel.	.565	.591
15. I often think about how my family members view my body.	.655	.554
16. At any given moment, I am aware of how I might look if I were to get my picture taken.	.522	.448
17. I avoid activities that I think will make my body look unattractive to others.	.657	.529
18. When I am with someone I am dating, I get distracted by thoughts of how they might be viewing my body.	.643	.627
19. I choose specific clothing or accessories based on how they make my body appear to others.	.618	.532
20. I frequently think about how the proportions of my body look to others.	.757	.725
21. I frequently think about how others will view my teeth.	.440	.458
22. My physical appearance is more important than my personality.	.552	.565
23. When I look in the mirror, I notice areas of my appearance that I think others will view critically.	.658	.652
24. To make my body look good for others, I frequently spend more on activities or products (e.g., tanning, clothing).	.574	.558
25. I change my clothes multiple times before going out because I keep thinking of someone viewing my body.	.649	.590
26. At times I become distracted from what I am doing by thoughts of how my body looks to others.	.735	.688
27. I consider how my body will look to others in the clothing I am wearing.	.706	.663
28. I dress in certain ways to draw attention to specific parts of my body.	.509	.533
29. I often think about what others might say about my complexion.	.494	.533

<u>Item</u>	<u>Corrected Item- Total <i>r</i></u>	
	<u>Women</u>	<u>Men</u>
30. I often think about how my friends view my body.	.761	.637
31. When I look at my body, I find myself wondering if others see it the same way I do.	.690	.684
32. I frequently think about how my chest/breasts look to others.	.569	.686
33. How toned by body looks says something about who I am as a person.	.569	.507
34. I frequently think about how others will view my abs.	.565	.624
35. I feel like I can't go out in public unless I look my best.	.568	.586
26. I often think about how my body must look to others.	.799	.775
37. I frequently think about what others will think of my height.	.248	.472
38. I frequently think about how others will view my legs.	.634	.618
39. At times I am so consumed by thoughts of how others might be viewing my body that I am not fully present in my life (e.g., thinking about how I look rather than enjoying the weather while out for a walk or run).	.728	.703
40. My physical appearance says more about how I am than my intellect.	.539	.448
41. I frequently think about how others may view my eyes.	.518	.516
42. How sexually attractive others find me says something about who I am as a person.	.595	.633
43. My physical appearance is more important than my physical abilities.	.558	.564
44. I spend more time thinking about how my body looks to others than about how physically healthy I am.	.648	.627
45. I try to anticipate others' reactions to my physical appearance.	.740	.737
46. My body is what gives me value to other people.	.599	.639
47. I have thoughts about how my body looks to others even when I am alone.	.696	.690
48. When preparing for family functions where I know my body will be seen, I think a lot about how others will view my body.	.700	.713
49. I pay attention to my grooming (e.g., shaving or trimming body or facial hair because of how it makes my body appear to others.	.511	.374
50. I often find myself thinking about what others would say about the appearance of my body.	.814	.787
51. I spend more time wondering how my body looks to others than thinking about other areas of my life (e.g., education, relationships).	.703	.647
52. I make decisions about my appearance based more on what others will think than on my own preferences.	.709	.668
53. I constantly monitor how my body appears to others.	.776	.795
54. I often imagine how my body looks to partners during sexual activity.	.560	.619
55. I frequently think about how others will view my butt.	.637	.539

Table 3. Factor Loadings for Retained Items by Gender

<u>Item</u>	Women		Men	
	Factor <u>1</u>	Factor <u>2</u>	Factor <u>1</u>	Factor <u>2</u>
1. I think about how my body will look to others if I assume a particular pose/position (e.g., if I sit down).	.655	-.029		
4. When preparing for work events where I will be seen by others (e.g., giving a presentation), I think a lot about how others will view my body.	.707	-.124	.640	.000
6. Looking attractive to others is more important to me than being happy with who I am inside.	.010	.795	-.054	.790
7. How slim my body looks says something about who I am as a person.	.216	.538	.021	.657
10. I try to imagine what my body looks like to others (i.e., like I am looking at myself from the outside).	.723	.012	.794	-.086
15. How I look is more important to me than how I think or feel.	-.037	.827	.013	.737
15. I often think about how my family members will view my body.	.526	.253		
19. I choose specific clothing or accessories based on how they make my body appear to others.	.703	-.012	.719	-.153
20. I frequently think about how the proportions of my body look to others.	.799	.027	.735	.076
22. My physical appearance is more important than my personality.	-.082	.816	-.012	.686
23. When I look in the mirror, I notice areas of my appearance that I think others will view critically.	.669	.057	.651	.068
27. I consider how my body will look to others in the clothing I am wearing.	.802	-.037	.812	-.078
30. I often think about how my friends view my body.	.648	.209		
31. When I look at my body, I find myself wondering if others see it the same way I do.	.869	-.109	.701	.056
32. I frequently think about how my chest/breasts look to others.			.654	.053
33. How toned my body looks says something about how I am as a person.			-.070	.683
36. I often think about how my body must look to others.	.807	.076	.813	.065
38. I frequently think about how others will view my legs.	.621	.034		
39. At times I am so consumed by thoughts of how others might be viewing my body that I am not fully present in my life (e.g., thinking about how I look rather than enjoying the weather while out for a walk or run).			.265	.544
45. I try to anticipate others' reactions to my physical appearance.			.629	.196
46. My body is what gives me value to other people.	.142	.576	.142	.598
47. I have thoughts about how my body looks to others even when I am alone.			.745	.052
48. When preparing for family functions where I know my body will be seen, I think a lot about how others will view my body.	.672	.136	.527	.293
50. I often find myself thinking about what others would say about the appearance of my body.			.646	.233
51. I spend more time wondering how my body looks to others than thinking about other areas of my life (e.g., education, relationships).			.215	.557

Table 4. Factor Loadings for New Measure by Gender

<u>Item</u>	Women		Men	
	Factor <u>1</u>	Factor <u>2</u>	Factor <u>1</u>	Factor <u>2</u>
6. Looking attractive to others is more important to me than being happy with who I am on the inside.	-.032	.831	-.058	.816
7. How slim my body looks says something about who I am as a person.	.192	.556	.099	.562
10. I try to imagine what my body looks like to others (i.e., like I am looking at myself from the outside).	.735	.020	.789	-.035
14. How I look is more important to me than how I think or feel.	-.040	.833	-.023	.778
19. I choose specific clothing or accessories based on how they make my body appear to others.	.714	-.008	.719	-.119
20. I frequently think about how the proportions of my body look to others.	.758	.064	.674	.161
22. My physical appearance is more important than my personality.	-.076	.798	-.027	.724
23. When I look in the mirror, I notice areas of my appearance that others will view critically.	.668	.068	.615	.113
27. I consider how my body will look to others in the clothing I am wearing.	.817	-.038	.812	-.048
31. When I look at my body, I find myself wondering about if others see it the same way I do.	.874	-.101	.678	.087
36. I often think about how my body must look to others.	.815	.086	.766	.112
46. My body is what gives me value to other people.	.122	.583	.158	.564

Table 5. Descriptive Statistics and Correlations among Study Variables

	SOBBS	SOQ	OBC-Surv	OBC-Shame	ISOS	MBSRQ	AAS	EAT-26	Zung	FSFI/IEEF	NPI-16	BMI	<i>M</i>	<i>SD</i>
SOBBS	-	.28***	.63***	.60***	.16*	.45***	.61***	.47***	.42***	-.04	-.07	.15*	2.62	.79
SOQ	.44***	-	.36**	.17*	.15*	-.02	.12	.10	.14	.09	-.03	-.03	-3.53	12.08
OBC-Surv	.73***	.49***	-	.39***	.12	-.27***	.45***	.38***	.28***	.01	.03	.09	4.42	1.01
OBC-Shame	.70***	.36***	.61***	-	.13	-.51***	.63***	.53***	.46***	.00	-.12	.20**	3.14	1.05
ISOS	.19***	.04	.12*	.04	-	.29***	-.11	.18*	.00	.21**	.22**	-.07	1.80	.59
MBSRQ	-.51***	-.28***	-.43***	-.63***	.22***	-	-.86***	-.34***	-.43***	.09	.32***	-.43***	3.47	.83
AAS	.68***	.35***	.59***	.69***	-.08	-.88***	-	.45***	.54***	-.11	-.27***	.34***	2.61	.79
EAT-26	.56***	.30***	.42***	.57***	.13**	-.50***	.56***	-	.39***	-.09	-.01	.23**	54.01	14.99
Zung	.49***	.27***	.36***	.50***	.06	-.55***	.59***	.50***	-	-.14*	-.27***	.15*	37.26	8.03
FSFI/IEEF	-.11*	-.03	-.07	-.19***	.22***	.29***	-.28***	-.12*	-.26***	-	.18*	-.04	44.38	21.77
NPI-16	-.04	-.12*	-.06	-.10*	.29***	.29***	-.26***	-.01	-.14**	.08	-	-.06	.36	.21
BMI	.13**	.06	.11*	.33***	-.17***	-.45***	.36***	.12*	.12*	-.10*	-.06	-	28.04	6.11
<i>M</i>	2.86	2.08	4.87	3.60	2.49	3.32	2.86	61.95	39.68	22.11	.29	23.60	-	-
<i>SD</i>	.80	12.99	1.05	1.12	.66	.96	.91	20.27	9.97	11.51	.18	5.25	-	-

* $p < .05$; ** $p < .01$; *** $p < .001$. Correlations, means, and standard deviations appear below the diagonal for women and above the diagonal for men. Analyses involving the SOQ based on reduced sample sizes ($n = 399$ for women and $n = 170$ for men). SOBBS = Self-Objectification Beliefs and Behaviors Scale (new measure); SOQ = Self-Objectification Questionnaire; OBC-Surv = Objectified Body Consciousness Body Surveillance; OBC-Shame = Objectified Body Consciousness Body Shame; ISOS = Interpersonal Sexual Objectification Scale; MBSRQ = Multidimensional Body-Self Relations Questionnaire Appearance Evaluation Subscale; AAS = Appearance Anxiety Scale; EAT-26 = Eating Attitudes Test-26; Zung = Zung Self Rating Depression Scale; FSFI = Female Sexual Functioning Index; IIEF = International Index of Erectile Function; NPI-16 = Narcissistic Personality Inventory

Table 6. Fit Indices for Self-Objectification and Body Shame as Predictors of Mental Health Risks in Women

Outcome Variable	Index	SOBBS	SOQ	OBC-Surv	Criterion
EAT-26	χ^2	5.801	8.992	9.171	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.122	.029	.027	>.05 reflects good fit
	RMSEA	.044	.071	.066	<.10 reflects good fit
	SRMR	.019	.042	.033	<.05 reflects good fit
	NFI	.991	.969	.982	>.90 reflects good fit
	CFI	.996	.979	.987	>.90 reflects good fit
	AIC	39.801	42.992	43.171	Smaller values reflect better fit
Zung	χ^2	2.964	3.573	2.188	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.394	.311	.534	>.05 reflects good fit
	RMSEA	.000	.022	.000	<.10 reflects good fit
	SRMR	.015	.024	.016	<.05 reflects good fit
	NFI	.995	.986	.995	>.90 reflects good fit
	CFI	1.000	.998	1.000	>.90 reflects good fit
	AIC	36.964	37.573	36.188	Smaller values reflect better fit
FSFI	χ^2	27.178	23.375	24.897	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.000	.000	>.05 reflects good fit
	RMSEA	.131	.131	.124	<.10 reflects good fit
	SRMR	.060	.054	.056	<.05 reflects good fit
	NFI	.942	.846	.928	>.90 reflects good fit
	CFI	.947	.856	.935	>.90 reflects good fit
	AIC	61.187	57.375	58.897	Smaller values reflect better fit

Note: RMSEA = Squared Error of Approximation; SRMR = Standardized Root Mean Square Residual; NFI = Normed Fit Index; CFI = Comparative Fit Index; AIC = Akaike Information Criterion

Table 7. Fit Indices for Self-Objectification and Appearance Anxiety as Predictors of Mental Health Risks in Women

Outcome Variable	Index	SOBBS	SOQ	OBC-Surv	Criterion
EAT-26	χ^2	39.367	19.175	29.567	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.000	.000	>.05 reflects good fit
	RMSEA	.160	.116	.137	<.10 reflects good fit
	SRMR	.045	.040	.042	<.05 reflects good fit
	NFI	.942	.937	.942	>.90 reflects good fit
	CFI	.945	.945	.947	>.90 reflects good fit
	AIC	73.367	53.175	63.567	Smaller values reflect better fit
Zung	χ^2	38.708	8.602	23.246	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.035	.000	>.05 reflects good fit
	RMSEA	.159	.068	.120	<.10 reflects good fit
	SRMR	.047	.026	.038	<.05 reflects good fit
	NFI	.942	.973	.955	>.90 reflects good fit
	CFI	.945	.982	.960	>.90 reflects good fit
	AIC	72.708	42.602	57.246	Smaller values reflect better fit
FSFI	χ^2	44.696	19.128	24.955	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.000	.000	>.05 reflects good fit
	RMSEA	.172	.116	.125	<.10 reflects good fit
	SRMR	.070	.054	.059	<.05 reflects good fit
	NFI	.911	.891	.931	>.90 reflects good fit
	CFI	.915	.903	.938	>.90 reflects good fit
	AIC	78.695	53.128	58.955	Smaller values reflect better fit

Table 8. Fit Indices for Self-Objectification and Body Shame as Predictors of Mental Health Risks in Men

Outcome Variable	Index	SOBBS	SOQ	OBC-Surv	Criterion
EAT-26	χ^2	8.443	8.715	10.878	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.038	.033	.012	>.05 reflects good fit
	RMSEA	.095	.106	.114	<.10 reflects good fit
	SRMR	.043	.057	.054	<.05 reflects good fit
	NFI	.956	.909	.918	>.90 reflects good fit
	CFI	.970	.934	.936	>.90 reflects good fit
	AIC	42.443	42.715	44.878	Smaller values reflect better fit
Zung	χ^2	2.719	5.626	4.057	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.437	.131	.255	>.05 reflects good fit
	RMSEA	.000	.072	.042	<.10 reflects good fit
	SRMR	.024	.039	.029	<.05 reflects good fit
	NFI	.984	.914	.960	>.90 reflects good fit
	CFI	1.000	.953	.988	>.90 reflects good fit
	AIC	36.719	39.626	38.057	Smaller values reflect better fit
IEEF	χ^2	10.041	11.117	11.188	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.018	.011	.011	>.05 reflects good fit
	RMSEA	.108	.127	.117	<.10 reflects good fit
	SRMR	.057	.062	.059	<.05 reflects good fit
	NFI	.915	.694	.804	>.90 reflects good fit
	CFI	.934	.691	.826	>.90 reflects good fit
	AIC	44.041	45.117	45.188	Smaller values reflect better fit

Table 9. Fit Indices for Self-Objectification and Appearance Anxiety as Predictors of Mental Health Risks in Men

Outcome Variable	Index	SOBBS	SOQ	OBC-Surv	Criterion
EAT-26	χ^2	25.204	16.215	19.649	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.001	.000	>.05 reflects good fit
	RMSEA	.192	.161	.166	<.10 reflects good fit
	SRMR	.063	.057	.058	<.05 reflects good fit
	NFI	.882	.828	.869	>.90 reflects good fit
	CFI	.891	.843	.881	>.90 reflects good fit
	AIC	59.204	50.215	53.649	Smaller values reflect better fit
Zung	χ^2	14.581	4.437	6.952	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.002	.218	.073	>.05 reflects good fit
	RMSEA	.139	.053	.081	<.10 reflects good fit
	SRMR	.052	.036	.038	<.05 reflects good fit
	NFI	.932	.953	.954	>.90 reflects good fit
	CFI	.944	.983	.972	>.90 reflects good fit
	AIC	48.581	38.437	40.952	Smaller values reflect better fit
IEF	χ^2	21.759	11.671	13.066	Smaller χ^2 reflects better fit
	<i>df</i>	3	3	3	
	<i>p</i>	.000	.009	.004	>.05 reflects good fit
	RMSEA	.176	.131	.129	<.10 reflects good fit
	SRMR	.073	.066	.064	<.05 reflects good fit
	NFI	.858	.775	.857	>.90 reflects good fit
	CFI	.869	.793	.877	>.90 reflects good fit
	AIC	55.759	45.671	47.066	Smaller values reflect better fit

Table 10. Incremental Validity of the SOBBS Relative to the SOQ

Outcome Variable	Women						Men					
	<u>ΔR2</u>	<u>ΔR2(F)</u>	<u>B</u>	<u>SE B</u>	<u>β</u>	<u>T</u>	<u>ΔR2</u>	<u>ΔR2(F)</u>	<u>B</u>	<u>SE B</u>	<u>B</u>	<u>T</u>
OBC Shame: Model 1	.13	59.59*					.03	4.99				
SOQ			.03	.00	.36	7.72*			.02	.01	.17	2.23
Model 2	.40	332.42*					.32	83.72*				
SOQ			.01	.00	.05	1.41			.00	.01	.00	.06
SOBBS			1.03	.06	.70	18.23*			.80	.09	.59	9.15*
MBSRQ: Model 1	.08	34.26*					.00	.08				
SOQ			-.02	.00	-.28	-5.85*			.00	.01	-.02	-.28
Model 2	.21	119.42*					.19	39.61*				
SOQ			-.00	.00	-.06	-1.21			.01	.01	.11	1.46
SOBBS			-.65	.06	-.51	-10.93*			-.50	.08	-.46	-6.29*
AAS: Model 1	.12	56.20*					.01	2.29*				
SOQ			.03	.00	.35	7.50*			.01	.01	.12	1.51
Model 2	.38	297.93*					.35	90.12*				
SOQ			.00	.00	.05	1.34			.00	.00	-.01	-.86
SOBBS			.82	.05	.68	17.26*			.63	.07	.61	9.50*
EAT-26: Model 1	.09	39.27*					.01	1.70				
SOQ			.47	.07	.30	6.27			.12	.09	.10	1.31
Model 2	.23	134.27*					.20	43.17*				
SOQ			.10	.07	.07	1.43			-.04	.09	-.03	-.44
SOBBS			13.94	1.20	.53	11.59*			8.69	1.32	.47	6.57*
Zung: Model 1	.07	30.94*					.02	3.58				
SOQ			.21	.04	.27	5.56*			.10	.05	.14	1.89
Model 2	.19	103.77*					.12	24.19*				
SOQ			.04	.04	.06	1.14			.03	.05	.04	.56
SOBBS			6.40	.63	.49	10.19*			3.73	.76	.37	4.92*
FSFI/IIEF: Model 1	.00	.35					.01	1.42				
SOQ			-.03	.04	-.03	-.59			.16	.13	.09	1.19
Model 2	.03	11.24*					.00	.222				
SOQ			.05	.05	.05	.932			.18	.14	.10	1.27
SOBBS			-2.71	.81	-.19	-3.35*			-1.02	2.18	-.04	-.47

Note: A Bonferroni correction was applied given the number of statistical tests performed. * $p < .008$. Degrees of Freedom for Women's Model 1 (1,397); Women's Model 2 (1,396); Men's Model 1(1,168), Men's Model 2 (1,167).

Table 11. Incremental Validity of the SOBBS Relative to OBC-Surveillance

Outcome Variable	Women						Men					
	ΔR^2	$\Delta R^2(F)$	B	SE B	β	T	ΔR^2	$\Delta R^2(F)$	B	SE B	β	t
OBC Shame: Model 1	.37	276.41*					.15	36.38*				
OBC-Surv			.43	.04	.61	16.63*			.41	.07	.39	6.03*
Model 2	.14	138.76*					.21	66.28*				
OBC-Surv			.22	.05	.20	4.30*			.02	.08	.02	.24
SOBBS			.78	.07	.56	11.78*			.79	.10	.59	8.14*
MBSRQ: Model 1	.18	104.77*					.08	16.12*				
OBC-Surv			-.39	.04	.43	-10.24*			-.22	.06	-.27	-4.02*
Model 2	.08	53.64*					.13	31.00*				
OBC-Surv			-.11	.05	-.12	-2.02			.01	.07	.02	.18
SOBBS			-.51	.07	-.42	-7.32*			-.48	.09	-.46	-5.57*
AAS: Model 1	.34	245.10*					.20	50.97*				
OBC-Surv			.51	.03	.59	15.66*			.35	.05	.45	7.14*
Model 2	.14	128.56*					.18	58.25*				
OBC-Surv			.16	.04	.18	3.77*			.08	.06	.10	1.45
SOBBS			.63	.06	.55	11.34*			.55	.07	.55	7.63*
EAT-26: Model 1	.17	98.52*					.15	34.05*				
OBC-Surv			8.01	.81	.42	9.93*			5.65	.97	.38	5.84*
Model 2	.14	99.24*					.09	22.07*				
OBC-Surv			.19	1.08	.01	.17			2.12	1.19	.14	1.78
SOBBS			14.07	1.41	.56	9.96*			7.19	1.53	.38	4.70*
Zung: Model 1	.13	67.40*					.08	17.60*				
OBC-Surv			3.35	.41	.35	8.21*			2.26	.54	.28	4.20*
Model 2	.12	72.04*					.09	22.23*				
OBC-Surv			-.11	.56	-.01	-.19			.29	.66	.04	.44
SOBBS			6.22	.73	.50	8.49*			4.01	.85	.39	4.71*
FSFI/IEEF: Model 1	.00	2.07					.00	.04				
OBC-Surv			-.72	.50	-.07	-1.44			.29	1.52	.01	.19
Model 2	.01	3.42					.00	.62				
OBC-Surv			.27	.74	.03	.37			1.27	1.96	.06	.645
SOBBS			-1.79	.97	-.12	-1.85			-1.99	2.53	-.07	-.79

Note: A Bonferroni correction was applied given the number of statistical tests performed. * $p < .008$. Degrees of Freedom for Women's Model 1 (1, 471); Women's Model 2 (1,470); Men's Model 1(1,200), Men's Model 2 (1,199).

APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
11201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: UCF Institutional Review Board #1
FWA00000351, IRB00001138
To: Danielle Lindner
Date: March 29, 2013

Dear Researcher:

On 3/29/2013, the IRB approved the following human participant research until 03/28/2014 inclusive:

Type of Review:	UCF Initial Review Submission Form
Project Title:	Understanding Self-Objectification
Investigator:	Danielle Lindner
IRB Number:	SBE-13-09224
Funding Agency:	
Grant Title:	
Research ID:	N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

If continuing review approval is not granted before the expiration date of 03/28/2014, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 03/29/2013 01:43:53 PM EST

IRB Coordinator

APPENDIX C: SELF-OBJECTIFICATION QUESTIONNAIRE

We are interested in how people think about their bodies. The questions below identify 10 different body attributes. We would like you to *rank order* these body attributes from that which has the *greatest* impact on your physical self-concept (rank this a “1”), to that which has the *least* impact on your physical self-concept (rank this a “10”).

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

Please first consider all attributes simultaneously, and then record your rankings.

IMPORTANT: Do Not Assign The Same Rank To More Than One Attribute!

1 = greatest impact
2 = next greatest impact
:
9 = next to least impact
10 = least impact

When considering your *physical self-concept*...

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

**APPENDIX D: OBJECTIFIED BODY CONSCIOUSNESS BODY
SURVEILLANCE SUBSCALE**

Strongly Disagree				Neither Agree Nor Disagree				Strongly Agree
1	2	3	4	5	6	7		

Please respond to the following statements:

1. I rarely think about how I look. 1 2 3 4 5 6 7
2. I rarely compare how I look with how other people look. 1 2 3 4 5 6 7
3. I think it is more important that my clothes are comfortable than whether they look good on me. 1 2 3 4 5 6 7
4. I think more about how my body feels than how my body looks. 1 2 3 4 5 6 7
5. During the day, I think about how I look many times. 1 2 3 4 5 6 7
6. I often worry about whether the clothes I am wearing make me look good. 1 2 3 4 5 6 7
7. I rarely worry about how I look to other people. 1 2 3 4 5 6 7
8. I am more concerned with what my body can do than how it looks. 1 2 3 4 5 6 7

APPENDIX E: INTERPERSONAL SEXUAL OBJECTIFICATION SCALE

Please rate how often you have had the following experiences within the past year:

	Never 1	Rarely 2	Occasionally 3	Frequently 4	Almost Always 5			
1. How often have you been whistled at while walking down a street?				1	2	3	4	5
2. How often have you noticed someone staring at your body when you are talking to them?				1	2	3	4	5
3. How often have you felt like or known that someone was evaluating your physical appearance?				1	2	3	4	5
4. How often have you felt that someone was staring at your body?				1	2	3	4	5
5. How often have you noticed someone leering at at your body?				1	2	3	4	5
6. How often have you heard a rude, sexual remark made about your body?				1	2	3	4	5
7. How often have you been honked at when you were walking down the street?				1	2	3	4	5
8. How often have you seen someone stare at one or more of your body parts?				1	2	3	4	5
9. How often have you overheard inappropriate sexual comments about your body?				1	2	3	4	5
10. How often have you noticed that someone was not listening to what you were saying, but instead gazing at your body or a body part?				1	2	3	4	5
11. How often have you heard someone make sexual comments or innuendos when noticing your body?				1	2	3	4	5
12. How often have you been touched or fondled against your will?				1	2	3	4	5
13. How often have you experienced sexual harassment (on the job, in school, etc.)?				1	2	3	4	5
14. How often has someone grabbed or pinched one of of your private body areas against your will?				1	2	3	4	5
15. How often has someone made a degrading sexual gesture towards you?				1	2	3	4	5

**APPENDIX F: OBJECTIFIED BODY CONSCIOUSNESS BODY SHAME
SUBSCALE**

Strongly Disagree				Neither Agree Nor Disagree				Strongly Agree
1	2	3	4	5	6	7		

Please respond to the following statements:

1. When I can't control my weight, I feel like something must be wrong with me. 1 2 3 4 5 6 7
2. I feel like I must be a bad person when I don't look as good as I could. 1 2 3 4 5 6 7
3. I would be ashamed for people to know what I really weigh. 1 2 3 4 5 6 7
4. I feel ashamed of myself when I haven't made the effort to look my best. 1 2 3 4 5 6 7
5. Even when I can't control my weight, I think I'm an okay person. 1 2 3 4 5 6 7
6. I never worry that something is wrong with me when I am not exercising as much as I should. 1 2 3 4 5 6 7
7. When I'm not exercising enough, I question whether I am a good enough person. 1 2 3 4 5 6 7
8. When I'm not the size I think I should be, I feel ashamed. 1 2 3 4 5 6 7

**APPENDIX G: MULTIDIMENSIONAL BODY-SELF RELATIONS
QUESTIONNAIRE APPEARANCE EVALUATION SUBSCALE**

INSTRUCTIONS--PLEASE READ CAREFULLY

The following pages contain a series of statements about how people might think, feel, or behave. You are asked to indicate the extent to which each statement pertains to you personally.

In order to complete the questionnaire, read each statement carefully and decide how much it pertains to you personally. Using a scale like the one below, indicate your answer by clicking on the appropriate number.

Click a:

- 1 if you **definitely disagree** with the statement;
- 2 if you **mostly disagree**;
- 3 if you **neither agree nor disagree**;
- 4 if you **mostly agree**;
- 5 if you **definitely agree** with the statement.

There are no right or wrong answers. Just give the answer that is most accurate for you.

Remember, your responses are anonymous, so please be completely honest and answer all items.

- | | | | | | |
|---|---|---|---|---|---|
| 1. My body is sexually appealing. | 1 | 2 | 3 | 4 | 5 |
| 2. I like my looks just the way they are. | 1 | 2 | 3 | 4 | 5 |
| 3. Most people would consider me good-looking. | 1 | 2 | 3 | 4 | 5 |
| 4. I like the way I look without my clothes on. | 1 | 2 | 3 | 4 | 5 |
| 5. I like the way my clothes fit me. | 1 | 2 | 3 | 4 | 5 |
| 6. I dislike my physique. | 1 | 2 | 3 | 4 | 5 |
| 7. I am physically unattractive. | 1 | 2 | 3 | 4 | 5 |

APPENDIX H: APPEARANCE ANXIETY SCALE

Please rate the extent to which each of the statements below is characteristic of you:

	Never 1	Sometimes 2	Often 3	Very Often 4	Almost Always 5
1. I feel nervous about aspects of my physical appearance.				1	2 3 4 5
2. I worry about how others are evaluating how I look.				1	2 3 4 5
3. I am comfortable with my appearance.				1	2 3 4 5
4. I like how I look.				1	2 3 4 5
5. I would like to change the way I look.				1	2 3 4 5
6. I am satisfied with my body's build or shape.				1	2 3 4 5
7. I feel uncomfortable with certain aspects of my physical appearance.				1	2 3 4 5
8. I feel that most of my friends are more physically attractive than myself.				1	2 3 4 5
9. I wish I were better looking.				1	2 3 4 5
10. I am concerned about my ability to attract romantic partners.				1	2 3 4 5
11. I feel comfortable with my facial attractiveness.				1	2 3 4 5
12. I am satisfied with my body weight.				1	2 3 4 5
13. I get nervous when others comment on my appearance.				1	2 3 4 5
14. I am confident that others see me as physically appealing.				1	2 3 4 5

APPENDIX I: EATING ATTITUDES TEST-26

Click a response for each of the following statements.

Always Usually Often Sometimes Rarely Never

I:

1. Am terrified about being overweight.
2. Avoid eating when I am hungry.
3. Find myself preoccupied with food.
4. Have gone on eating binges where I feel that I may not be able to stop.
5. Cut my food into small pieces.
6. Am aware of the calorie content of the foods I eat.
7. Particularly avoid food with a high carbohydrate content (i.e., bread, rice, potatoes, etc.).
8. Feel that others would prefer if I ate more.
9. Vomit after I have eaten.
10. Feel extremely guilty after eating.
11. Am preoccupied with a desire to be thinner.
12. Think about burning up calories when I exercise.
13. Other people think I am too thin.
14. Am preoccupied with the thought of having fat on my body.
15. Take longer than others to eat my meals.
16. Avoid foods with sugar in them.
17. Eat diet foods.
18. Feel that food controls my life.
19. Display self-control around food.
20. Feel that others pressure me to eat.
21. Give too much time and thought to food.
22. Feel uncomfortable after eating sweets.
23. Engage in dieting behavior.
24. Like my stomach to be empty.
25. Have the impulse to vomit after meals.
26. Enjoy trying rich new foods.

APPENDIX J: ZUNG SELF-RATING DEPRESSION SCALE

Please read each statement and decide how much of the time the statement describes how you have been feeling during the past several days.

Please click the circle in the appropriate column.

A little of the
time

Some of the
time

Good part of the
time

Most of the
time

1. I feel down-hearted and blue.
2. Morning is when I feel the best.
3. I have crying spells or feel like it.
4. I have trouble sleeping at night.
5. I eat as much as I used to.
6. I still enjoy sex.
7. I notice that I am losing weight.
8. I have trouble with constipation.
9. My heart beats faster than usual.
10. I get tired for no reason.
11. My mind is as clear as it used to be.
12. I find it easy to do the things I used to.
13. I am restless and can't keep still.
14. I feel hopeful about the future.
15. I am more irritable than usual.
16. I find it easy to make decisions.
17. I feel that I am useful and needed.
18. My life is pretty full.
19. I feel that others would be better off if I were dead.
20. I still enjoy the things I used to do.

APPENDIX K: FEMALE SEXUAL FUNCTION INDEX

(Female Participants Only)

INSTRUCTIONS: These questions ask about your sexual feelings and responses during the past 4 weeks. Please answer the following questions as honestly and clearly as possible. Your responses will be kept completely confidential. In answering these questions the following definitions apply:

Sexual activity can include caressing, foreplay, masturbation, and vaginal intercourse.

Sexual intercourse is defined as penile penetration (entry) of the vagina.

Sexual stimulation includes situations like foreplay with a partner, self-stimulation (masturbation), or sexual fantasy.

Sexual desire or interest is a feeling that includes wanting to have sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

CLICK ONLY ONE RESPONSE OPTION TO EACH QUESTION.

1. Over the past 4 weeks, how **often** did you feel sexual desire or interest?
 - a. Almost always or always
 - b. Most times (more than half the time)
 - c. Sometimes (about half the time)
 - d. A few times (less than half the time)
 - e. Almost never or never

2. Over the past 4 weeks, how would you rate your **level** (degree) of sexual desire or interest?
 - a. Very high
 - b. High
 - c. Moderate
 - d. Low
 - e. Very low or none at all

Sexual arousal is a feeling that includes both physical and mental aspects of sexual excitement. It may include feelings of warmth or tingling in the genitals, lubrication (wetness), or muscle contractions.

3. Over the past 4 weeks, how **often** did you feel sexually aroused (“turned on”) during sexual activity or intercourse?
 - a. No sexual activity
 - b. Almost always or always
 - c. Most times (more than half the time)
 - d. Sometimes (about half the time)
 - e. A few times (less than half the time)
 - f. Almost never or never

4. Over the past 4 weeks, how would you rate your **level** of sexual arousal (“turn on”) during sexual activity or intercourse?
 - a. No sexual activity
 - b. Very high
 - c. High
 - d. Moderate
 - e. Low
 - f. Very low or none at all

5. Over the past 4 weeks, how **confident** were you about becoming sexually aroused during sexual activity or intercourse?
 - a. No sexual activity
 - b. Very high confidence
 - c. High confidence
 - d. Moderate confidence
 - e. Low confidence
 - f. Very low or no confidence

6. Over the past 4 weeks, how **often** have you been satisfied with your arousal (excitement) during sexual activity or intercourse?
 - a. No sexual activity
 - b. Almost always or always
 - c. Most times (more than half the time)
 - d. Sometimes (about half the time)
 - e. A few times (less than half the time)
 - f. Almost never or never

7. Over the past 4 weeks, how **often** did you become lubricated (“wet”) during sexual activity or intercourse?
 - a. No sexual activity
 - b. Almost always or always
 - c. Most times (more than half the time)
 - d. Sometimes (about half the time)
 - e. A few times (less than half the time)
 - f. Almost never or never

8. Over the past 4 weeks, how **difficult** was it to become lubricated (“wet”) during sexual activity or intercourse?
 - a. No sexual activity
 - b. Extremely difficult or impossible
 - c. Very difficult
 - d. Difficult
 - e. Slightly difficult
 - f. Not difficult

9. Over the past 4 weeks, how often did you **maintain** your lubrication (“wetness”) until completion of sexual activity or intercourse?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
10. Over the past 4 weeks, how **difficult** was it to maintain your lubrication (“wetness”) until completion of sexual activity or intercourse?
- No sexual activity
 - Extremely difficult or impossible
 - Very difficult
 - Difficult
 - Slightly difficult
 - Not difficult
11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **often** did you reach orgasm (climax)?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **difficult** was it for you to reach orgasm (climax)?
- No sexual activity
 - Extremely difficult or impossible
 - Very difficult
 - Difficult
 - Slightly difficult
 - Not difficult
13. Over the past 4 weeks, how **satisfied** were you with your ability to reach orgasm (climax) during sexual activity or intercourse?
- No sexual activity
 - Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied

14. Over the past 4 weeks, how **satisfied** have you been with the amount of emotional closeness during sexual activity between you and your partner?
- No sexual activity
 - Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
15. Over the past 4 weeks, how **satisfied** have you been with your sexual relationship with your partner?
- No current partner
 - Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
16. Over the past 4 weeks, how **satisfied** have you been with your overall sexual life?
- Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
17. Over the past 4 weeks, how **often** did you experience discomfort or pain during vaginal penetration?
- Did not attempt intercourse
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
18. Over the past 4 weeks, how **often** did you experience discomfort or pain following vaginal penetration?
- Did not attempt intercourse
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never

19. Over the past 4 weeks, how would you rate your **level** (degree) of discomfort or pain during or following vaginal penetration?
- a. Did not attempt intercourse
 - b. Very high
 - c. High
 - d. Moderate
 - e. Low
 - f. Very low or none at all

APPENDIX L: INTERNATIONAL INDEX OF ERECTILE FUNCTION

(Male Participants Only)

INSTRUCTIONS: These questions ask about your sexual feelings and responses during the past 4 weeks. Please answer the following questions as honestly and clearly as possible. Your responses will be kept completely confidential. In answering these questions the following definitions apply:

Sexual activity includes intercourse, caressing, foreplay, & masturbation.

Sexual intercourse is defined as sexual penetration of your partner.

Sexual stimulation includes situations such as foreplay with a partner, looking at erotic pictures, etc.

Sexual desire or interest is a feeling that includes wanting to have sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

CLICK ONLY ONE RESPONSE OPTION FOR EACH QUESTION.

1. Over the past 4 weeks, how often were you able to get an erection during sexual activity?
 - a. No sexual activity
 - b. Almost never/never
 - c. A few times (much less than half the time)
 - d. Sometimes (about half the time)
 - e. Most times (much more than half the time)
 - f. Almost always/always

2. Over the past 4 weeks, when you had erections with sexual stimulation, how often were your erections hard enough for penetration?
 - a. No sexual activity
 - b. Almost never/never
 - c. A few times (much less than half the time)
 - d. Sometimes (about half the time)
 - e. Most times (much more than half the time)
 - f. Almost always/always

3. Over the past 4 weeks, when you attempted sexual intercourse, how often were you able to penetrate (enter) your partner?
 - a. Did not attempt intercourse
 - b. Almost never/never
 - c. A few times (much less than half the time)
 - d. Sometimes (about half the time)
 - e. Most times (much more than half the time)
 - f. Almost always/always

4. Over the past 4 weeks, during sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?
 - a. Did not attempt intercourse
 - b. Almost never/never
 - c. A few times (much less than half the time)
 - d. Sometimes (about half the time)
 - e. Most times (much more than half the time)
 - f. Almost always/always

5. Over the past 4 weeks, during sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?
 - a. Did not attempt intercourse
 - b. Extremely difficult
 - c. Very difficult
 - d. Difficult
 - e. Slightly difficult
 - f. Not difficult

6. Over the past 4 weeks, how many times have you attempted sexual intercourse?
 - a. No attempts
 - b. One to two attempts
 - c. Three to four attempts
 - d. Five to six attempts
 - e. Seven to ten attempts
 - f. Eleven + attempts

7. Over the past 4 weeks, when you attempted sexual intercourse, how often was it satisfactory for you?
 - a. Did not attempt intercourse
 - b. Almost never/never
 - c. A few times (much less than half the time)
 - d. Sometimes (about half the time)
 - e. Most times (much more than half the time)
 - f. Almost always/always

8. Over the past 4 weeks, how much have you enjoyed sexual intercourse?
 - a. No intercourse
 - b. No enjoyment
 - c. Not very enjoyable
 - d. Fairly enjoyable
 - e. Highly enjoyable
 - f. Very highly enjoyable

9. Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you ejaculate?
- No sexual stimulation/intercourse
 - Almost never/never
 - A few times (much less than half the time)
 - Sometimes (about half the time)
 - Most times (much more than half the time)
 - Almost always/always
10. Over the past 4 weeks, when you had sexual stimulation or intercourse, how often did you have the feeling of orgasm or climax?
- No sexual stimulation/intercourse
 - Almost never/never
 - A few times (much less than half the time)
 - Sometimes (about half the time)
 - Most times (much more than half the time)
 - Almost always/always
11. Over the past 4 weeks, how often have you felt sexual desire?
- Almost never/never
 - A few times (much less than half the time)
 - Sometimes (about half the time)
 - Most times (much more than half the time)
 - Almost always/always
12. Over the past 4 weeks, how would you rate your level of sexual desire?
- Very low/none at all
 - Low
 - Moderate
 - High
 - Very high
13. Over the past 4 weeks, how satisfied have you been with your overall sex life?
- Very dissatisfied
 - Moderately dissatisfied
 - About equally satisfied and dissatisfied
 - Moderately satisfied
 - Very satisfied

14. Over the past 4 weeks, how satisfied have you been with your sexual relationship with your partner?
- a. No current partner
 - b. Very dissatisfied
 - c. Moderately dissatisfied
 - d. About equally satisfied and dissatisfied
 - e. Moderately satisfied
 - f. Very satisfied
15. Over the past 4 weeks, how do you rate your confidence that you could get and keep an erection?
- a. Very low
 - b. Low
 - c. Moderate
 - d. High
 - e. Very high

APPENDIX M: NARCISSISTIC PERSONALITY INVENTORY-16

Read each pair of statements below and place an "X" by the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes closest. **Please complete all pairs.**

1. I really like to be the center of attention
 It makes me uncomfortable to be the center of attention
2. I am no better or no worse than most people
 I think I am a special person
3. Everybody likes to hear my stories
 Sometimes I tell good stories
4. I usually get the respect that I deserve
 I insist upon getting the respect that is due me
5. I don't mind following orders
 I like having authority over people
6. I am going to be a great person
 I hope I am going to be successful
7. People sometimes believe what I tell them
 I can make anybody believe anything I want them to
8. I expect a great deal from other people
 I like to do things for other people
9. I like to be the center of attention
 I prefer to blend in with the crowd
10. I am much like everybody else
 I am an extraordinary person
11. I always know what I am doing
 Sometimes I am not sure of what I am doing
12. I don't like it when I find myself manipulating people
 I find it easy to manipulate people
13. Being an authority doesn't mean that much to me
 People always seem to recognize my authority
14. I know that I am good because everybody keeps telling me so
 When people compliment me I sometimes get embarrassed
15. I try not to be a show off
 I am apt to show off if I get the chance
16. I am more capable than other people
 There is a lot that I can learn from other people

APPENDIX N: DEMOGRAPHIC QUESTIONNAIRE

1. Age: ____ years

2. Gender: _____

3. Sexual Orientation

Heterosexual

Bisexual

Homosexual

4. Relationship Status

Single

In a Committed Relationship of Any Kind

5. Ethnic Background

African American

Asian/Pacific Islander

Biracial

Caucasian

Native American

Latino/Hispanic

Other, Please Specify: _____

6. Year in School:

Freshman

Sophomore

Junior

Senior

Graduate student

Other

7. Height: ____ feet, ____ inches

8. Weight: ____ pounds

9. Do you consider yourself to be an athlete?

Yes

Primary Sport: _____

No

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