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Self-Objectification, Eating Attitudes, And Sexual Coercion In College Women

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SELF-OBJECTIFICATION, EATING ATTITUDES, AND SEXUAL
COERCION IN COLLEGE WOMEN

by

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This dissertation, submitted by Lauren Alexis Henrikson, in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done, and is hereby approved.

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ABSTRACT

The theory of self-objectification, developed by Fredrickson and Roberts (1997) explains how women view their bodies as objects. Studies have looked at self-objectification and its associated negative effects, such as cognitive decline, body shame, disordered eating, and low self-esteem in a number of different populations; however, no study to date has utilized path analysis to examine the role that self-objectification plays in unwanted sexual contact. If self-objectification does lead to decreases in self-esteem and increases in viewing one's body as a sexual object, then women may feel they have little choice when faced with sexual coercion. The present study examined a path analysis model of self-objectification, body dissatisfaction, body shame, low self-esteem, eating attitudes, and sexual experiences self-reported by sorority and non-sorority college women. It was hypothesized that the path analysis would be supported more by the sorority participant data than the non-sorority participant data. Participants were asked to complete web-based questionnaires pertaining to the variables of interest. Separate path analyses were conducted to compare the model of fit between the sorority and non-sorority participants. The results suggested that the predicted model was a good fit for both samples, but that that the model was a better fit for the college women who were not in sororities. Implications and reasons for this are considered in the discussion section.

CHAPTER I

INTRODUCTION

The theory of self-objectification is often used to describe how society encourages

people, particularly women, to view themselves as objects. When women and girls

engage in self-objectification, they view their bodies as objects that serve the main

purpose of pleasing someone else (Fredrickson & Roberts, 1997). McKinley and Hyde

(1996) published their concept of body surveillance around the same time that Noll and

Fredrickson (1998) published their first paper on self-objectification. Both self-

objectification and body surveillance have been researched and most studies show that

they measure very similar constructs, if not the same construct (Calogero & Thompson,

2009; Miner-Rubino, Twenge, & Fredrickson, 2002; Tiggemann & Slater, 2001). Both

of these constructs measure the way in which a woman thinks her body looks to others,

with the main difference simply being how they are measured (Miner-Rubino, Twenge,

& Fredrickson, 2002). For this reason, I will use self-objectification and body

surveillance interchangeably throughout the remainder of this text, referring to self-

objectification when indentifying research in which the Self-Objectification

Questionnaire (Noll & Fredrickson, 1998) was used and referring to body surveillance

when identifying research in which the Objectified Body Consciousness Scale (McKinley

& Hyde, 1996) was used. In addition, unless otherwise specified, I will be referring to

the trait form, as opposed to the state form, when discussing self-objectification because I

am interested in how people normally feel about their bodies. Understanding how people

feel about their bodies, regardless of the situation that they are in, is vital to this study because trait self-objectification plays a role in many negative consequences.

Fredrickson and Roberts (1997) suggested that self-objectification leads to a number of negative consequences, which can include: increases in body dissatisfaction, body shame, appearance anxiety, disordered eating, along with decreases in flow, awareness of internal body states, and a decline in cognitive resources. While many of these factors have indeed been shown to be linked to self-objectification, the present study examined some of the factors that have been most promising, which are the factors that have shown the highest correlations in self-objectification path diagrams. In addition, unwanted sexual contact, was also examined. There is a dearth of research on the relationship between self-objectification and unwanted sexual contact; understanding the connection between these two variables could lead to profound changes in the way people conceptualize the consequences of self-objectification. To fully understand the present study, one needs to first understand the theory of self-objectification. To achieve an understanding of the theory, the variables associated with self-objectification need to be understood. For this reason, these factors will be examined in detail in the following pages: trait self-objectification/surveillance, body dissatisfaction, body shame, disordered eating, low self-esteem, and unwanted sexual contact/sexual behavior.

Trait Self-Objectification/Surveillance

As specified previously, trait self-objectification, rather than state self-objectification, was examined in this study. However, it is important to discuss the state form so that the trait form can be better understood. It has been found that certain situations can induce people to think of their bodies as objects, which is the state form of

self-objectification. This can be seen when women try on clothing in front of mirrors in department stores. Women trying on clothing in these situations rarely focus on the particular item of clothing; they instead focus on how their body looks in the item, which is the purpose of the mirror. For example, a woman who tries on clothing in front of a mirror might focus on how her hips appear in a pair of jeans or how her breasts appear in a blouse. In this example, the woman was engaging in state self-objectification because, in that particular situation, she was focusing on certain parts of herself as if they were objects to be evaluated. The experience of state self-objectification has also been explored in research. For example, Fredrickson, Roberts, Noll, Quinn, and Twenge (1998) found that simply having women try on bathing suits led to increases in state self-objectification. The researchers in this study also found that the participants in the objectifying condition (i.e., those who were asked to try on a swimsuit) performed poorly on a math test when compared to participants who were not in the objectifying condition (i.e., those who were asked to try on a loose-fitting sweater). While the implications of state self-objectification are profound (i.e., not performing to the best of one's abilities in objectifying situations), some people report high levels of self-objectification regardless of the situations that they are in; this is the trait form of self-objectification (Fredrickson et al., 1998).

Trait self-objectification is experienced constantly, regardless of whether a certain situation is objectifying or not. Someone high in trait self-objectification is most likely conscious of how her body looks to others, whether she is wearing a revealing swimsuit at a public pool or whether she is wearing her pajamas in the privacy of her own home. It seems reasonable to assume that people most likely experience self-objectification when

they are around other people; however, people can still view themselves as objects when they are alone; this happens every time a woman confronts herself in a mirror. While it is necessary to experience a particular situation in order to induce state self-objectification, no specific situation is required to experience trait self-objectification (Fredrickson et al., 1998).

College women are particularly at risk for the negative effects of self-objectification because their bodies are the most objectified in media advertisements and entertainment (Morry & Staska, 2001). In fact, it is nearly impossible to go a single day without seeing an image of a young woman, whether the image appears as the anchor in the evening news, as a weight loss advertisement in a magazine, or as the model on the billboard on the drive to work. Evidence suggests that, as women age, less emphasis is placed on the importance of bodies (Tiggemann & Lynch, 2001; Tiggemann & Stevens, 1999). This may be the reason why some researchers find that self-objectification decreases as age increases (McKinley, 1999). In a study conducted with undergraduate women and their mothers, it was found that the mothers experienced less body surveillance, body shame, and body esteem than their daughters (McKinley, 1999). In addition, younger women have also been found to have lower self-esteem than older women (Webster & Tiggemann, 2003). The findings of these studies suggest that the women objectified the most in the media (i.e., young women) are also the women who tend to objectify themselves the most. For these reasons, college women are a good population to examine with respect to self-objectification; however, even on college campuses, there are certain college women who are objectified more than other college women. There is very little research on the impact that self-objectification has on

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different college subpopulations, but just with any group of people, there are bound to be differences. In particular, a college subpopulation that may be more strongly impacted by self-objectification is sorority women.

Although research has not yet determined if being a member of a sorority leads to increases in trait/state self-objectification or if people high in trait self-objectification simply choose to belong to a sorority, research has shown that self-objectification does correlate with sorority membership (e.g., Basow, Foran, & Bookwala, 2007). Sorority membership has been associated with self-objectification, presumably because sorority women are supposed to represent exceptional women. In addition, the women in some sororities are supposed to represent the ideal body type and shape, which then encourages these women to think of themselves as bodies or objects that serve the purpose of being aesthetically pleasing to others (Rolnik, Engeln-Maddox, & Miller, 2010). For these reasons, non-sorority college women and college sorority women were considered excellent populations to study regarding self-objectification and its associated negative effects.

Body Dissatisfaction

Body dissatisfaction, defined simply as being dissatisfied with one's body shape or size, is frequently found in women raised in Western cultures. In fact, body dissatisfaction is so common among women that Rodin, Silberstein, and Striegel-Moore (1985) described this phenomenon as "a normative discontent." In other words, it has become normal in Western cultures for women to be dissatisfied with their own bodies. In a study conducted by Morry and Staska (2001), college-aged women were asked about the types and number of fashion magazines that they read. The researchers found that

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women who read fashion magazines tended to report higher body dissatisfaction than women who did not read fashion magazines (Morry & Staska, 2001). It is important to keep in mind that this was a correlational study, which means that it could not be determined whether reading fashion magazines causes body dissatisfaction or whether people who experience body dissatisfaction tend to read more fashion magazines. Morry and Staska (2001) did not directly measure self-objectification in their study; however, one can assume that self-objectification played a significant role due to the very objectifying nature of fashion magazines, which are notorious for displaying women as idealized objects. In fact, research has consistently shown that body dissatisfaction and self-objectification are indeed linked.

In the Objectification Theory proposed by Fredrickson and Roberts (1997), it is hypothesized that self-objectification leads to body dissatisfaction, which may subsequently lead to the experience of body shame. Since the release of the theory in 1997, a number of studies have attempted to determine if these paths were consistent with those described in the theory. Much of the research to date has shown a strong connection between these variables. In a study involving participants who attended aerobic fitness centers, increases in body dissatisfaction were related to increases in self-objectification (Prichard & Tiggemann, 2005). In a related study examining levels of self-objectification in a group of 104 young women who were attending a fitness center, self-objectification was found to be related to lower levels of body satisfaction (Strelan, Mehaffey, & Tiggemann, 2003). Both of these studies concluded that there was a connection between self-objectification and body dissatisfaction. While the participant populations used in these studies were not necessarily the same as the participant

populations utilized in the present study, some researchers have examined self-objectification and body dissatisfaction in sorority and non-sorority participant populations. For instance, in a study investigating body dissatisfaction in sorority and non-sorority college women, researchers found that the participants who were members of a sorority reported greater body dissatisfaction than the participants who were not members of a sorority (Schulken, Pinciaro, Sawyer, Jensen, & Huban, 1997). Other researchers have been interested in the length of time that women have been exposed to the potentially objectifying environment of a sorority. For example, in a study conducted by Moericke, Ferraro, and Muehlenkamp (2008), sorority members were more likely to endorse a thin body ideal the longer that they were a member of a sorority. In addition, Basow, Foran, and Bookwala (2007) found that the longer a sorority woman lived in her sorority house, the more likely she was to experience body dissatisfaction. The researchers mentioned in this section concluded that self-objectification is indeed related to body dissatisfaction, but the theory of self-objectification and its associated negative consequences does not end with body dissatisfaction. As stated previously, Fredrickson and Roberts (1997) proposed that body shame could develop from the connection between self-objectification and body dissatisfaction.

Before moving on to the topic of body shame, it is also important to note that someone can be highly satisfied with their body and still experience self-objectification and the resulting negative consequences. In fact it is hypothesized that both women with high and low body satisfactions may experience negative effects of self-objectification, such as increases in disordered eating (Fredrickson & Roberts, 1997; Noll & Fredrickson, 1998). For example, one person with an eating disorder may choose to fast in order to

obtain the thin ideal. On the other hand, another person with an eating disorder may choose to fast in order to *maintain* their already-thin physique, which they may find satisfying.

Body Shame

Fredrickson and Roberts (1997) defined shame as the emotion that occurs when a person compares herself to some ideal and finds that she is deficient or falls short of the standard. This ideal is often based on cultural or societal constructs. For example, the ideal female body in Western culture is typically very slender, youthful, and toned. This ideal is also unattainable by the majority of the female population (Fredrickson & Roberts, 1997; Peat, Peyerl, & Muehlenkamp, 2008; Noll & Fredrickson, 1998), even with the promises of diets, cosmetic surgery, beauty and anti-aging products, and exercise regimens. When women experience shame about their bodies, it can motivate them to attempt to attain the ideal body through many of these promised means or even through the development of disordered eating. According to Fredrickson and Roberts (1997), women who feel shame about their bodies attempt to attain the ideal is the hopes of avoiding the experience of future body shame. For instance, a woman who feels shame about her body while examining herself in a mirror may decide to restrict her food intake. According to the Objectification Theory (Fredrickson & Roberts, 1997), the woman in this example would engage in restrictive eating in the hopes of becoming closer to the ideal and preventing the experience of body shame the next time she sees her reflection in a mirror. Researchers have found that the experience of body shame is related to body dissatisfaction. For example, in a community sample of women aged 20-65, Webster and

Tiggemann (2003) found that higher levels of body dissatisfaction was related to higher levels of body shame.

Research has consistently shown that women experience higher rates of body shame when state self-objectification is induced (Fredrickson et al., 1998; Hebl, King, & Lin, 2004; Quinn, Kallen, Cathey, 2006; Quinn, Kallen, Twenge, & Fredrickson, 2006). In regards to trait self-objectification, research has shown that trait self-objectification can predict higher rates of body shame. For instance, body surveillance was found to predict body shame in studies involving college women (Tylka & Hill, 2004; Tylka & Sabik, 2010). Miner-Rubino, Twenge, and Fredrickson (2002) also found that trait self-objectification was correlated with body shame in a sample of female college students. While high rates of body shame have been found in female college populations, there is some conflicting data surrounding the experience of body shame in the specific college population of sorority women. Some research has concluded that women who join sororities are more likely to experience self-objectification, body dissatisfaction, and body shame than their female peers who are not members of a sorority. Basow, Foran, & Bookwala (2007) indicated that, due to the physical requirements of joining certain sororities, sorority rush is likely to be a highly self-objectifying experience for women. This is not to say there all sororities have physical requirements or that all sorority women objectify their potential new members during sorority rush; in fact, some sororities welcome women of all shapes, sizes, and backgrounds. However, due to the fact that some sororities place a high value on their members representing Western standards of beauty, it is likely that women who participate in sorority rush are at higher risk for experiencing self-objectification.

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Because self-objectification is expected to be higher for women participating in sorority rush, it seems logical to hypothesize that body shame would also be experienced at higher levels during rush. One study concluded that this hypothesis was true. Basow, Foran, and Bookwala (2007) found that women participating in rush did report higher levels of body shame than college women who did not participate in rush. The results of this study conflict with the results of the study conducted by Rolnik, Engeln-Maddox, and Miller (2010), in which they found that women who participated in sorority rush did not report significantly higher levels of body shame than college women who did not participate in rush. While these studies seem to display contradictory conclusions regarding the experience of body shame during sorority rush, the results become clearer when investigative self-objectification and body shame in women who are already active members in sororities. For instance, the college rush women in Rolnik, Engeln-Maddox, and Miller's (2010) study did eventually report higher levels of body shame compared to non-rush women, but only after one month of having joined a sorority. The researchers in the above studies were careful to conclude that sorority membership leads to self-objectification and its negative associated consequences. In fact, the results from their studies suggest that, even before joining a sorority, women who plan to join a sorority may already experience higher levels of self-objectification than women who have no plans to join a sorority (Basow, Foran, & Bookwala, 2007; Rolnik, Engeln-Maddox, & Miller, 2010). While it is difficult to conclude with certainty that engaging in sorority rush and sorority membership leads to higher levels of self-objectification, body dissatisfaction, and body shame, what can be concluded is that belonging to some sororities likely exacerbates these experiences. While the evidence is pretty clear that

self-objectification plays a role in the development of body dissatisfaction and that body dissatisfaction subsequently plays a role in the development of body shame, the next question to consider is whether body shame contributes to another negative consequence of self-objectification; evidence suggests that this is indeed the case.

Based on the theory that body shame can motivate a person to change something about her body that she finds dissatisfying, body shame is hypothesized to provide the link between self-objectification and eating disorders (Fredrickson & Roberts, 1997; Noll & Fredrickson, 1998). In other words, if a person experiences self-objectification, this experience may lead to body dissatisfaction, which may subsequently lead to body shame, which may motivate her to diet, purge, or binge in order to attain the ideal body (Fredrickson & Roberts, 1997). Research has indeed concluded that body shame mediates the relationship between self-objectification and disordered eating in non-clinical populations (Calogero & Thompson, 2009; Greenleaf & McGreer, 2006; Kozee & Tylka, 2006; Moradi, Dirks, & Matteson, 2005; Noll & Fredrickson, 1998; Rolnik, Engeln-Maddox, & Miller, 2010; Tiggemann & Kuring, 2004; Tiggemann & Slater, 2001) and in clinical eating disordered populations (Calogero, Davis, & Thompson, 2005). Thus, body shame and, indirectly, self-objectification, can be considered risk factors for disordered eating (Fredrickson & Roberts, 1997).

Objectification theory further postulates that restricting food intake can cause a person to become more focused on her body and her inability to meet society's standards, thus inducing further shame instead of eliminating it (Noll & Fredrickson, 1998). If this theory is correct, body shame, self-objectification, and disordered eating can influence each other, creating a perpetuating vicious cycle. Objectification theory also posits that,

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in addition to shame mediating the relationship between self-objectification and eating

disorders, there may be a direct link between self-objectification and eating disorders

(Fredrickson & Roberts, 1997).

Disordered Eating

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR;

American Psychiatric Association, 2000) identifies three main eating disorder categories:

anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified (NOS).

Anorexia nervosa is "characterized by a refusal to maintain a minimally normal body

weight" (p. 583), while bulimia nervosa is characterized by a cycle of binge eating

followed by a behavior done to attempt to "undue" the binge, such as vomiting, laxative

use, or excessive exercise (American Psychiatric Association, 2000).

While the lifetime prevalence of eating disorders in women is rare (0.5% for

anorexia nervosa and 1-3% for bulimia nervosa; American Psychiatric Association,

2000), the prevalence of eating disorders in college populations is higher (1.5-2% for

anorexia nervosa and 2.7-4.6% for bulimia nervosa in young women aged 18 to 25;

Favaro, Ferrara, & Santonastaso, 2003; Striegel-Moore, Dohm, Kraemer, Taylor,

Daniels, Crawford, & Schreiber, 2003). In addition to age being a risk factor, gender also

appears to be a risk factor for eating disorders. Eating disorders are ten times more

common in women than in men (Garfinkel & Garner, 1982). If one adheres to the

concepts of the Objectification Theory (Fredrickson & Roberts, 1997), this gender

discrepancy is not surprising because body shame and self-objectification also occur at

much higher rates in women (Quinn, Kallen, & Cathey, 2006; McKinley, 1998;

Tiggemann & Kuring, 2004). For this reason, it was important to determine if the high

rates of self-objectification and eating disorders in women were simply a coincidence or if the high rates of eating disorders in women were due to the high rates of self-objectification experienced by women.

Indeed, some studies have concluded that self-objectification appears to be a risk factor for disordered eating due to high correlations and path coefficients between self-objectification and disordered eating (Calogero & Thompson, 2009; Greenleaf & McGreer, 2006; Moradi, Dirks, & Matteson, 2005; Muehlenkamp & Saris-Baglama, 2002; Noll & Fredrickson, 1998; Rolnik, Engeln-Maddox, & Miller, 2010). In a study that compared former ballet dancers to college women with no background in ballet, Tiggemann and Slater (2001) found that former ballet dancers reported higher levels of self-objectification and disordered eating behavior than the college women. In addition, the researchers discovered that the direct path coefficient between body surveillance and disordered eating was significant, but only for the former ballet dancers. This is not surprising considering that ballet dancers quickly learn that a slender, lean, and flexible body type is ideal for ballet dancing. In addition, ballet dancers are aware that their bodies serve as performance objects that are most pleasing to their audience only when they meet and maintain a very specific physique (Tiggemann & Slater, 2001).

Tiggemann and Slater's (2001) study provides supporting evidence for the Objectification Theory: the more a person believes she is an object that serves the purpose of pleasing others, the more likely she will see herself as an object (i.e., experience self-objectification) that can be changed. Therefore, it becomes more likely that she will experience an eating disorder. This study also provides evidence for the hypothesis that women who have high levels of trait self-objectification do not

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necessarily need to experience body shame in order to develop an eating disorder (Fredrickson & Roberts, 1997). While the above studies do suggest there is a direct link between self-objectification and eating disorders, it is important to note that some studies have not found evidence supporting this link (e.g., Fredrickson et al., 1998).

Dancers and former dancers are often considered to be at a higher risk for developing eating disorders than the general public, but dancers are not the only group of people that have higher prevalence rates of eating disorders. Studies comparing sorority women to non-sorority college women have found that higher rates of disordered eating typically do exist among the sorority women (Allison & Park, 2004; Basow, Foran, Bookwala, 2007; Crandall, 1988).

Evidence also suggests that sorority women are at an increased risk for developing disordered eating and eating disorders when they live in their sorority house (Hoerr, Bokram, Lugo, Bivins, & Keast, 2002). In fact, studies have found that sorority members who live in a sorority house show differences in self-objectification compared to sorority members who do not reside in a sorority house. For instance, studies have found that women who lived in a sorority house for an extended period of time displayed higher levels of body dissatisfaction and had a greater risk of developing an eating disorder than sorority women who did not live in sorority housing (Basow, Foran, & Bookwala, 2007; Schulken, Pinciaro, Sawyer, Jensen, & Huban, 1997). This suggests that the longer a sorority members lives among other sorority members, the more likely she is to view herself as an object that needs to conform to some ideal.

Although the results of the previous studies suggest that living in a sorority is correlated with higher levels of self-objectification and eating disorders, not all studies

have found evidence of tis. For example, Kashubeck, Marchand-Martella, Neal, and

Larsen (1997) did not find any significant differences in the development of disordered

eating between sorority members who lived in their sorority and sorority members who

did not live in their sorority. In addition, regardless of whether there are differences

between women who live in sororities and women who do not live in sororities, many of

these studies are based on correlational data. This means that living in a sorority does not

necessarily lead to increases in self-objectification and disordered eating; instead, it may

be that women who have high levels of self-objectification and disordered eating are

more likely to live in sororities.

In fact, there is evidence that implies that women who are at high risk for

developing eating disorders are attracted to sororities because members of certain

sororities may share similar disordered eating attitudes and may experience similar levels

of self-objectification (Basow, Foran, & Bookwala, 2007). The results from this study

posit that women who are high in trait self-objectification are more likely to be attracted

to sororities that value a particular physical ideal. For this reason, these high trait self-

objectification women may be more likely to immerse themselves in sorority life and

there is no better way to immerse oneself in sorority life than living in the sorority house.

To determine if the length of time in a sorority has any impact on disordered

eating, Allison and Park (2004) created a longitudinal study. These researchers found

significantly higher levels of disordered eating in sorority women compared to non-

sorority college women, but only after the sorority women had experienced prolonged

exposure to sorority life. For example, during the first two years, Allison and Park

(2004) did not find that sorority members differed from non-sorority college women in

terms of disordered eating. However, after three years in college, a difference was indeed found between the two groups of women. After the third year of college, sorority women reported the same disordered eating attitudes that they had reported in the previous two years, while the non-sorority college women reported a decrease in their disordered eating attitudes. This seems to suggest that sorority membership maintains, instead of elicits, disordered eating attitudes. Even in studies where significant differences were not found between sorority and non-sorority college women in regards to eating attitudes, the trend still pointed in the direction of disordered eating attitudes occurring at higher rates among sorority women (Alexander, 1998).

As made clear from the studies mentioned above, there has been a significant amount of research conducted in regards to the correlations and paths between self-objectification, body dissatisfaction, body shame, and disordered eating. At the same time, few studies have examined the relationship between self-objectification and the final two variables discussed in this study.

Low Self-Esteem

Another consequence of self-objectification that was hypothesized in Fredrickson and Robert's (1997) Objectification Theory is the experience of low self-esteem. Few studies have examined how low self-esteem is associated with self-objectification; however, some studies have begun to shed some light on how these two variables are related. For example, in a study examining 43 college women and 40 exotic dancers, Downs, James, and Cowan (2006) found some interesting correlations. In the college women participants, body surveillance was positively correlated with body shame, but there was no correlation between these variables and self-esteem. However, in the exotic

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dancer participants, body surveillance and body shame were negatively correlated with self-esteem. In addition, the exotic dancer participants also reported experiencing higher rates of self-objectification than the college women participants (Downs, James, & Cowan, 2006). Again, just like with the ballet dancers in Tiggemann and Slater's (2001) study, the exotic dancers in Downs, James, and Cowan's (2006) study reported high levels of self-objectification than the non-dance participants. The differences between the dancers and non-dancers in these studies makes sense because dancers are especially prone to viewing themselves as bodies that need to match some ideal if they are going to be successful in their endeavors. This appears to be especially true for exotic dancers, who are perhaps the epitome of objectification. They likely self-objectify because their entire job earnings depend on being favorably objectified by their patrons.

In addition to studies involving dancers, some studies have examined how self-objectification leads to low self-esteem in other unique populations. For example, some studies have found that self-objectification is correlated to low self-esteem in female college student and fitness center populations (Muehlenkamp & Saris-Baglama, 2002; Strelan, Mehaffey, & Tiggemann, 2003; Tiggemann & Kuring, 2004). In the following pages, some of the studies investigating low self-esteem will be detailed.

In samples of college women, low self-esteem has been found to be associated with disordered eating and body dissatisfaction (Tiggemann, 2001). Using path analysis, Tiggemann (2001) found that body dissatisfaction was a predictor of low self-esteem. This makes sense because body dissatisfaction is, in essence, the experience of low self-esteem regarding one's body. In a study conducted by Tylka and Sabik (2010), the researchers found that low self-esteem predicted higher levels of body shame in female

college participants. Another study conducted with Canadian undergraduate students found that increased body surveillance predicted body shame, with subsequently predicted lower self-esteem (Choma, Visser, Pozzebon, Bogaert, Busseri, & Sadava, 2010). In a similar study, Mercurio and Landry (2008) found that body shame mediated the relationship between self-objectification and low self-esteem. Despite the little research involving low self-esteem and self-objectification, these latter two studies seem to support the same path; self-objectification leads to experiencing shame about one's body, which consequently leads to low levels of self-esteem.

Even studies that do not directly measure self-esteem as its own construct indirectly support the relationship between self-objectification and low self-esteem. For instance, self-objectification has been shown to directly (Miner-Rubino, Twenge, & Fredrickson, 2002; Muehlenkamp & Saris-Baglama, 2002) and indirectly predict depressive symptoms in college women (Muehlenkamp, Swanson, & Brausch, 2005). While low self-esteem is not the same as depressive symptoms, low self-esteem is a common symptom of depression (DSM-IV-TR; American Psychiatric Association, 2000). For this reason, the above studies appear to contribute to knowledge surrounding the connection between self-objectification and low self-esteem.

In addition to the correlation between low self-esteem and body dissatisfaction and self-objectification, studies have found that eating disorders and disordered eating behaviors are associated with low levels of self-esteem (Mintz & Betz, 1988). Furthermore, in a study conducted by Harned and Fitzgerald (2002) low self-esteem was found to mediate the relationship between sexually-objectifying experiences and disordered eating. While sexually-objectifying experiences are different from self-

objectification experiences, Fredrickson and Roberts (1997) hypothesized that sexual objectification leads to self-objectification. For this reason, Harned and Fitzgerald's (2002) study is likely evidence for the relationship between the variables of self-objectification and disordered eating. As can be seen by the data presented in this section, the relationship between self-objectification and low self-esteem is less clear than the relationships between self-objectification, body dissatisfaction, and body shame. From this variable on, the hypothesized path directions between variables only become fuzzier.

Unwanted Sexual Contact

As stated above, this final variable is not well understood in relation to self-objectification, but just as with the previous variables, unwanted sexual contact was a part of the original Objectification Theory outlined by Fredrickson and Roberts (1997). According to their theory (Fredrickson & Roberts, 1997), sexual objectification may cause women to experience other oppressive experiences, such as "sexual violence" (p. 174). Stated another way, self-objectification may cause women to experience higher levels of unwanted sexual contact because self-objectification (i.e., seeing oneself as an object) may prevent some women from declining sexual contact when they would rather not consent.

It is true that there is very little research examining the connection between self-objectification and unwanted sexual contact; in fact, only one study to date has examined the direct correlation between self-objectification and sexual coercion. In her correlational study, Hoyt (2013) found that self-objectification and sexual coercion were positively correlated. While there is a dearth of research exploring the relationship

between sexual coercion and self-objectification, some researchers have examined the relation between unwanted sexual contact/coercion and constructs shown to be predicted by self-objectification. Morris, Parra, and Stender (2011) found that both low self-esteem and unwanted sexual contact were related to disordered eating attitudes in sorority women. Even though self-objectification was not directly measured in this study, it can be hypothesized that self-objectification may have played a role in the study because research has shown a connection between self-objectification and all of the variables in the study (i.e., low self-esteem and disordered eating).

Similarly, in a study conducted with Canadian adolescent adolescents in 8th to 11th grade, having been a female victim of sexual coercion was correlated with lower self-esteem (Lacasse & Mendelson, 2007). On the one hand, this study is suggesting the possibility that experiencing sexual coercion decreases self-esteem due to feelings associated with guilt or shame associated with the sexual coercion. On the other hand, it is also possible that low self-esteem makes women more susceptible to sexual coercion because they do not have the self-esteem required to say "no" to unwanted sexual advances. In all likelihood, both causal directions are probably true to some extent with sexual coercion experiences leading to lower levels of self-esteem and low levels of self-esteem leading to increased number or intensity of sexual coercion experiences. However, evidence of a pathway from self-objectification to low self-esteem to sexual coercion would support Fredrickson and Robert's (1997) Objectification Theory.

Few studies have examined the relationship between sexual coercion and low self-esteem, but even fewer studies have examined this relationship in sorority populations. In one study examining sorority and non-sorority women, the researchers

found that low self-esteem was correlated with verbal sexual coercion in college women, regardless of whether of their sorority membership status (Tyler, Hoyt, & Whitbeck, 1998). Verbal sexual coercion can present itself in a variety of forms in order to encourage a person to engage in a sexual behavior in which the person may not feel comfortable engaging. Verbal sexual coercion can present itself in subtle forms, such as through persistently asking or begging. Verbal sexual coercion can also present itself in more obvious forms, such as through threatening to end the relationship or threatening to spread rumors about the person if she does not agree to perform the desired sexual behavior. Tyler, Hoyt, and Whitbeck's (1998) study is relevant to the present study because they found that women who had higher levels of self-esteem were also more likely to feel confident in their abilities to verbally refuse unwanted sexual contact. Even though this is a correlational study, it still provides support for the positive correlation between low self-esteem and sexual coercion experiences. Because of the correlation between sexual coercion and low self-esteem and the correlation between self-objectification and low-self-esteem, it was hypothesized in the present study that low self-esteem would mediate the relationship between self-objectification and sexual coercion.

In addition to the proposed pathways between sexual coercion and low self-esteem, some research has also found evidence for a relationship between sexual coercion and disordered eating. In a study conducted by Capitaine, Rodgers, and Chabrol (2011), the researchers found evidence in support of a direct relationship between sexual coercion and disordered eating. Other than this study, there are no known studies that have examined the correlation between sexual coercion and disordered eating; nonetheless,

some studies have come close. In a study conducted with young community women, Piran and Cormier (2005) found that "self-silencing" predicted disordered eating. Even though the "self-silencing" variable did not necessarily measure sexual coercion, this study (Piran & Cormier, 2005) is relevant to the present study because setting one's needs aside for the needs of others can play a part in some forms of sexual coercion. For this reason, the results of Piran and Cormier's (2005) study were considered supportive evidence for the hypothesis that high levels of sexual coercion are correlated with disordered eating. In sum, the results from the studies mentioned thus far suggest that viewing oneself as a sexual object predicts low self-esteem, which predicts a higher risk of sexual coercion, which further predicts disordered eating.

This concludes the section on the factors involved in the present study. Before moving onto the hypotheses, a few pages have been dedicated to the population samples utilized in this study and the choices surrounding the use of these samples.

Sorority women vs. Non-sorority College Women

Although all women likely experience self-objectification to an extent, according to the Objectification Theory (Fredrickson & Roberts, 1997) and to the research to date (Downs, James, & Cowan, 2006; Rolnik, Engeln-Maddox, & Miller, 2010; Tiggemann & Slater, 2001), not all women experience equal levels of self-objectification.   The present study utilized data collected from college women, some of whom belonged to a sorority and some of whom were not affiliated with a sorority. College women are, sadly, one of the best populations to utilize when looking at sexual coercion because college women have three times the risk of being sexually victimized compared to women in the general population (Koss, Gidycz, & Wisniewski, 1987). In particular, higher rates of sexual

victimization are seen in sorority populations, possibly due to increased alcohol rates (Nurius, Norris, Dimeff, & Graham, 1996) or due to increased contact with fraternity members, which is a population that has been linked to high rates of sexual objectification and sexual coercion of women (Copenhaver & Grauerholz, 1991).

A number of studies have examined the differences in sexual coercion experiences between sorority women and non-sorority women. For example, Minow and Einolf (2009) examined self-report data from 480 sorority women and 520 non-sorority women. They found that sorority members reported having been sexually assaulted four times more in college than the non-sorority women; however both groups of college women reported an equal amount of unwanted sexual contact (Minow & Einolf, 2009).

A number of possible explanations exist for the different rates of sexual assault between sorority and non-sorority women. As mentioned in the previous paragraph, some researchers have hypothesized that the ease of alcohol access among some sororities may be a partial explanation of the differences in sexual assault rates. Scott-Sheldon, Carey, and Carey (2008) observed that sorority women reported a higher incidence of having sex under the influence of alcohol than non-sorority women. This is concerning, considering that alcohol is the most commonly used drug in sexual coercion, including rape (Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004). Likewise, sorority women have a higher risk of physical and drug coercion than non-sorority women (Tyler, Hoyt, & Whitbeck, 1998). As mentioned above, this is likely due in part to the easy access to alcohol at fraternity-hosted parties and the intention of some fraternities to encourage women to become intoxicated in order to lower their sexual inhibitions (i.e., pre-meditated sexual coercion).

Alcohol consumption during Greek social events has been found to be correlated with increases in sexually aggressive and sexually coercive behavior by males (Nurius, Norris, Dimeff, & Graham, 1996; Tyler, Hoyt, & Whitbeck, 1998); however, alcohol use does not account for the entire difference in sexual victimization between sorority and non-sorority women (Minow and Einolf, 2009). Because alcohol consumption has not been able to fully explain the higher rates of sexual assault in sorority women, self-objectification is suspected to make up the difference.

In addition to the higher risk of being sexually assaulted or sexually coerced in college, sorority women also appear to be at an increased risk for self-objectification and its associated negative effects. The results from the studies in the previous section have not been able to provide conclusive evidence regarding whether sororities attract women who have high levels of self-objectification or whether sorority membership causes elevations in self-objectification and its associated negative effects. One thing that is fairly certain though is that sorority members are more likely to engage in self-objectification. This is not surprising, considering the high importance placed on the physical characteristics of members in many sororities. Being aware of the appearance of one's body and believing that one's body serves the purpose of pleasing others (whether a college sorority member, a ballet dancer, or an exotic dancer) seems to be highly correlated to self-objectification (Downs, James, & Cowan, 2006; Rolnik, Engeln-Maddox, & Miller, 2010, Tiggemann & Slater, 2001). In addition, compared to non-sorority college women, research has shown that sorority women desire significantly smaller figures and experience greater body dissatisfaction (Moericke, Ferraro, & Muehlenkamp, 2008; Schulken, Pinciaro, Sawyer, Jensen, & Huban, 1997), body shame

(Rolnik, Engeln-Maddox, & Miller, 2010), disordered eating (Allison & Park, 2004; Basow, Foran, Bookwala, 2007; Crandall, 1988), and sexual assault (Nurius, Norris, Dimeff, & Graham 1996). For these reasons, a higher occurrence of self-objectification and its associated negative effects were expected to be found in the sorority women sample in the present study.

Gender Differences and Similarities

In the previous pages, self-objectification has only been referred to as a condition that women experience. While self-objectification can and certainly does occur in men, self-objectification is more commonly experienced by women because women are more often placed in situations that make them aware of how their bodies appears to others (Fredrickson et al., 1998; Fredrickson & Roberts, 1997). Just as women are more likely to experience self-objectification, they are also more likely to experience the associated negative effects of self-objectification. For instance, McKinley (1998) found that woman experience higher rates of body shame, surveillance, and body dissatisfaction than men. In a study with 286 undergraduate men (N = 115) and women (N = 171), Tiggemann and Kuring (2004) concluded that women experienced higher self-objectification, self-surveillance, body shame, and disordered eating than men. In a replication of Fredrickson et al. (1998), women, more so than men, experienced self-objectification and shame, especially in the self-objectifying swimsuit condition (Quinn, Kallen, & Cathey, 2006). This study was important to the present study because it revealed that, even in self-objectifying conditions, women still experience higher levels of self-objectification than men.

Gender is a powerful factor in the experience of self-objectification, so much so that the higher prevalence of self-objectification in women appears to occur in most, if not all, ethnicities in the United States. In a study performed by Hebl, King, and Lin (2004), women across all observed ethnicities (Caucasian, African American, Hispanic, and Asian American) reported greater self-objectification than men, although the African American participants appeared to be somewhat more resistant to self-objectification than Hispanic or Caucasian participants.

This is not to say that self-objectification does not occur in men, nor that it is unimportant in men. Indeed, it is quite the contrary. However, for the purposes of this study, men were excluded. Men were mainly excluded because one of the main purposes of this study was to explore the path analysis proposed in Fredrickson and Robert's (1997) Objectification Theory, which was originally developed to describe the experiences of women. The present study examined self-objectification and its associated negative constructs in sorority and non-sorority college women.

Present Study

Studying self-objectification is becoming increasingly important, considering the link self-objectification has to certain mental and physical disorders, particularly in young women. Perhaps most unsettling among the consequences of self-objectification is the evidence supporting the connection to depression and eating disorders (Fredrickson et al., 1998; Muehlenkamp & Saris-Baglama, 2002; Muehlenkamp, Swanson, & Brausch, 2005; Noll & Fredrickson, 1998; Tiggemann & Lynch, 2001; Tiggemann & Kuring, 2004). These disorders can be severe and are capable of having an enormous impact on a person's quality of life.

The relationship between self-objectification has been explored with regard to a variety of factors, such as body dissatisfaction (Prichard & Tiggemann, 2005; Strelan, Mehaffey, & Tiggemann, 2003), body shame (e.g., Tylka & Hill, 2004; Tylka & Sabik, 2010), disordered eating (e.g., Calogero & Thompson, 2009; Moradi, Dirks, & Matteson, 2005; Noll & Fredrickson, 1998; Tiggemann & Slater, 2001), and self-esteem (e.g., Downs, James, & Cowan, 2006; Strelan, Mehaffey, & Tiggemann, 2003). However, no research to date has examined the relationship between self-objectification and unwanted sexual contact through the use of causal modeling analyses. In fact, only one study to date has explored the direct correlation between sexual coercion and self-objectification (Hoyt, 2013). In addition, very few research studies have explored self-objectification in sorority populations; which is a population that may be at particularly high risk for the detrimental effects of self-objectification.

As mentioned previously, the present study is unique to other studies that examined self-objectification because, prior to this study, sexual coercion has not been researched in regards to self-objectification through causal modeling analyses. If the Objectification Theory (Fredrickson & Roberts, 1997) is correct and women are indeed socialized to believe that they have the purpose of being sex objects for someone else's pleasure, this could also mean that women are more likely to consent to unwanted sexual contact (i.e., sexual coercion). Women who have high levels of self-objectification might be more likely to consent because they would view themselves as an object that serves the purpose of pleasing others. Thus, they would likely feel they have an obligation as a sexual object to consent even if they do not want to consent. The following example illustrates this point.

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If a woman is in a situation where her partner wants to engage in kissing, she may feel hesitant to decline or she may kiss longer than she would like, simply because she may feel that one of her purposes on Earth is to be pleasurable to others. Or, she may worry that, if she states her true opinion, she will be harassed with verbal pressure, such as begging and pleading. Or, she may be accused of being "a tease." This phrase implies that women should give in to sexual requests, regardless of their desires, simply because they may have behaved or dressed a certain way or just for being a female in general. In other words, this phrase means that women have the purpose of pleasing others, regardless of their true preferences. Someone who experiences high levels of self-objectification may be especially vulnerable to these forms of sexual coercion. For this reason, sexual coercion needs to be studied in relation to self-objectification.

Before moving on, it is important to note that this does not, in any way, imply victim blaming. A woman, let alone any individual, should never be put in a situation, in which she believes she does not have the power or right to speak up. In addition, some forms of sexual coercion occur when a person is completely powerless to change the situation, regardless of whether they speak their opinion or not. For example, rape is the very act of taking power away from an individual. However, this does not negate the importance of studying self-objectification in relation to sexual coercion.

If self-objectification is found to be a risk factor for sexual coercion, decreasing self-objectification would likely empower women to speak their own opinions, regardless of their partners' objectification of them. Decreasing self-objectification may ultimately decrease some forms of unwanted coerced sexual contact. For instance, even if a person is being objectified by her partner, she may feel empowered to speak her true opinions

(and be more immune to begging, pleading, or objectifying statements) if she is not objectifying herself as well. In addition to empowering women to take more control over their sexual decisions, tackling self-objectification may also decrease disordered eating and eating disorder prevalence in women because evidence has already suggested that self-objectification and disordered eating are related (Calogero & Thompson, 2009; Greenleaf & McGreer, 2006; Moradi, Dirks, & Matteson, 2005; Muehlenkamp & Saris-Baglama, 2002; Noll & Fredrickson, 1998; Rolnik, Engeln-Maddox, & Miller, 2010; Tiggemann & Slater, 2001). Decreasing the prevalence of eating disorders would be a very important feat indeed, considering the fact that eating disorders, once established, are often resistant to many forms of treatment and result in some of the highest mortality rates of any mental disorder diagnosis (DSM-IV-TR; American Psychiatric Association, 2000).

In addition to the present study being unique in that it explores self-objectification as it relates to sexual coercion, the present study is also unique in that it explores self-objectification experiences among sorority women. The limited research that has been conducted on self-objectification with sorority women has revealed that self-objectification appears to be found at a higher rate in the sorority population compared to the non-sorority college population (Basow, Foran, & Bookwala, 2007). In addition, sorority women appear to experience many negative experiences associated with self-objectification, such as body shame (e.g., Rolnik, Engeln-Maddox, & Miller, 2010) and disordered eating (e.g., Allison & Park, 2004; Basow, Foran, Bookwala, 2007). Due to these findings, it was hypothesized in the present study that, when compared to non-

sorority college women, sorority women would experience higher levels of self-objectification and the detrimental effects associated with self-objectification.

Hypotheses

The following hypotheses were made for the present study. The figure below is a visual of the path analyses that were predicted.

Hypothesis 1: It was hypothesized that in the non-sorority and sorority participant samples, self-objectification directly predicts body dissatisfaction, body shame, low self-esteem, and disordered eating. In addition, it was hypothesized that body dissatisfaction predicts body shame. Furthermore, it was hypothesized that body shame predicts low self-esteem and disordered eating. In return, low self-esteem was hypothesized to predict disordered eating and sexual coercion. Finally, it was hypothesized that sexual coercion predicts disordered eating. Please Refer to Figure 1.
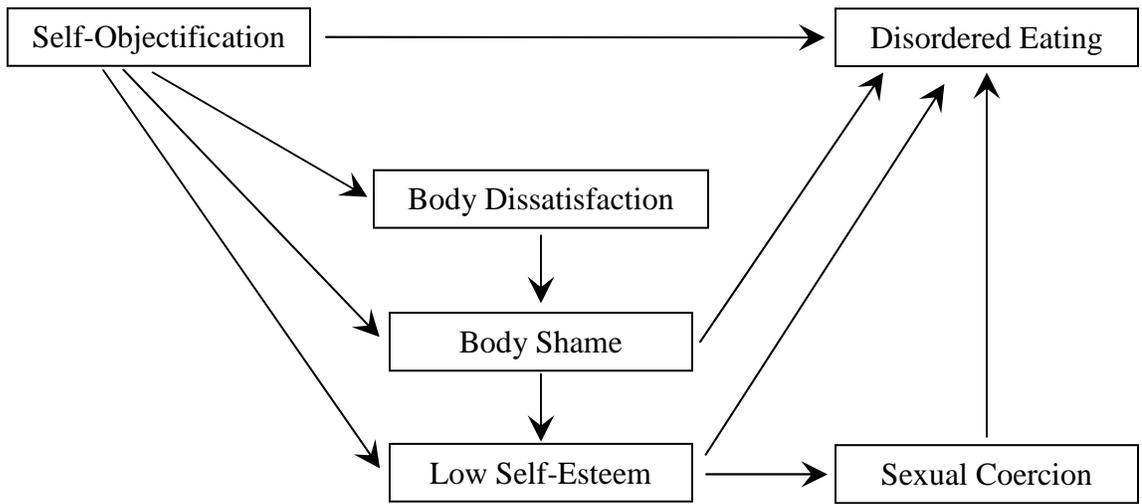
Figure 1: Hypothesized Model

Hypothesis 2: It was hypothesized that the path diagram would be supported significantly more in the sorority population compared to the non-sorority population. In other words, it was hypothesized that the correlation coefficients between self-objectification, body dissatisfaction, body shame, low self-esteem, disordered eating, and sexual coercion would be significantly higher than the correlation coefficients between these variables for the non-sorority participants.

Hypothesis 3: It was hypothesized that the path diagram would be supported significantly more among sorority women who reported perceiving their sorority as placing high value in physical appearance than among sorority women who reported perceiving their sorority as placing low value in physical appearance.

CHAPTER II

METHOD

Experimental Design

To test the first two hypotheses, path analysis was used to determine the causal effects among the following variables: self-objectification, body dissatisfaction, body shame, low self-esteem, disordered eating, and sexual coercion. The model was tested separately in the sorority and non-sorority college women samples. While path analysis was sufficient to use in the present study, structural equation modeling is generally the preferred method in model analyses. There are two reasons for this preference. First, much of path analysis needs to be done by hand, whereas the same work can be done by a computer program in structural equation modeling. Having a computer do much of the work can decrease the potential for error, as well as decrease the amount of time the researcher spends conducting the analyses.

Second, latent variables can be examined in structural equation modeling (Mertler & Vannatta, 2005, Norman & Streiner, 2003). In other words, multiple measures can be included under a single construct in structural equation modeling. For instance, in path analyses, only the measures in the model (e.g., the OBCS Surveillance Subscale) can be interpreted. In structural equation modeling, multiple measures (e.g., the Self-Objectification Questionnaire in addition to the OBCS Surveillance Subscale) can be interpreted under a single construct (e.g., self-objectification), such that the actual construct in the model can be interpreted.

While there are some obvious advantages that structural equation modeling has over path analysis, path analysis was utilized in the present study. There were two main reasons for this decision. First, the principal investigator had previous experience working with path analysis and was therefore much more comfortable using path analysis over structural equation modeling. Second, the principal researcher was interested in only using one measure for each construct. Most of measures used in the present study were used in previous research that led to the hypothesized model in the present study; for this reason, only one measure was needed for each construct. Because multiple measures were not used to describe a specific construct (i.e., only the OBCS Surveillance Subscale was used to measure self-objectification), path analysis was sufficient to use in the present study.

To test the third hypothesis, path analyses was originally considered, but this plan had to be discarded after the participant samples were found to be too small in number to meaningfully interpret path analyses. For this reason, correlation coefficients identified through the use of Pearson's r analyses were compared between the two samples.

Participants

By combining both the sorority and non-sorority participants, the total number of participants recruited for this study was 480 participants. This specific number of participants was chosen a priori because the suggested ratio between participants and model parameters is at least 10:1, with 20:1 being a better ratio (Kline, 1998; Norman & Streiner, 2003). The postulated path diagram in the present study contained 16 parameters, so it was necessary to have at least 160 sorority participants and 160 non-sorority participants.

Non-Sorority College Women

Two-hundred-fifty-nine non-sorority women were initially recruited from a

Midwestern university. Data from one participant was excluded from the study because

she reported that she was 17-years-old; for this reason, her consent to participation was

considered void. Data from 23 other participants were excluded from the study because

their ages were outliers compared to the majority of the sample. These participants

ranged in age from 25 to 48 years. The removal of data from 23 participants is quite

substantial; however, it seemed rational to remove this data because the path analysis in

the present study was based primarily on the data from college women ranging in age

from 18 to 24 years. Finally, data from three additional participants were excluded from

the study because these participants indicated that they were living in a sorority at the

time of the participation, which means that they were likely members of a sorority. The

data from these participants was not transferred to the sorority participant data, simply

due to the chance that these women may have not been sorority members.

After the removal of data from the 27 outlier participants, there was still a

sufficient number of participants necessary to test the hypotheses. The noted exclusions

resulted in the analysis of data from 232 non-sorority participants (aged 18-24; $M =$

19.69, $SD = 1.25$). These participants were recruited from an online "experiment

management system," through the University. At their university, undergraduate students

were able to receive extra credit for their psychology classes in return for participating in

studies through this "experiment management system" (Sona Systems, Ltd.). The non-

sorority participants were therefore recruited with the incentive of earning extra credit for

their psychology classes. The following demographic data describes the non-sorority participants in more detail.

Of the 232 participants who disclosed their ethnicity, 214 (92.24%) identified as non-Hispanic White/Caucasian, 7 (3.02%) identified as Native American/Alaskan Native, 7 (3.02%) identified as Latino/Hispanic, 6 (2.59%) identified as Asian, 1 (0.43%) identified as Black/African American, 1 (0.43%) identified as Native Hawaiian/Other Pacific Islander. In addition, 6 (2.59%) participants identified as "Other." The numbers add up to over 232 because some of the participants identified with more than one ethnicity.

Of the 232 participants who disclosed their class standing, 107 (46.12%) identified as a Freshman, 66 (28.45%) identified as a Sophomore, 40 (17.24%) identified as a Junior, and 19 (8.19%) identified as a Senior or Above.

Of the 230 participants who disclosed the socioeconomic status of their families, 115 (50.00%) disclosed a Middle Class family status, 72 (31.30%) disclosed a Middle High Class family status, 31 (13.48%) disclosed a Low Middle Class family status, 6 (2.61%) disclosed a Low Class family status, and 6 (2.61%) disclosed a High Class family status.

Of the 232 participants who answered the question related to their relationship status, 115 (49.57%) disclosed that they were single, 99 (42.67%) disclosed that they were dating, 8 (3.45%) disclosed that they were engaged, 5 (2.16%) disclosed that they were married, and 5 (2.16%) disclosed that they were cohabitating.

Of the 232 participants who completed the question regarding their living location, 137 (59.05%) indicated that they were living on campus and 95 (40.95%)

indicated that they were living off campus. All 232 also answered the question regarding

length of time at their current living location: 137 (59.05%) shared that they have lived

at their location for 6 months to 1 year, 27 (11.64%) shared that they lived at their

location for 1 year, 21 (9.05%) shared that they lived at their location for 2 years, 18

(7.76%) shared that they lived at their location for 3 to 6 months, 17 (7.33 %) shared that

they lived at their location for more than 4 years, 8 (3.45%) shared that they lived at their

location for less than 3 months, 2 (0.86%) shared that they lived at their location for 3

years, and 4 (0.86%) shared that they lived at their location for 4 years.

For both non-sorority and sorority participants, the mean height and weight was

assessed in an effort to calculate BMIs of all participants. According to the National

Heart, Lung, and Blood Institute, the BMI categories are as follows: Having a BMI of

less than 18.5 is classified as underweight; a BMI between 18.5 and 24.9 is classified as

normal weight; a BMI between 25 and 29.9 is classified as overweight; a BMI between

30 and 39.9 is classified as obese; and a BMI above 39.9 is classified as extreme obesity.

The BMI calculations indicated that of the 225 participants ($M = 23.70$, $SD = 4.58$) who

provided their height and weight, 154 (68.44%) were classified as normal weight, 42

(18.67%) were classified as overweight; 21 (9.33%) were classified as obese, and 8

(3.56%) were classified as underweight.

<div align="center">Sorority College Women</div>

Two-hundred-twenty-one sorority women from the same Midwestern university

initially participated in the study. Data from one sorority participant was excluded from

the study because she declined to answer all of the questions on the survey. Finally, data

from three other participants were excluded because they were older than the cutoff age

of 24. This exclusion resulted in the analysis of data from 217 sorority participants (aged 18-22; $M = 19.42$, $SD = 1.13$). Sorority participants were recruited with the incentive of having the option to place their name in a drawing for five 20-dollar gift certificates to a place of their choice. In addition, the sorority participants were granted extra credit for their participation if they were also enrolled in a psychology class at the time of their participation. The reason for offering the extra monetary incentive to the sorority college women is that many of the sorority college women were not enrolled in a psychology class at the time of participation and therefore were not eligible for the extra credit incentive.

To recruit participants from sororities, the present study was briefly described at six sorority house meetings, one for each sorority house at the university. Once the present study had been described to the group of sorority women, a sign-up sheet was passed around, asking the sorority members to print their name and e-mail address if they wanted to be contacted by the principle investigator to complete the online survey. Soon after the meeting, the principle investigator e-mailed each of the sorority members individually with directions to creating an account with SONA (Sona Systems, Ltd.). The following demographic data describes the sorority participants in more detail.

Of the 217 participants who disclosed their ethnicity, 197 (90.78%) identified as non-Hispanic White/Caucasian, 8 (3.69%) identified as Latino/Hispanic, 5 (2.30%) identified as Asian, 4 (1.84%) identified as Native American/Alaskan Native, 4 (1.84%) identified as Black/African American, and 4 (1.84%) identified as "Other." No participants identified as Native Hawaiian/Other Pacific Islander. The numbers add up to over 217 because some of the participants identified with more than one ethnicity.

Of the 217 participants who disclosed their class standing, 87 (40.09%) identified as a Freshman, 76 (35.02%) identified as a Sophomore, 32 (14.75%) identified as a Junior, and 22 (10.14%) identified as a Senior or Above.

Off the 217 participants who disclosed the socioeconomic status of their families, 110 (50.69%) disclosed a Middle Class family status, 80 (36.87%) disclosed a Middle High Class family status, 17 (7.83%) disclosed a Low Middle Class family status, 8 (3.69%) disclosed a High Class family status, and 2 (0.92%) disclosed a Low Class family status.

Of the 216 participants who answered the question related to their relationship status, 113 (52.31%) disclosed that they were dating, 95 (43.98%) disclosed that they were single, 5 (2.31%) disclosed that they were engaged, 2 (0.93%) disclosed that they were cohabitating, and 1 (0.46%) disclosed that they were widowed.

Of the 216 participants who completed the question regarding their living location, 97 (44.91%) indicated that they were living on campus, 80 (37.04%) indicated that they were living in a sorority, and 39 (18.06%) indicated that they were living off campus. All 217 participants answered the question regarding length of time at their current living location: 72 (33.18%) shared that they have lived at their location for 6 months to 1 year, 70 (32.26%) shared that they lived at their location for 3 to 6 months, 30 (13.82%) shared that they lived at their location for 2 years, 21 (9.68%) shared that they lived at their location for less than 3 months, 14 (6.45%) shared that they lived at their location for 1 year, 5 (2.30%) shared that they lived at their location for more than 4 years, 4 (1.84%) shared that they lived at their location for 3 years, and 1 (0.46%) shared that they lived at their location for 4 years.

For both non-sorority and sorority participants, the mean height and weight was assessed in an effort to calculate BMIs of all participants. The BMI calculations indicated that of the 209 participants ($M = 23.53$, $SD = 4.46$) who provided their height and weight, 152 (72.73%) were classified as normal weight, 37 (17.70%) were classified as overweight; 13 (6.22%) were classified as obese, and 7 (3.35%) were classified as underweight.

Finally, each sorority participant was asked about her perceptions of the level of importance that her particular sorority places on physical appearance. Not all sororities have the same values; therefore, it can be assumed that different sororities create different environments in regards to objectification and self-objectification. Of the 190 sorority participants who completed this question, 84 (44.21%) disclosed that physical appearance was of "Neutral" importance in their sorority, 56 (29.47%) disclosed that physical appearance was "Moderately Important" in their sorority, 27 (14.21%) disclosed that physical appearance was "Moderately Unimportant" in their sorority, 13 (6.84%) disclosed that physical appearance was "Very Important" in their sorority, and 10 (5.26%) disclosed that physical appearance was "Very Unimportant" in their sorority. Twenty-seven (12.44%) of the 217 participants did not answer this question.

Materials and Apparatus

Demographic Information. All participants were asked to provide information regarding their age, height and weight (to determine estimated BMI), ethnicity, family socioeconomic status, relationship status, year in school, general living location, and length of time living in their location. In addition, sorority participants were asked one additional question: their perceptions of the level of importance that their particular

sorority places on physical appearance. The information attained from this questionnaire was used to determine if any major differences existed between the two groups of women. In addition, it is very likely that not all sororities place an equal level of importance on the physical appearances of their members. This means that different sororities likely create different atmospheres in regards to objectification and self-objectification.

Self-Objectification Measures. Trait self-objectification was measured using two questionnaires: the Self-Objectification Questionnaire (SOQ; Noll & Fredrickson, 1998) and the Body Surveillance subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996). Two primary reasons existed for using two measures to assess trait self-objectification. First, these two scales both measure self-objectification (e.g., Calogero & Thompson, 2009; Kozee & Tylka, 2006; Mercurio & Landry, 2008; Miner-Rubino, Twenge, & Fredrickson, 2002; Muehlenkamp & Saris-Baglama, 2002; Tiggemann & Slater, 2001; Tylka & Hill, 2004), but measure it in very different ways (Miner-Rubino, et al., 2002). Second, even though the SOQ (Noll & Fredrickson, 1998) has the advantage of being used extensively in college student populations, it has complicated directions and is thus often completed incorrectly by participants. The advantage of the OBCS is that it is very simple and easy for participants to complete (Mckinley & Hyde, 1996). These two trait self-objectification questionnaires are discussed in more detail in the following pages.

Self-Objectification Questionnaire. The SOQ was used in the present study to assess whether the participants viewed their bodies in more appearance-based (objectified) or competence-based (non-objectified) terms. For the completion of this

questionnaire, participants were asked to arrange a list of 10 body attributes in the order of importance to their perceptions of their physical body. These 10 body attributes were made up of 5 appearance related attributes (i.e., weight, sex appeal, physical attractiveness, musculature, and measurements) and 5 competence-based attributes (i.e., muscular strength, physical coordination, health, physical fitness level, and energy level; Noll & Fredrickson, 1998). Scores were obtained by first individually summing the rankings of the appearance-based items and the competence-based items. This resulted in a separate sum for the appearance-based items and a separate score for the competence based items. The final SOQ score was obtained by subtracting the sum of the competence-based items from the sum of the appearance-based items (Fredrickson, et al., 1997). The scores ranged from -25 to 25 with positive scores indicative of greater emphasis placed on appearance (higher self-objectification). The SOQ has been show to demonstrate satisfactory construct validity (Noll & Fredrickson, 1998).

   Objectified Body Consciousness Scale. The OBCS is composed of 24 items divided evenly among three short subscales: Body Surveillance, Body Shame, and Control Beliefs subscales. The Body Surveillance and Body Shame subscales were utilized in the present study. For each question, the participant answered using a 7-point Likert scale that ranged from "Strongly Disagree" to "Strongly Agree." In addition, participants were given the option of choosing "NA," if they felt that a particular question did not apply to them. Scores were calculated by summing the response items and dividing by the number of items on the scale that were answered by the participant. Before the division, scores ranged from 8 to 56 for each subscale. After the division, scores ranged from 0 to 7 for each subscale, with higher scores indicating higher levels of

body surveillance, body shame, and control beliefs. McKinley and Hyde (1996) found that these three scales were "factorially sound, internally consistent for both young women and middle-aged women (α = .76 to .79; .70 to .84; and .68 to .76 for the Body Surveillance Scale, Body Shame Scale, and Control Beliefs Scale, respectively) and temporally reliable for young women" (McKinley, 1999, p. 762). The reliability for college-aged samples was found to be adequate as well (α = .76 to .89; McKinley & Hyde, 1996).

Body Surveillance subscale of OBCS. Like the SOQ (Noll & Fredrickson, 1998), the OBSC Body Surveillance subscale (McKinley & Hyde, 1996) was utilized in the present study to measure trait self-objectification. This scale consisted of eight items and was designed to identify whether participants tended to view themselves from an outsider's perspectives; thus, this subscale measured trait self-objectification. Scores ranged from 8 to 56 before dividing by the number of answered items on the subscale. After the division, scores ranged from 0 to 7, with higher scores indicating higher levels of body surveillance (i.e., higher levels of trait self-objectification). Ultimately, this scale was used to measure trait self-objectification; the SOQ (Noll & Fredrickson, 1998) was dropped as a factor because a number of participants incorrectly completed the SOQ.

Body Shame subscale of OBCS. Body shame, or the shame a woman feels when she believes her body does not meet cultural expectations, was assessed with this subscale (McKinley & Hyde, 1996). Participants utilized the 7-point scale to rate their agreement with each of the eight statement that made-up this subscale. Scores ranged from 8 to 56 before dividing by the number of answered items on the subscale. After the division, scores ranged from 0 to 7, with higher scores indicating higher levels of body

shame. This subscale of the OBSC had a satisfactory internal consistency of α =.75 and good test-retest reliability when McKinley and Hyde (1996) tested it with a sample of undergraduate students.

Figure Rating Scale. This scale was utilized to measure the level of body dissatisfaction experienced by the participants. The Figure Rating Scale (Stunkard, Sorensen, & Schulsinger, 1980; Fallon & Rozin, 1985) consists of nine silhouette drawings, which range from underweight (1) to overweight (9). The silhouette drawings utilized in this study were the Young Adults silhouettes (for ages 16 to 25). The participants were asked to choose three figures: the figure that best matched their current figure, the figure that most closely resembled their ideal figure, and the figure that they thought would be most attractive to men. Body dissatisfaction scores were found by subtracting Figure 2 (i.e., Ideal Figure) from Figure 1 (i.e., Current Figure). Scores ranged from 8 to -8, with higher positive scores associated with greater body dissatisfaction. While it is quite possible that high negative scores (i.e., people desiring a larger body size/shape) are also indicative of high levels of body dissatisfaction, the majority of body dissatisfaction research has focused on people desiring a smaller body size/shape. For this reason, high positive scores were considered those with the greatest body dissatisfaction. Rand and Wright (2000) determined that the reliability of the Young Adult silhouettes were strong (estimated Cronbach's α = .90; Rand & Wright, 2000). In addition, when both children and adults were tested with similar silhouette drawings to assess ideal body size, the validity and reliability were found to be good (Ben-Tovim & Walker, 1991; Rand, Resnick, & Seldman, 1997; Wood, Becker, & Thompson, 1996).

Rosenberg Self-Esteem Scale. This 10-item questionnaire, developed by

Rosenberg (1965), was utilized in the present study to determine the level of self-esteem

that a participant experiences. Participants utilized a 4-point scale, ranging from

"Strongly Disagree" to "Strongly Agree," to rate their agreement with each of the 10

statement that made-up this questionnaire. Half of the questions were scored in the

positive direction with "Strongly Disagree" = 0, "Disagree" = 1, "Agree" = 2, and

"Strongly Agree" = 3. The other half of the questions were reversed scored. After each

question received a score, the scores were summed together to give a final score. Final

scores ranged between 0 and 30, with higher scores indicative of higher levels of global

self-esteem (or lower scores suggestive of lower levels of global self-esteem). Evidence

has posited that this measure has high internal reliability (α = .72 to .93) and good

convergent/discriminate validity (Blascovich & Tomaka, 1991; Tylka & Subich, 2004).

Sexual Experiences Survey. This survey consists of 10 yes or no questions

regarding degrees of sexual coercion, sexual aggression, and rape (Koss & Gidycz, 1985;

Koss & Oros, 1982). This survey was utilized in the present study to measure the sexual

coercion experiences of the participants. In the present study, the wording of the

questions was changed to account for both female and male perpetrators, despite that the

original scale portrayed the questions with the assumption that perpetrators are always

male.

Using the scoring criteria suggested by Koss, Gidycz, and Wisniewski (1987), the

participants were categorized into 5 different categories: those who had not experienced

any sexual aggression/victimization, those who had experienced unwanted sexual

contact, those who had experienced sexual coercion, those who had experienced

attempted rape, and those who had experienced rape. For instance, when a participant responded yes to questions 8, 9, or 10, she was classified in the "rape" group. When a participant answered yes to items 4 or 5, but not to any higher numbered items, she was classified in the "attempted rape" group. When a participant answered yes to items 6 or 7 and not to any higher numbered items, she was classified in the "sexual coercion" group. When a participant answered yes to items 1, 2, and 3 (but no to higher numbered items), she was classified in the "sexual contact" group. When a participant answered "no" to all questions, she was classified in the "no sexual aggression/victimization" group.

For the sake of the analyses in the present study, sexual coercion was treated as a continuous variable. For each question, participants received a score of 1 (if they answered "yes") or 0 (if they answered "no"). The individual question scores were summed and participants received a final score between 0 and 10, with higher numbers indicative of higher levels of sexual coercion experiences. Research has postulated that the internal consistency between the questions displays a Cronbach's alpha of .74 in women. In addition, when this survey was administered twice, one week apart, the test-retest reliability in both male and female participants showed a 93% agreement between the two administrations (Koss & Gidycz, 1985; Koss, Gidycz, & Wisniewski, 1987; Koss & Oros, 1982).

Eating Attitudes Test. The Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) was used to assess disordered eating symptoms. This test is a shortened version of the original EAT (Garner & Garfinkel, 1979), which contained 40 items. Due to the large number of questionnaires used in the present study and in order to decrease the chance of fatigue for the participants, the EAT-26 was used instead of the

original EAT. To complete the questionnaire, the participant rated how truthful each of the 26 statements was for her on a 6-point Likert scale. In order to find the EAT score for each participant, all of the questions, except statement number 25, were scored as follows: "Always" = 3; "Usually" = 2; "Often" = 1; and "Sometimes," "Rarely," and "Never" = 0. This scoring was reversed for statement number 25, with "Always," "Usually," and "Often" = 0; "Sometimes" = 1; "Rarely" = 2; and "Never" = 3. When this questionnaire is used in clinical settings, people who receive scores between 0 and 20 are considered not at-risk for an eating disorder, while people who score above 20 (i.e., scores 21 to 78) are considered at-risk for an eating disorder (Garner & Garfinkel, 1979). However, for the purpose of the present study, this questionnaire was treated as a continuous variable with higher scores indicative of higher levels of disordered eating. The psychometric properties of this questionnaire have been found to be sound (Garner, Olmsted, Bohr, & Garfinkel, 1982).

Khavari Alcohol Test. This survey was utilized to determine if alcohol played a significant role in the level and frequency of sexual coercion experienced by the participants. This survey, developed by Khavari and Farber (1978), consists of 12 questions in regards to the frequency, average amount used, and highest amount of alcohol used in a single sitting. One third of the questions examined wine use, one third examined beer use, and the final third examined whiskey or hard liquor use. The original developers of this survey (Khavari & Farber, 1978) intended for the measure to be answered in an open-answer manner. In an attempt to avoid ambiguous answers (e.g., a participant responding with a "5" to a particular question, which could mean 5 sips, 5 beers, or 5 cases), the frequency of use questions were transformed into multiple choice

responses. The other half of the questions, those dealing with average and highest amounts used, were left as open-response questions. Despite these efforts, many of the participants still provided ambiguous responses, so this questionnaire was not scored.

<div align="center">Procedure</div>

All of the participants completed the questionnaires online through SONA (Sona Systems Ltd.). Two separate survey sets were created, one for sorority women and one for non-sorority women. When a participant entered into their SONA account, they saw one of two studies, either "(Sorority Females Only) Health and Body Study" or "(Non-Sorority Females Only) Health or Body Study." A couple of efforts were taken to ensure that sorority women and non-sorority women completed the correct questionnaire set.

The first effort taken to ensure that the desired participants were completing the appropriate questionnaires occurred even before the participant saw the consent page. When a potential sorority participant logged into their SONA account and clicked on the sorority questionnaire, the first sentence read the following: "This study is open to female sorority members only. If you are NOT a sorority member and would like to participate in this study, please exit this study and instead click on the study titled "(Non-Sorority Females Only) Health and Body Study." Likewise, when a potential non-sorority participant clicked on the non-sorority questionnaire set, the first sentence read the following: "This study is open to non-sorority females only. If you are a sorority member and would like to participate in this study, please exit this study and instead click on the study titled "(Sorority Females Only) Health and Body Study."

The second effort taken to ensure appropriate participation involved a restriction. For instance, if a particular participant completed the sorority questionnaire set, a

restriction was set on SONA so that she was not allowed to participate in the non-sorority questionnaire set. The reverse was also true; once participants completed the non-sorority questionnaire set, access to the sorority questionnaire was restricted.

The third and final effort to ensure appropriate participation was the demographic question concerning their location of residence. In the non-sorority questionnaire set, the participants still had the option to indicate that they were living in a sorority at the time of participation. Participants who answered the location of residence question in this manner were assumed to be sorority women and the data from these participants was removed from the study. Despite these three efforts, there still is a chance that some sorority women completed the non-sorority questionnaire set and that some non-sorority women completed the sorority questionnaire set.

Participants were recruited across the Spring, Summer, and Fall 2012 semesters. Participants were able to complete the study with any computer that had internet access. In addition, as long as the study was available to students, they were able to participate at any time of the day and from any location they desired. When participants clicked on a particular questionnaire set, the participants were informed that the purpose of the study was to examine body perception and eating attitudes in undergraduate women (Basow, Foran, & Bookwala, 2007). After the participants completed the consent form by electronically agreeing to proceed in the study, the participants were asked to complete a series of questionnaires. While the individual questions in each survey remained in the same order each time, the questionnaires themselves were presented in random order. On average, participants completed the survey in approximately 20-30 minutes. At the end

of the sorority questionnaire set, participants were given the opportunity to enter their

name and e-mail for a chance to win one of the five 20-dollar gift cards.

CHAPTER III

RESULTS

Prior to conducting the path analyses, the measured variables were compared across the two participant groups through a One-Way ANOVA. The only difference identified between the sorority and non-sorority participants was in regards to the Figure Rating Scale. Keeping in mind that higher numbers on the Figure Rating Scale correspond to greater body dissatisfaction, it was found that the non-sorority participants ($M = 1.48$, $SD = 1.21$) reported significantly greater body dissatisfaction than the sorority participants ($M = 1.21$, $SD = 1.27$), $F(1, 446) = 5.32$, $p < .05$. No differences were found for the other five measures between the two participant groups. This means that both groups responded to the questionnaires in a similar manner. The descriptive statistics of the two groups are summarized in Table 1.

Before presenting the results, it is important to point out the way in which the results will be described. For the sake of simplicity, the measures will be referred to what they are hypothesized to measure. For example, even though latent variables are unable to be measured in path analysis, the OBCS Surveillance Subscale will simply be referred to as "self-objectification." It is not technically correct to refer to the measure as its hypothetical construct in path analysis, but for simplicity sake, it will be done this way when discussing the results. It is also important to remember though that when the

constructs (i.e., self-objectification, body dissatisfaction, body shame, low self-esteem, sexual coercion, and disordered eating) are discussed in the results section, they are really referring to their respective measures (i.e., OBCS Surveillance Subscale, Figure Rating Scale, OBCS Shame Subscale, Rosenberg Self-Esteem Scale, Sexual Experiences Survey, and Eating Attitudes Test).

Table 1: Descriptive Statistics of Measures for Non-Sorority and Sorority Participants

	Non-Sorority Participants				Sorority Participants				
Measure	N	Range	Mean	SD	N	Range	Mean	SD	α
1	232	1.88 – 7.00	4.67	1.06	217	2.13 – 6.75	4.65	0.84	—
2	232	-2.00 – 8.00	1.48	1.21	216	-5.00 – 5.00	1.21	1.27	.02
3	232	1.00 – 6.50	3.77	1.18	217	1.29 – 6.38	3.80	0.94	—
4	232	5.00 – 30.00	20.40	5.68	217	5.00 – 30.00	20.85	4.99	—
5	232	0.00 – 10.00	1.06	1.84	215	0.00 – 10.00	1.13	1.91	—
6	232	0.00 – 46.00	11.66	10.96	217	0.00 – 75.00	10.87	10.51	—

Measure 1 corresponds to the OBSC Surveillance Subscale
Measure 2 corresponds to the Figure Rating Scale
Measure 3 corresponds to the OBSC Shame Subscale
Measure 4 corresponds to the Rosenberg Self-Esteem Scale
Measure 5 corresponds to the Sexual Experiences Survey
Measure 6 corresponds to the Eating Attitudes Test
— Indicates that p-value was not significant at $\alpha = .05$

Two path analyses were conducted to determine the causal effects among the variables in the present study. To test the first hypothesis, which stated that the proposed model would be supported in both sorority and non-sorority populations, separate path

analyses were conducted with these two participant populations. In the following pages,

these two separate path analyses will be described in detail, starting with the non-sorority

participants.

For the non-sorority participants, a path analysis was conducted to determine the

causal effects among the following variables: self-objectification, body dissatisfaction,

body shame, low self-esteem, sexual coercion, and disordered eating. The initial model,

presented in Figure 2, resulted in correlation coefficients that were consisted with most of

the empirical data. All but two path coefficients (i.e., path between self-objectification

and low self-esteem and path between low self-esteem and disordered eating) were

significant at the .05 level. In addition, only two of the reproduced correlations exceeded

a difference of .05, which are shown in Table 2. This means that this initial model is

fairly consistent with the empirical data (Mertler & Vannatta, 2005).
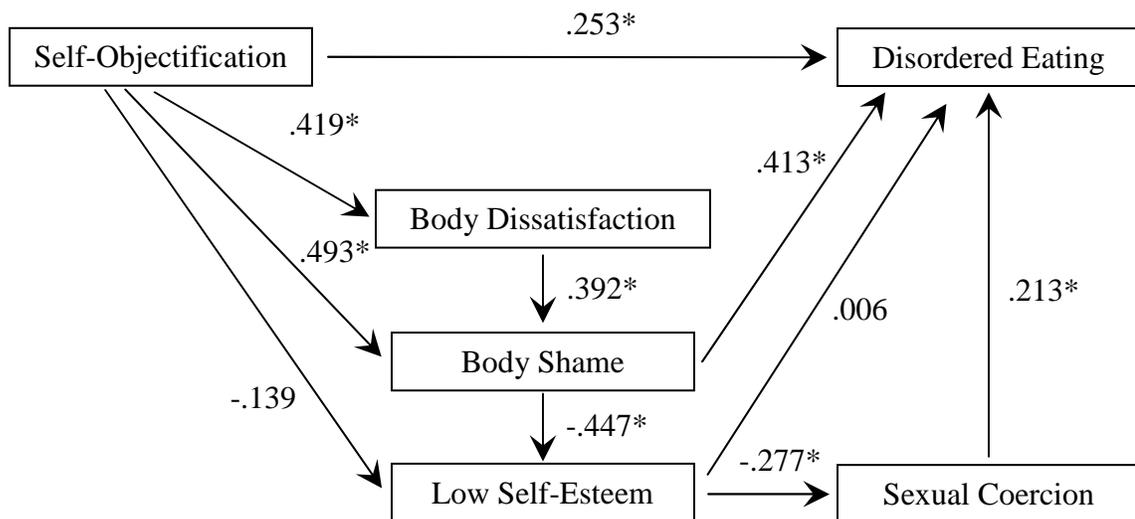
Figure 2: Path Diagram and Path Coefficients for Non-Sorority Participants

Table 2: Observed and Reproduced Correlations for the Initial Non-Sorority Model

| | Observed | | | | | |
	1	2	3	4	5	6
1	1.000					
2	0.419	1.000				
3	0.657	0.598	1.000			
4	-0.433	-0.386	-0.539	1.000		
5	0.062	0.108	0.132	-0.277	1.000	
6	0.535	0.387	0.604	-0.385	0.281	1.000

| | Reproduced | | | | | |
	1	2	3	4	5	6
1	1.000					
2	0.419	1.000				
3	0.657	0.598	1.000			
4	-0.433	-0.326*	-0.538	1.000		
5	0.120*	0.090	0.149	-0.277	1.000	
6	0.547	0.370	0.608	-0.385	0.303	1.000

1 corresponds to the OBSC Surveillance Subscale
2 corresponds to the Figure Rating Scale
3 corresponds to the OBSC Shame Subscale
4 corresponds to the Rosenberg Self-Esteem Scale
5 corresponds to the Sexual Experiences Survey
6 corresponds to the Eating Attitudes Test
* Difference between reproduced and observed correlations was greater than .05

Even though the initial model appeared consistent with much of the empirical

data, missing paths were tested to determine if additional paths would significantly

contribute to the model. The following five missing paths were tested: body

dissatisfaction on low self-esteem, self-objectification on sexual coercion, body

dissatisfaction on sexual coercion, body shame on sexual coercion, and body

dissatisfaction on disordered eating. Results from the missing path analyses indicated

that none of these paths would significantly contribute to the initial model. The analyses

did, however, suggested that the non-significant paths of self-objectification on low self-esteem and low self-esteem on disordered eating be removed from the model. For the purposes of this study, a revised model was not generated; however, recommendations about a revised model are provided in the Discussion section.

The summary of the causal effects of the initial model for the non-sorority participants is presented in Table 3. The outcomes that were of most interest were sexual coercion and disordered eating because they measured two of the more severe potential outcomes of self-objectification. As can be seen from Table 3, the determinant with the largest total causal effect for sexual coercion was low self-esteem (-.277), followed by body shame (.124), self-objectification (.120), and body dissatisfaction (.049). This model, tested in the non-sorority population, explained approximately 8% of the variance in sexual coercion. The determinant with the largest total causal effect for the other outcome of primary interest (i.e., disordered eating) was self-objectification (.547), body shame (.437), sexual coercion (.213), body dissatisfaction (.171), and low self-esteem (-.053). This model, tested in the non-sorority population, explained approximately 44% of the variance in disordered eating. The outcome of body dissatisfaction was determined solely by self-objectification (.419), explaining approximately 17.5% of the variance in body dissatisfaction. The outcome of body shame was determined most by self-objectification (.657), followed by body dissatisfaction (.392), explaining approximately 56% of the variance in body shame. The outcome of low self-esteem was determined most by body shame (-.447), followed by self-objectification (-.433) and body dissatisfaction (-.175), explaining approximately 30% of the variance in low self-esteem.

The path analysis for the non-sorority participants appeared to support the first half of the first hypothesis. In other words, the model appeared to be supported with the data from the non-sorority participants. Only two of the ten direct correlation coefficients were non-significant at $\alpha = .05$. In addition, only two of the reproduced correlations differed from the observed correlations by a degree greater than .05. This means that the model was consistent with much of the empirical data. In addition, the model did a modest job at describing the variance for body shame, disordered eating and low self-esteem (approximately 56%, 44%, and 30% of the variance explained, respectively).

Table 3: Summary of Causal Effects for Original Model with Non-Sorority Participants

		Causal Effects		
Outcome	Determinant	Direct	Indirect	Total
Body Dissatisfaction $R^2 = .175$	Self-Objectification	.419*	—	.419
Body Shame $R^2 = .559$	Self-Objectification	.493*	.164	.657
	Body Dissatisfaction	.392*	—	.392[+]
Low Self-Esteem $R^2 = .301$	Self-Objectification	-.139	-.294	-.433
	Body Dissatisfaction	—	-.175	-.175[+]
	Body Shame	-.447*	—	-.447[+]
Sexual Coercion $R^2 = .077$	Self-Objectification	—	.120	.120
	Body Dissatisfaction	—	.049	.049[+]
	Body Shame	—	.124	.124[+]
	Low Self-Esteem	-.277*	—	-.277
Disordered Eating $R^2 = .442$	Self-Objectification	.253*	.294	.547
	Body Dissatisfaction	—	.171	.171[+]
	Body Shame	.413*	.024	.437[+]
	Low Self-Esteem	.006	-.059	-.053[+]
	Sexual Coercion	.213*	—	.213[+]

* Indicates that the direct effect is significant at $\alpha = .05$
[+] Indicates that the total effect may be incomplete due to unanalyzed components

For the sorority participants, a path analysis was conducted to determine the causal effects among the following variables: self-objectification, body dissatisfaction, body shame, low self-esteem, sexual coercion, and disordered eating. This is the same model that was tested with the non-sorority participants. All but two path coefficients (i.e., path between self-objectification and disordered eating and path between self-objectification and low self-esteem) were significant at the .05 level. The initial model, presented in Figure 3, resulted in correlation coefficients that were consisted with most of the empirical data. In fact, only one of the reproduced correlations exceeded a difference of .05, which is shown in Table 4. This means that this initial model is fairly consistent with the empirical data (Mertler & Vannatta, 2005).
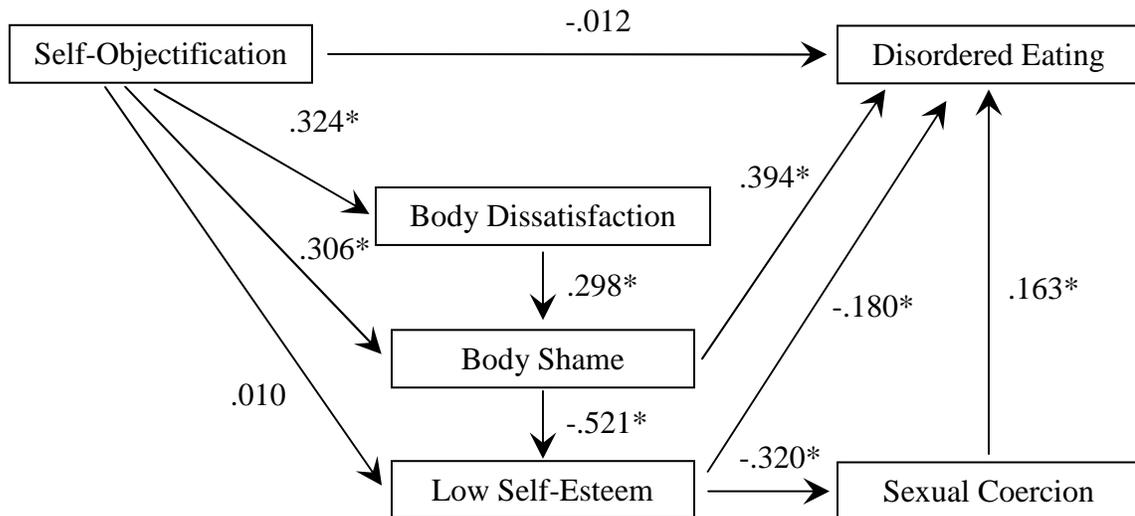

Figure 3: Path Diagram and Path Coefficients for Sorority Participants

Table 4: Observed and Reproduced Correlations for the Initial Sorority Model

	Observed					
	1	2	3	4	5	6
1	1.000					
2	0.324	1.000				
3	0.403	0.397	1.000			
4	-0.200	-0.248	-0.517	1.000		
5	0.036	0.029	0.206	-0.320	1.000	
6	0.199	0.277	0.516	-0.426	0.302	1.000
	Reproduced					
	1	2	3	4	5	6
1	1.000					
2	0.324	1.000				
3	0.403	0.397	1.000			
4	-0.200	-0.204	-0.517	1.000		
5	0.064	0.065	0.165	-0.320	1.000	
6	0.193	0.200*	0.509	-0.433	0.285	1.000

1 corresponds to the OBSC Surveillance Subscale
2 corresponds to the Figure Rating Scale
3 corresponds to the OBSC Shame Subscale
4 corresponds to the Rosenberg Self-Esteem Scale
5 corresponds to the Sexual Experiences Survey
6 corresponds to the Eating Attitudes Test
* Difference between reproduced and observed correlations was greater than .05

Even though the initial model appeared consistent with the empirical data

(Mertler & Vannatta, 2005), missing paths were tested to determine if additional paths

would significantly contribute to the initial model. The following missing paths were

tested: body dissatisfaction on low self-esteem, self-objectification on sexual coercion,

body dissatisfaction on sexual coercion, body shame on sexual coercion, and body

dissatisfaction on disordered eating. Results from testing the missing paths indicated that

none of these paths would significantly contribute to the model. However, the analyses

did reveal that the non-significant paths of self-objectification on low self-esteem and self-objectification on disordered eating be removed from the model. For the purposes of this study, a revised model was not generated; however, recommendations about a revised model are discussed in the Discussion section.

The summary of the causal effects of the initial model involving sorority participants is presented in Table 5. As with the model tested with non-sorority participants, the outcomes that were of most interest in the model tested with sorority participants were sexual coercion and disordered eating. The determinant with the largest total causal effect for sexual coercion was low self-esteem (-.320), followed by body shame (.167), self-objectification (.064), and body dissatisfaction (.050). This model, tested in the sorority population, explained approximately 10% of the variance in sexual coercion. The determinant with the largest total causal effect for the other outcome of primary interest (i.e., disordered eating) was body shame (.515), followed by low self-esteem (-.232), sexual coercion (.163), self-objectification (.193), and body dissatisfaction (.153). This model, tested in the sorority population, explained approximately 33% of the variance in disordered eating. The outcome of body dissatisfaction was determined solely by self-objectification (.324), explaining approximately 10.5% of the variance in body dissatisfaction. The outcome of body shame was determined most by self-objectification (.403), followed by body dissatisfaction (.298), explaining approximately 24% of the variance in body shame. The outcome of low self-esteem was determined most by body shame (-.521), followed by self-objectification (-.200) and body dissatisfaction (-.155), explaining approximately 27% of the variance in low self-esteem.

The path analysis for the sorority participants appeared to support the second half of the first hypothesis. In other words, the model appeared to be supported with the data from the sorority participants. Only two of the ten direct correlation coefficients were non-significant at $\alpha = .05$. In addition, only one of the reproduced correlations differed from the observed correlations by a degree greater than .05. This means that the model was consistent with much of the empirical data. In addition, the model did a modest job at describing the variance for disordered eating, low self-esteem, and body shame (approximately 33%, 27%, and 24% of the variance explained, respectively).

Table 5: Summary of Causal Effects for Original Model with Sorority Participants

		Causal Effects		
Outcome	Determinant	Direct	Indirect	Total
Body Dissatisfaction $R^2 = .105$	Self-Objectification	.324*	—	.324
Body Shame $R^2 = .241$	Self-Objectification	.306*	.097	.403
	Body Dissatisfaction	.298*	—	.298[+]
Low Self-Esteem $R^2 = .267$	Self-Objectification	.010	-.210	-.200
	Body Dissatisfaction	—	-.155	-.155[+]
	Body Shame	-.521*	—	-.521[+]
Sexual Coercion $R^2 = .102$	Self-Objectification	—	.064	.064
	Body Dissatisfaction	—	.050	.050[+]
	Body Shame	—	.167	.167[+]
	Low Self-Esteem	-.320*	—	-.320
Disordered Eating $R^2 = .329$	Self-Objectification	-.012	.205	.193
	Body Dissatisfaction	—	.153	.153[+]
	Body Shame	.394*	.121	.515[+]
	Low Self-Esteem	-.180*	-.052	-.232[+]
	Sexual Coercion	.163*	—	.163[+]

* Indicates that the direct effect is significant at $\alpha = .05$
[+] Indicates that the total effect may be incomplete due to unanalyzed components

To test the second hypothesis, which purported that the hypothesized model would be supported more in the sorority sample, the models were compared in three main ways. First, the direct correlation coefficients in Figures 2 and 3 were compared. Second, the reproduced correlations in Tables 2 and 4 were compared. Finally, the variances in Tables 3 and 5 were compared. These three comparisons will be described in detail in the following paragraphs.

When comparing the direct correlation coefficients in Figures 2 and 3, both models contain eight positive correlation coefficients out of the possible ten. For both the non-sorority and sorority participants, the direct pathway between self-objectification and low self-esteem was non-significant. In the non-sorority sample, the direct pathway between self-objectification and disordered eating was significant, while it was non-significant in the sorority sample. Finally, in the sorority sample, the direct pathway between low self-esteem and disordered eating was significant, while it was non-significant in the non-sorority sample. From this first method of comparing the models (i.e., examining the differences between the direct correlation coefficients between the two samples), it appears that both samples do an equally good job providing support for the model.

The second method of comparing the models involved examining the differences between the reproduced and observed correlations (please refer to Tables 2 and 4). When the model was analyzed with the non-sorority participants, two of the reproduced correlations differed from the observed correlations by a degree greater than .05. Alternatively, when the model was analyzed with the sorority participants, only one of the reproduced correlations differed from the observed correlations by a degree greater

than .05. This suggests that the model analyzed with the sorority participants may be more consistent with the empirical data than when the model was analyzed with the non-sorority participants.

The third method of comparing the models involved examining the amount of variance explained for each factor (please refer to Tables 3 and 5). The more a model explains the variance among its variables, the better the model is said to be. The amount of variance explained for each factor will be compared between the two groups of participants in the following paragraphs.

The model analyzed with the non-sorority participants explained more of the variance in four out of the five factors than the model analyzed with the sorority participants. Specifically, the model explained 44% of the variance in disordered eating in the non-sorority-analyzed model, compared to only 32% in the sorority-analyzed model. The model explained 17.5% of the variance in body dissatisfaction in the non-sorority analyzed model, compared to only 10.5% in the sorority-analyzed model. The model explained 56% of the variance in body shame in the non-sorority-analyzed model, which was over half the amount of variance explained (i.e., 24%) in the non-sorority-analyzed model. Finally, the model explained 30% of the variance in low self-esteem in the non-sorority-analyzed model, which is slightly larger than the 27% of the variance explained in the sorority-analyzed model.

While four of the five variables were explained better in the non-sorority-analyzed model, the last remaining variable had more of its variance explained in the sorority-analyzed model. Specifically, the sorority-analyzed model explained 10% of the variance in sexual coercion, while the non-sorority-analyzed model explained slightly

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less variance (i.e., 8%). Taken together, the comparison of the variances suggests that the model explains more of the variance in the variables when it is analyzed with the non-sorority participants.

In conclusion, three methods were used to compare the model across the two groups of participants. These methods involved comparing: the direct correlation coefficients, the reproduced correlations to the observed correlations, and the amount of variance explained. Taking the results of these three comparisons into account, it appears that the model is actually supported more by the non-sorority participant data. This does not provide support for the second hypothesis.

The third hypothesis was in regards to two different groups of sorority members: those who perceived physical appearance to be *important* in their sororities and those who perceived physical appearance to be *unimportant* in their sororities. Specifically, the third hypothesis stated that the model would be supported more by the data from the sorority participants who perceived physical appearance as important in their sororities. Unfortunately, this hypothesis could not be tested using path analyses because there were not enough participants in the two groups. While path analyses could have been run, the absence of a large enough number of participants in each group would have made it impossible to interpret the results with some level of certainty. For this reason, the correlations between the measured variables were compared between the two groups.

To explore the correlations between the two groups of sorority participants, the sorority participants were first divided into three groups based on how they answered the physical appearance question: those who perceived physical appearance as "Moderately Important" or "Very Important" in their sororities; those who perceived physical

appearance as of "Neutral" importance in their sororities; and those who perceived

physical appearance as "Moderately Unimportant" or Very Unimportant" in their

sororities. Because the third hypothesis dealt only with participants who reported

perceiving physical appearance as important or unimportant, the participants who

answered in a "Neutral" manner were excluded from the analyses. The descriptive

statistics of the two remaining groups are show in Table 6.

From examining the descriptive statistics in Table 6, it is evident that the only

difference identified between the "Unimportant" and "Important" sorority participants

was in regards to the OBCS Surveillance Subscale. Higher numbers on this subscale

correspond to greater levels of trait self-objectification. The "Important" sorority

participants ($M = 4.87$, $SD = 0.84$) indicated a higher level of trait self-objectification

compared to the "Unimportant" sorority participants ($M = 4.43$, $SD = 0.91$), $p < .05$. This

difference made sense because those who indicated that their sorority placed high value

on physical appearance likely objectified themselves more than those who did not

indicate that their sorority placed high value on physical appearance. This may be

because women who objectify themselves are more attracted to sororities that value

physical appearance or it may be that the values of the sorority influence how a sorority

member perceives herself.

The two groups did not differ significantly on any other measured variable;

however, the trend was often in the direction of the hypothesis. For instance, even

though the two groups did not differ significantly on their answers to the Figure Rating

Scale, the OBSC Body Shame Subscale, and the Eating Attitudes Test, the data were in

the hypothesized direction. In other words, the sorority women who perceived physical

appearance as important in their sororities indicated higher levels of body dissatisfaction, body shame, and disordered eating than the sorority women who perceived physical appearance as unimportant in their sororities. While these differences were not significant, it is interesting that they were in the expected direction. Alternatively, the sorority women who perceived physical appearance as important in their sororities indicated higher levels of self-esteem. In addition, there was no difference between the two groups on the Sexual Experiences Survey.

Table 6: Descriptive Statistics of Measures for Two Groups of Sorority Participants

		Physical Perceived Unimportant				Physical Perceived Important			
Measure	N	Range	Mean	SD	N	Range	Mean	SD	α
1	37	2.13 – 6.38	4.43	0.91	69	2.50 – 6.75	4.87	0.84	.01
2	37	-1.00 – 5.00	1.19	1.05	69	-5.00 – 4.00	1.27	1.40	—
3	37	1.57 – 6.38	3.64	1.05	69	2.00 – 6.38	4.02	0.94	—
4	37	7.00 – 30.00	22.16	5.97	69	5.00 – 30.00	20.13	5.13	—
5	37	0.00 – 10.00	1.14	2.25	69	0.00 – 7.00	1.14	1.73	—
6	37	1.00 – 54.00	9.76	10.87	69	0.00 – 54.00	12.78	10.33	—

Measure 1 corresponds to the OBSC Surveillance Subscale
Measure 2 corresponds to the Figure Rating Scale
Measure 3 corresponds to the OBSC Shame Subscale
Measure 4 corresponds to the Rosenberg Self-Esteem Scale
Measure 5 corresponds to the Sexual Experiences Survey
Measure 6 corresponds to the Eating Attitudes Test
— Indicates that p-value was not significant at α = .05

As stated previously, the third hypothesis was tested by comparing the measurement correlations between the two groups of sorority participants: those who perceived their sorority as placing importance on physical appearance and those who perceived their sorority as not placing importance on physical appearance. The correlations between the measured variables are displayed in Table 7.

Table 7: Observed Correlations for the Two Groups of Sorority Participants

| | Unimportant | | | | | |
	1	2	3	4	5	6
1	1.000					
2	0.416*	1.000				
3	0.286	0.694**	1.000			
4	-0.260	-0.488**	-0.499**	1.000		
5	0.013	0.283	0.392*	-0.508**	1.000	
6	0.101	0.296	0.337*	-0.460**	0.728**	1.000

| | Important | | | | | |
	1	2	3	4	5	6
1	1.000					
2	0.252*	1.000				
3	0.565**	0.314**	1.000			
4	-0.150	-0.234	-0.512**	1.000		
5	-0.036	-0.041	0.191	-0.387**	1.000	
6	0.212	0.429**	0.610**	-0.426**	0.233	1.000

1 corresponds to the OBSC Surveillance Subscale
2 corresponds to the Figure Rating Scale
3 corresponds to the OBSC Shame Subscale
4 corresponds to the Rosenberg Self-Esteem Scale
5 corresponds to the Sexual Experiences Survey
6 corresponds to the Eating Attitudes Test
* Significant at $\alpha = .05$
* Significant at $\alpha = .01$

For the "Unimportant" participants, three of the correlations were significant at $\alpha = .05$ and six of the correlations were significant at $\alpha = .01$. The strongest correlation in

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the "Unimportant" participant data was between sexual coercion and disordered eating ($r = .728$), followed by body dissatisfaction and body shame ($r = .694$), self-esteem and sexual coercion ($r = -.508$), body shame and self-esteem ($r = -.499$), body dissatisfaction and self-esteem ($r = -.488$), self-esteem and disordered eating ($r = -.460$), self-objectification and body dissatisfaction ($r = .416$), body shame and sexual coercion ($r = .392$), and body shame and disordered eating ($r = .337$). In addition, all of the correlations were in the hypothesized direction; all correlations were positive, except for those involving the Rosenberg Self-Esteem Scale.

For the "Important" participants, one of the correlations was significant at $\alpha = .05$ and seven of the correlations were significant at $\alpha = .01$. The strongest correlation in the "Important" participant data was between body shame and disordered eating ($r = -.610$), followed by self-objectification and shame ($r = .565$), body shame and self-esteem ($r = -.512$), body dissatisfaction and disordered eating ($r = -.429$), self-esteem and disordered eating ($r = -.426$), self-esteem and sexual coercion ($r = -.387$), body dissatisfaction and body shame ($r = .314$), and self-objectification and body dissatisfaction ($r = .252$). In addition, all of the correlations were in the hypothesized direction; all correlations were positive, except for those involving the Rosenberg Self-Esteem Scale.

Taken together, data from both groups of sorority participants appear to provide some support for the model. There is some evidence that the "Important" participant data better supports the model. For instance, the "Important" participant data resulted in seven correlations significant at $\alpha = .01$, while the "Unimportant" participant data resulted in only five of the correlations significant at $\alpha = .01$. Alternatively, there is evidence that the "Unimportant" participant data better supports the model. For instance,

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nine of the correlations were significant at $\alpha < .05$ in the "Unimportant" participant data compared to eight correlations in the "Important" participant data. In addition, the largest "Unimportant" correlation was larger ($r = .728$) than the largest "Important" correlation ($r = .610$).

In summary, it appears that both groups likely provided some support for the model. However, the third hypothesis could not be directly analyzed due to the small number of participants, which prevented the use of path analysis. For this reason, a conclusion could not be reached in regards to the third hypothesis.

CHAPTER IV

DISCUSSION

The purpose of the present study was to research an aspect of Fredrickson and

Roberts' (1997) Objectification Theory that has been relatively untouched by other

researchers. Fredrickson and Roberts (1997) stated that, according to self-objectification

theory, women view their bodies as objects that serve the purpose of being pleasurable to

others. The vast majority of self-objectification research has looked at the relationship

between self-objectification and body dissatisfaction, body shame, disordered eating, and

to some extent, self-esteem. There is a significant gap in the self-objectification literature

in regards to the role that self-objectification plays in the sexual victimization of women.

This gap is particularly concerning when considering that over a decade has passed since

Fredrickson and Roberts (1997) proposed a connection between sexual victimization and

self-objectification.

In addition to the dearth of research conducted in the area of self-objectification

and sexual victimization, another limitation of the self-objectification research is that few

studies have utilized participants from specialized college populations. Most of the self-

objectification research has been conducted with college female participants, but very

few studies have specifically explored self-objectification in the specialized college

population of sorority women. For this reason alone, more self-objectification research

needs to be conducted within samples of sorority women. However, researching the

impact of self-objectification in the sorority population becomes especially imperative

when considering the evidence that sorority women have a greater risk of being sexual assaulted/raped than non-sorority college women (Minow & Einolf, 2009). College women are already at a higher risk for sexual assault than the general population (Koss, Gidycz, & Wisniewski, 1987), so understanding what increases the risk for some college women would be very helpful in aiding the war against sexual violence.

<center>First Hypothesis</center>

In the first hypothesis, a model of self-objectification was predicated for sorority and non-sorority college women. Specifically, the model proposed that self-objectification directly predicts body dissatisfaction, body shame, low self-esteem, and disordered eating in both sorority and non-sorority samples. In addition, the model proposed that body dissatisfaction predicts body shame; body shame predicts low self-esteem and disordered eating; low self-esteem predicts disordered eating and sexual coercion; and sexual coercion predicts disordered eating. The results from the path analysis conducted with the non-sorority sample and the path analysis conducted with the sorority sample suggested a good model of fit for both the sorority and non-sorority participant samples, which supports the first hypothesis.

For non-sorority participant data, all but two path coefficients (i.e., path between self-objectification and low self-esteem and path between low self-esteem and disordered eating) were significant at the .05 level. In addition, only two of the reproduced correlations exceeded a difference of .05, meaning that the initial model was fairly consistent with the empirical data (Mertler & Vannatta, 2005). The model also did a modest job at describing the variance for body shame, disordered eating and low self-esteem (approximately 56%, 44%, and 30% of the variance explained, respectively) when

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it was tested with the non-sorority participants. Finally, the correlation coefficients were also in the proposed directions. For instance, self-esteem was negatively correlated with sexual coercion and body shame, as was originally hypothesized. Overall, the results from the path analysis conducted with the non-sorority participants provided evidence in support of the Objectification Theory proposed by Fredrickson and Roberts in 1997.

In regards to the non-significant paths of self-objectification on low self-esteem and low self-esteem on disordered eating, it may be beneficial in future research to remove these paths from the model (please refer to Figure 4). The self-objectification research, as it relates to low self-esteem, is fairly limited. Furthermore, not all studies have shown a significant correlation between self-objectification and low self-esteem in college samples (Downs, James, & Cowan, 2006). For these reasons, the suggested removal of the two paths would be supported by the literature. After the two paths are removed, a second set of reproduced correlations should be obtained and the remaining eight paths in the model should be once again tested to determine if this model is indeed a better fit than the model proposed in the present study (please refer to Figure 1).

As was the case with the non-sorority participants, the results from the path analysis conducted with the sorority participants provided evidence in support of the Objectification Theory (Fredrickson & Roberts, 1997). Only two of the ten direct correlation coefficients were non-significant at $\alpha = .05$. In addition, only one of the reproduced correlations differed from the observed correlations by a degree greater than .05, meaning that the initial model was fairly consistent with the empirical data (Mertler & Vannatta, 2005). In addition, the model did a modest job at describing the variance for disordered eating, low self-esteem, and body shame (approximately 33%, 27%, and 24%
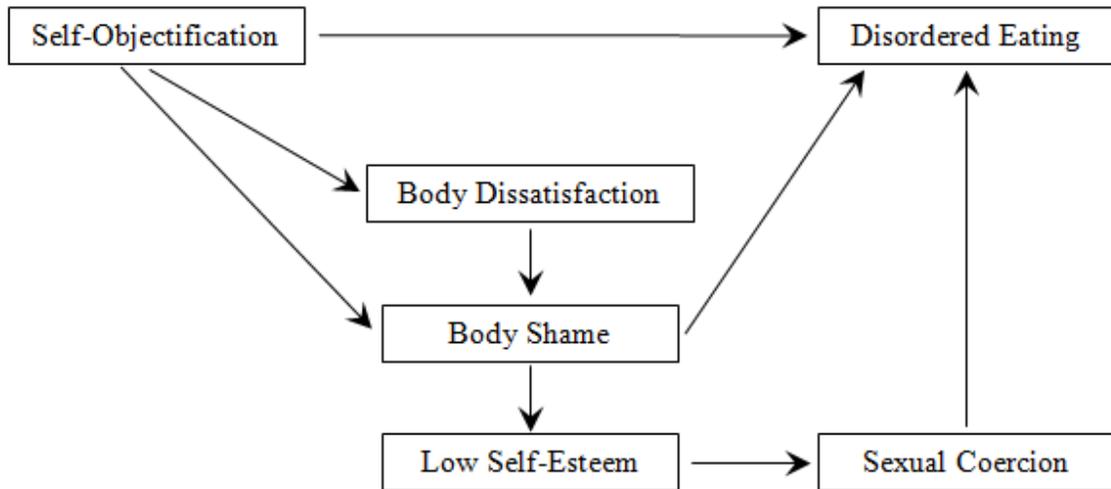
Figure 4: Proposed Revised Model for Non-Sorority Participants

of the variance explained, respectively) when it was tested with the sorority participants.

Finally, the correlation coefficients were also in the proposed directions. For instance,

self-esteem was negatively correlated with sexual coercion, body shame, and disordered

eating, as was originally hypothesized. Overall, the results from the path analysis

conducted with the non-sorority participants provided evidence in support of the

Objectification Theory proposed by Fredrickson and Roberts in 1997.

In regards to the non-significant paths of self-objectification on low self-esteem

and self-objectification on disordered eating, it may be beneficial in future research to

remove the path from self-objectification to low self-esteem from the model. It may or

may not be beneficial to remove the path from self-objectification to disordered eating

(please refer to Figure 5). As stated previously, the little self-objectification research that

has been done with low self-esteem is riddled with conflicting results. For this reason,

the suggested removal of the path between self-objectification and low self-esteem would

be supported by the literature. After this path is removed, a second set of reproduced

correlations should be obtained and the remaining nine paths in the model should be once

again tested to determine if this model is a better fit than the model proposed in the

present study (please refer to Figure 1). Depending on the results of the revised model, it

may be beneficial to also remove the pathway between self-objectification and disordered

eating. While the literature does support that a pathway exists between self-

objectification and disordered eating, not all studies have found this connection and no

studies to date have examined this link in sorority participants. More self-objectification

research is needed in the area of disordered eating, particularly as it occurs in sorority

populations.
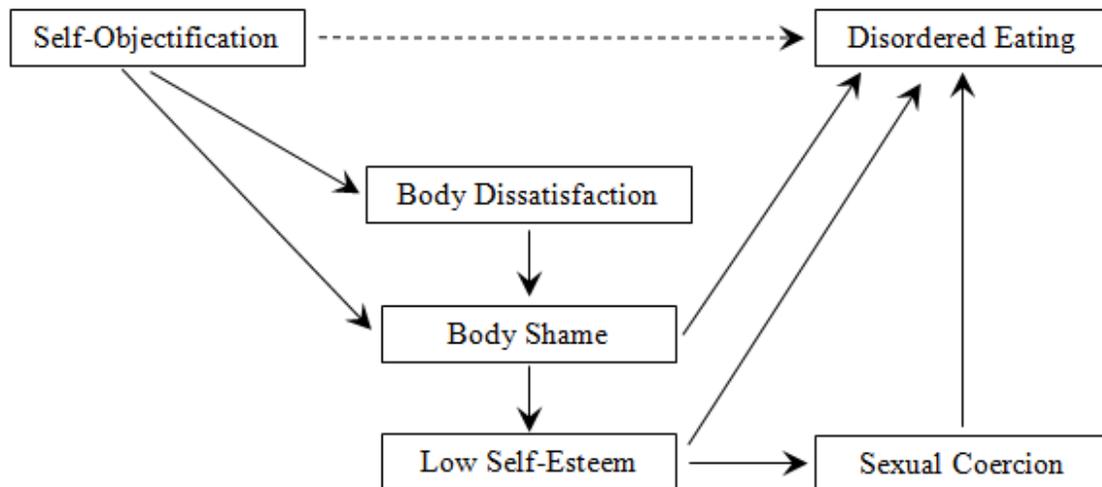
Figure 5: Proposed Revised Model for Sorority Participants

Overall, the results presented evidence for the applicability of Fredrickson and

Roberts (1997) Objectification Theory in both non-sorority and sorority samples. Of

particular interest, the correlation coefficients for the pathways involving sexual coercion

were significant in both samples of participants; this means that self-objectification may

play a significant role in the experience of sexual coercion. One variable that may not be

explained well in the model is low self-esteem. The pathway between self-objectification

and low self-esteem was not found to be significant in the model, regardless of whether it was tested with the sorority or non-sorority participants. In addition, when the model was tested with the non-sorority participants, the pathway between low self-esteem and disordered eating was also not found to be significant. This makes sense because there is very little research on the connection between self-objectification and low self-esteem. In addition, the research that is available in this area is inconsistent. Further research is needed to determine the role that low self-esteem plays in the self-objectification model.

The model proposed by this study adds a great deal to the literature. The significant correlation coefficients are supported by the literature and the correlation coefficients that are not significant (i.e., some of those involving low self-esteem and disordered eating) are also not supported by the literature. The addition of sexual coercion into the self-objectification model appears to make sense, not only within the model, but also theoretically. If a woman is high in self-objectification, it is likely that she will see herself as having a duty to please others with her body, regardless of how she really feels about a situation. For this reason, it is possible that someone who objectifies themselves is also vulnerable to subtle forms of sexual coercion, such as begging, verbal pressuring, or verbal manipulation.

The model in the present study would hopefully predict those who are more susceptible to sexual coercion and disordered eating. In this way, the model could be used to identify those at risk for sexual coercion and disordered eating, so that certain steps could be taken to decrease these outcomes. For instance, if a woman is high on self-objectification, body shame, and low self-esteem, the following actions could be taken: help her decrease the amount of time she objectifies herself, help her increase her

body confidence, and help her improve her self-esteem. Helping the person in this way

may help buffer her from sexually coercive experiences and disordered eating behavior.

<p style="text-align:center">Second Hypothesis</p>

The second hypothesis posited that the model in the present study would be better

supported by the sorority sample compared to the non-sorority sample. While both

participant groups appeared to provide evidence in support of the model, the model

appeared to have been most supported when it was tested with the non-sorority

participant data; this means that the second hypothesis was not supported by the results of

the analyses. Evidence to support this finding came from comparing the following when

the two different participant data sets were analyzed in the model: the direct correlation

coefficients, the difference between the reproduced and observed correlations, and the

variances explained in the model. The results of these three comparison methods will be

described in detail in the following pages.

As stated above, the first method of comparing the model tested with the non-

sorority data to the model tested with the sorority data involved examining the

differences between the direct correlation coefficients. This comparison revealed that

both models contain eight positive correlation coefficients out of the possible ten. This

first step in comparing the two participant samples was not particularly helpful in

determining which sample supported the model the best. However, it is necessary first to

discuss the differences between the two samples in regards to the non-significant

correlation coefficients before turning the discussion to the other two comparison

methods. For this reason, the non-significant correlation coefficients will be discussed in

the following paragraphs.

<p style="text-align:center">74</p>

In regards to the four non-significant direct correlation coefficients between the two participant samples, one correlation coefficient was non-significant in both participant samples (i.e., the pathway between self-objectification and low self-esteem). The remaining two non-significant correlation coefficients for each participant sample differed: the direct pathway between low self-esteem and disordered eating was non-significant in the non-sorority sample (but was significant in the sorority sample) and the direct pathway between self-objectification and disordered was non-significant in the sorority sample (but was significant in the non-sorority sample).

As stated in the previous paragraph, for both the non-sorority and sorority participant data, the direct pathway between self-objectification and low self-esteem was non-significant. This makes sense because the pathway between self-objectification and low self-esteem was one of the pathways that was the least supported by previous research. Not only has little research been done on the connection between self-objectification and low self-esteem, but the limited research that has been done is inconsistent. For example, Downs, James, and Cowan (2006) found no correlation between self-objectification and low self-esteem in their college sample. The next few paragraphs will focus on the two remaining non-significant correlation coefficients across the two participant samples.

The direct pathway between low self-esteem and disordered eating was non-significant in the non-sorority sample, while it was significant in the sorority sample. While it is more difficult to explain why this pathway was non-significant in the non-sorority sample and significant in the sorority sample, it is not entirely surprising that the path was non-significant in at least one of the data sets.   As stated a number of times

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already, the self-objectification research is extremely limited in regards to low self-esteem. This means that, in the present model, the low self-esteem variable was not as supported by empirical research as some of the other variables, even though some studies have found that low self-esteem mediates the relationship between self-objectification and disordered eating (e.g., Harned & Fitzgerald, 2002). The low self-esteem variable appeared to be supported in the model better when it was analyzed with the sorority data; only one (instead of two) correlation coefficients found to be non-significant involved low self-esteem in the sorority sample. Perhaps low self-esteem plays less of a role in the self-objectification model in the general female college population, but significantly contributes to the model in sorority samples. Further research is needed to clarify if this is indeed the case.

The final remaining non-significant pathway to discuss involves self-objectification and disordered eating. The direct pathway between self-objectification and disordered was non-significant in the sorority sample, while it was significant in the non-sorority sample. This finding was somewhat unexpected. Tiggemann and Slater (2001) found that self-objectification contributed to disordered eating in their ballet dancer sample, but not in their college sample. Because it was predicted that ballet dancers and sorority women have some things in common (i.e., they are both expected to possess a certain standard of beauty by a number of people), it was hypothesized that this pathway would be supported more in the sorority sample than in the non-sorority sample. However, there is an explanation as to why the results from sorority women in the present study were not similar to the results from the ballet dancers in Tiggemann and Slater's (2001) study.

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Sorority members and ballet dancers may have some things in common, but they are quite different in a number of ways. For instance, professional ballet dances rely on their bodies for their income. In addition, the smaller and more slender a ballet dancer is, the more likely she is able to fit the mold of a ballet dancer. For this reason, it makes sense that the more a ballet dancer perceives herself as an object, the more she will pay attention to her eating habits to influence her body shape and size. On the contrary, a sorority woman does not depend solely on her physical appearance to be successful. In fact, she may not rely on her appearance at all to be successful in academics or in relationships. The only area in which she may rely on her physical appearance is in regards to success in her sorority (if her particular sorority places a high value on the physical beauty of its members).

The only area left to be explained in regards to this non-significant pathway is why it was significant in the non-sorority sample when it was not even significant in the sorority sample. Just like the relationship between self-objectification and low self-esteem, the relationship between self-objectification and disordered eating is also unclear. While much more self-objectification research has been conducted on disordered eating compared to low self-esteem, the results are just as inconsistent. For this reason, the relationship between self-objectification and disordered eating needs to be explored in future studies, especially as it relates to sorority samples. It is possible that something about being in a sorority (e.g., female peer support, other values of the sorority, the encouragement of academic success) buffers sorority members from the direct pathway between self-objectification and disordered eating.

Now that the non-significant direct correlation coefficients have been explained in detail, the discussion of the second hypothesis can continue with the second comparison method. As stated above, the second method of comparing the models involved examining the differences between the reproduced and observed correlations for the non-sorority and the sorority participant data. When the model was analyzed with the non-sorority participants, two of the reproduced correlations differed from the observed correlations by a degree greater than .05. Alternatively, when the model was analyzed with the sorority participants, only one of the reproduced correlations differed from the observed correlations by a degree greater than .05. These results may mean that the model was better supported when it was analyzed with the sorority participants; however, both data sets appeared to provide evidence that the model was consistent with the empirical data, regardless of whether it was tested with non-sorority or sorority participant data. Having only on (versus two) reproduced correlations significantly differ from the observed correlations does not provide conclusive evidence that the model is better supported by the sorority participant data.

The results from the first two comparisons appeared to suggest that both sets of data do an equally good job at describing the model. However, the third and final method of comparing the models helped clarify whether the second hypothesis was supported. This final method involved examining the amount of variance explained for each factor in the model to determine if the model helped explain more of the variance when it was run with a particular data set. This is important because the more a model explains the variance among its variables, the better the model is said to be.

Overall, the model analyzed with the non-sorority participants explained more of the variance in four out of the five factors when it was compared to the model analyzed with the sorority participants. Specifically, the sorority-analyzed model explained 44%, 17.5%, 56%, and 30% of the variance in disordered eating, body dissatisfaction, body shame, and self-esteem, respectively. This was in comparison to the 32%, 10.5%, 24%, and 27% of the variance in disordered eating, body dissatisfaction, body shame, and self-esteem (respectively) that the non-sorority-analyzed model explained. Only one of the variables, sexual coercion, had more of its variance explained in the sorority-analyzed model. The sorority-analyzed model explained 10% of the variance in sexual coercion, while the non-sorority-analyzed model explained slightly less variance (i.e., 8%). Taken together, the comparison of the variances suggests that the model explained much more of the variance in the variables when it is analyzed with the non-sorority participants. In fact, the model explained over twice as much of the variance in body shame when the model was analyzed with the non-sorority participant data.

In conclusion, the three methods used to compare the model across the two groups of participants appeared to suggest that the model was slightly more supported when it was analyzed with the non-sorority participants. This conclusion was made mainly from the third comparison, in which more of the variance in the model was explained with the non-sorority participant data. This means the second hypothesis was not supported; the model was not supported more when it was analyzed with data from a sorority sample.

There are a number of possible explanations for why the model was a better fit for the non-sorority sample. First, the proposed model was developed due to the self-objectification research, which has primarily utilized college women. Because most

college women are not members of sororities, it is likely that the research to date

describes non-sorority college women better than sorority college women. In addition,

more variables may be needed in a model to achieve a fuller picture of self-objectification

in sorority women. Some of these variables may be sorority values or the involvement in

objectifying events, such as themed parties and formals.

Additionally, both participant samples appeared to support a slightly different

model than the hypothesized model. For instance, the variable of low self-esteem was

supported more in the model when it was analyzed with the sorority participants and the

variable of disordered eating was supported more in the model when it was analyzed with

the non-sorority participants. More research needs to be done, but it appears that the

model is a good, although not perfect, fit for either group of college women.

Third Hypothesis

The third hypothesis purported that the model would be supported significantly

more among sorority women who perceived their sorority as placing high value on

physical appearance compared to sorority women who perceived their sorority as placing

low value on physical appearance. As stated in the Methods and Results sections, this

hypothesis could not be tested using path analyses because there were not enough

participants in the two groups. Using the equation provided by Norman and Streiner

(2003), the present model contained 16 parameters. This means that at least 160

participants would need to have perceived some level of "importance" and 160

participants would need to have perceived some level of "unimportance" in order for path

analyses to be utilized. The data from the 69 and 37 participants in these groups would

have made it impossible to interpret the results with some level of certainty. For this

reason, the correlations between the measured variables were compared between the two groups of sorority participants. For the sake of simplicity, the participants who reported perceiving their sorority as not placing importance on physical appearance will be referred to as the "Unimportant" participants. Likewise, the participants who reported perceiving their sorority as placing importance on physical appearance will be referred to as the "Important" participants.

The correlations between the study measures for the "Unimportant" participants resulted in three correlations significant at $\alpha = .05$ and six correlations significant at $\alpha = .01$. The correlations between the study measures for the "Important" participants resulted in one of the correlations significant at $\alpha = .05$ and seven of the correlations significant at $\alpha = .01$. This means that nine of the correlations were significant in the "Unimportant" participant data and eight of the correlations were significant in the "Important" participant data.

Taken together, it is difficult to determine which group of sorority participants would best support the model, especially because path analyses were unable to be utilized. On the one hand, the "Important" participant data may have better supported the model. The "Important" participant data resulted in seven correlations significant at $\alpha = .01$, while the "Unimportant" participant data resulted in only five of the correlations significant at $\alpha = .01$. This means that there is likely a stronger relationship between the measures in the model when it is examined with the "Important" participant data. On the other hand, the "Unimportant" participant data may have better supported the model. The "Unimportant" participant data resulted in nine correlations significant by at least $\alpha < .05$, while the "Important" participant data resulted in eight correlations significant by at

least α < .05. This means that there may be relationships between more of the measures in the model when it is examined with the "Unimportant" participant data.

In addition to examining the differences between the two sets of correlations, an important similarity was found between the two sorority participant groups; the correlations for both sets of participants were in the correct direction for all measures. All of the correlations were positive in the "Unimportant" and "Important" samples, except for those involving the Rosenberg Self-Esteem Scale. The model in the present study predicted that there would be a negative correlation between self-esteem and the other variables. Even though the results from the correlations are not able to provide conclusive support for or against the model, the observed correlations are in the hypothesized direction.

In conclusion, it is not possible to determine if the third and final hypothesis was supported for three main reasons. First, data from both groups of participants resulted in an approximate number of significant correlations, meaning that data from both groups of participants provided support for correlations between variables. Second, data from both groups of participants resulted in all of the correlations being in the hypothesized directions. Third and most importantly, path analyses were unable to be conducted, which was the only way to truly test the third hypothesis.

Clinical Implications and Future Research.

Studying self-objectification is important, particularly because of the correlations between self-objectification and certain mental and physical disorders. Perhaps most unsettling among the consequences of self-objectification is the evidence supporting the connection to depression and eating disorders (Fredrickson et al., 1998; Muehlenkamp &

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Saris-Baglama, 2002; Muehlenkamp, Swanson, & Brausch, 2005; Noll & Fredrickson, 1998; Tiggemann & Kuring, 2004; Tiggemann & Lynch, 2001). Because the results of the present study indicated that unwanted sexual contact (or susceptibility to sexual coercion) was predicted by self-objectification, intervention efforts may focus on empowering women to become better trained to protect themselves by increasing their self-esteem. In addition, because self-objectification appears to indirectly lead to sexual coercion, intervention efforts aimed at reducing self-objectification may decrease a woman's susceptibility to sexual coercion. It is likely that a woman who does not feel that her body serves the purpose of pleasing anyone other than herself will feel more confident in her decisions when faced with sexual coercion. For instance, if her partner complains that she is a "tease" or if her partner repeatedly begs for a sexual favor, she can feel confident that she has the right to refuse anything that does not make her comfortable.

Even though the results of the present study may have profound implications on the way intervention efforts target sexual coercion, caution is needed when interpreting the results. The results of the present study may be easily misinterpreted to mean that women can overcome all forms of sexual coercion or, worse, that women are the individuals responsible for their sexual coercion experiences. In this way, the results from the present study may be misused as evidence to blame the victim or survivor of sexual coercion.

On the contrary, it is the hope of the principle investigator that the results of the present study will be used to help empower women to have a sense of some control over their sexual experiences. In addition, it is also the hope of the principle investigator that

the results of the present study never be used to blame victims or survivors of sexual assault. No matter how prepared or empowered a woman may be, she cannot prevent all instances of sexual coercion, especially the more forceful examples of sexual coercion, such as rape. In addition, even if a woman does not feel confident or capable of tackling sexual coercion, it is never her fault if sexual coercion occurs. No individual should ever be pressured by another individual to engage in an unwanted sexual activity, whether it is through begging, threatening, drug use, physical force, or through any other means. It is simply the hope of the principle investigator that the results of this study be used to help encourage and empower women to feel confident discussing their sexual wishes with their partner and to never feel obligated to do anything that they would rather not do.

In addition to the value that the present study may have for all women, the results of this study may be particularly important for college women and sorority women in particular, who have high rates of sexual assault (Koss, Gidycz, & Wisniewski, 1987). Unwanted sexual experiences can have profound impacts on the lives of the survivors. For instance, people who experienced unwanted sexual experiences may develop poor self-esteem, anxiety disorders, or depression (American Psychiatric Association, 2000).

In addition to the mental anguish that is sometimes experienced by survivors of sexual victimization, physical problems can also result. For instance, if a woman does not feel empowered to request the use of a condom or does not feel entitled to ask her partner about testing for sexually transmitted infections, she may feel less able to take charge of her sexual decisions. Therefore, she may have a higher chance of coming into contact with sexually transmitted infections. In this way, helping women examine the

role that self-objectification plays in their sexual experiences may help decrease the spread of venereal diseases.

In addition to the impact that self-objectification may have on the susceptibility to sexual coercion, self-objectification may also influence disordered eating. Even though the results of the present study suggest a weaker direct pathway between self-objectification and disordered eating when compared to the pathways between self-objectification and other variables (except low self-esteem), there is still some strong evidence to support this link. In fact, the direct pathway between self-objectification and disordered eating was significant in the non-sorority participant data. For this reason, understanding self-objectification may be imperative in the prevention and treatment of some eating disorders.

Understanding the pathway between self-objectification and disordered eating may lead to improved healthcare and treatment success, especially among people with eating disorders. Eating disorders are often resistant to treatment and have a high mortality rate compared to other psychological disorders (American Psychiatric Association, 2000), which makes the present study all the more important. It can be hypothesized that the low success rate in some cases of eating disorders may be due to the vicious cycle of self-objectification. Understanding self-objectification and addressing it in treatment, along with body dissatisfaction and body shame, may help women decrease eating disorder symptomotology. Regardless of whether this is the case or not, more research needs to be done in the area of self-objectification and disordered eating.

Finally, the results of this study highlight the importance of conducting future self-objectification research with sorority samples. The model in the present study was better supported by the non-sorority data. In some ways, this makes sense because much of the self-objectification research to date has been conducted with college females. Because sorority women make up a minority of the female college population, it can be assumed that much of the self-objectification research represents the "typical" non-sorority college female more than the minority sorority college female. For this reason, certain female college sub-populations (i.e., sorority members, student athletes, foreign exchange students) are not being fairly represented in the self-objectification research.

Because the self-objectification model does not appear to be supported as well by the sorority participants, other factors likely contribute to the self-objectification pathways in sorority women populations. For example, perhaps the values of her sorority and the support that she feels from her sorority sisters contribute to the level of self-objectification that she experiences. For this reason, it is strongly recommended that more self-objectification research be conducted with sorority samples, as well as other female sub-populations (e.g., student athletes and foreign exchange students).

Limitations

There were several limitations of the present study, which may have impacted the way that the results were interpreted. First, the results from this study were based on path analysis, which is essentially correlational in nature. For this reason, one cannot say that a particular variable caused another variable to occur. For instance, even though the results suggest that low self-esteem helps predict sexual coercion, it cannot be concluded with certainty that low self-esteem causes sexual coercion to occur. In this example, the

only conclusion that can be made is that the two variables are related in a specific way and in a specific direction (i.e., either positive or negative). To determine causation between variables, experimental designs are necessary. For instance, an argument for causation can be made if participants experience experimental conditions, such as a condition that influences self-objectification. For this reason, experimental designs exploring self-objectification, disordered eating, and sexual coercion will need to be implemented in the future.

Along the same lines, a second potential limitation of the present study was the way in which the data was analyzed. The data in the present study was analyzed through path analysis rather than through structural equation modeling, which is often the preferred method in model evaluation research. As stated previously, path analysis was chosen over structural equation modeling due to the researcher's previous experience working with path analysis and due to the absence of latent variables in the present study (Mertler & Vannatta, 2005; Norman & Streiner, 2003). While path analysis was sufficient to use in the present study, it was still a limitation. Specifically, even though the results indicated significant correlation coefficients between variables, path analysis limits the way in which these results can be interpreted. For example, in both sorority and non-sorority samples, the direct correlation coefficient between the OBCS Body Shame Subscale and the Eating Attitudes Test was significant. In the present study with path analysis, all that can be concluded is that the direct correlation coefficient between the OBCS Body Shame Subscale and the Eating Attitudes Teat is positive. Alternatively, in structural equation modeling, it may have been possible to conclude that the direct correlation coefficient between *body shame* and *disordered eating* was positive. For this

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reason, structural equation modeling can lead to richer results that are capable of meaning something beyond the measures in the model.

The third limitation of the present study was in regards to the use of self-administered surveys, which are retrospective and subject to participant memory errors or participant biases (e.g., trying to disprove or prove a suspected hypothesis). For instance, a participant who values her sorority membership and feels loyalty toward her sorority sisters may provide biased answers so that her sorority is shown in the best possible light. Alternatively, a sorority participant who is disillusioned with her sorority that day may either unconsciously or consciously depict her sorority in a negative light. In addition, questionnaires are based on perception. A participant may perceive her sorority as placing a great deal of importance on physical appearance, even if her sorority does, in fact, not place a high level of importance on the physical appearances of its members.

Another limitation of survey data was that the methods of collection may have introduced unwanted confounds into the study. For instance, the fourth limitation of the present study was that the participant data was collected through online surveys. While participants were able to take the survey at any hour of the day and any day of the week, the environment in which the participants completed the surveys could not be controlled; this likely added a confound to the present study. For example, some participants probably completed the survey in a quiet and private environment where they were able to focus and provide unbiased answers. However other participants likely completed the survey in a distracting environment or may have even asked their roommate or sorority sister for help in completing the survey. While collecting data through surveys provided

accessibility to a great deal of information from a large number of participants, it did not come without its challenges and potential problems.

A fifth limitation of the present study was the poor use of the alcohol questionnaire (Khavari & Farber, 1978). While research suggested that it was a good idea to include an alcohol evaluation in the present study (Mohler-Kuo, Dowdall, Koss, & Wechsler, 2004; Scott-Sheldon, Carey, & Carey, 2008; Tyler, Hoyt, & Whitbeck, 1998), the questions in the online survey were framed in such as a way as to induce ambiguity. For instance, in the open-ended question, "Think of all of the times you have had beer recently. When you drink beer, how much beer do YOU USUALLY DRINK each time in cans or glasses?" a participant might have answered with a "5." In this case, it cannot be determined if the participant meant five pint-sized glasses, five 375-ml cans, or five 16-oz red cups. In addition, this tells us nothing about the type of beer that the participant drank. The alcohol content in beer can often range from 4% to 8%, which can make a big difference in the amount of true alcohol consumed. For instance, a person who drinks five low alcohol content beers in one sitting uses less alcohol than a person who drinks five high alcohol content beers in one sitting. In future studies, it is recommended that a more standard alcohol evaluation be used, such as the Short Michigan Alcoholism Screening Test (SMAST; Selzer, Vinokur, & van Rooijen, 1975) or the criteria used in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000).

A sixth limitation of the present study was that sorority participants belonging to different sororities were not able to be compared. The reason that this is a limitation is because not all sororities are created equal. Some sororities likely value physical

appearance, while other sororities place very little value on the physical appearance of its members. While it is likely that there would be a high refusal rate from participants to name their sorority for fear that they would be more likely to be identified or for fear that their answers would reflect poorly on their sorority, it would have been interesting to test the model based on the particular sorority membership of a participant. If differences had been found between sororities, one could then begin to investigate whether certain sorority values contributed to the self-objectification experiences of their members or whether certain values attracted particular people to join, who may have differed on trait self-objectification.

A seventh and final limitation of the present study was that the sexual coercion variable was treated as continuous variable in the path analyses, despite that the questionnaire was not originally designed to be treated as a continuous variable. The Sexual Experiences Survey (Koss & Gidycz, 1985; Koss & Oros, 1982) was originally designed to help categorize individuals based on their sexual coercive experiences. However, because path analysis requires all variables to be continuous, the Sexual Experiences Survey was treated as a continuous variable instead of a categorical variable in the present study. For this reason, the model results from the present study should be interpreted with caution, particularly in regards to the pathways connecting to/from the sexual coercion variable. In future studies, the present study should be replicated with a sexual coercion survey that was designed and intended to be continuous. Additionally and perhaps more importantly, future researchers may want to use a scale that solely focuses on the more subtle forms of sexual coercion, which are coincidently the forms of sexual coercion in which a women can have some control. For instance, there is no

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evidence in the literature to suggest that women who self-objectify are more susceptible to forms of sexual coercion involving physical force and violence, such as rape. Regardless of a person's self-objectification experience, some forms of sexual coercion are simply out of her control. In other words, a woman is not more susceptible to the more obvious forms of sexual coercion (i.e., rape or physical force) when she experiences high levels of self-objectification. For this reason, it is suggested that future researchers interested in the connection between self-objectification and sexual coercion implement a sexual coercion survey examining only those forms of sexual coercion likely to be influenced by self-objectification (e.g., verbal pressure, such as begging).

APPENDICES

Appendix A

Consent Form

CONSENT FORM
CONSUMER BEHAVIOR AND HEALTH STUDY

Hi, my name is Lauren Chilian. I am currently a psychology graduate student at the University of North Dakota. As part of my dissertation, I am conducting a study that deals with body image and wellbeing in college women. This study is **research** according to Federal Regulation Requirements. If you would like to continue your participation in this research, please read the following information carefully and sign and date the bottom of this form.

If you choose to participate, you will be asked to sample three products and fill out some questionnaires, which will take approximately 30 minutes to complete. This study is designed to gather data on body image and wellbeing. You will be asked questions that deal with your body perceptions and eating attitudes. Please take your time and simply raise your hand or approach me if you have any questions or concerns during your participation.

There is little anticipated risk for you in participating in this study. If you choose to participate, you may experience some boredom from filling out the questionnaires or you may feel some level of slight to moderate anxiety from viewing and/or answering questions that concern your personal life. You may also experience a decline in mood, anxious feelings, or self-dissatisfaction as you fill out the questionnaires. **If you experience extreme discomfort or distress, please call the University Counseling Center (777-2127) on campus, the Psychological Services Center (777-3691) on campus, or the University Crisis Coordination Team (777-3491) for assistance.**

Your participation in this study is entirely voluntary and your standing at UND will not be affected by your decision to (or not to) participate. You may choose to discontinue your participation in this study at any time for any reason without penalty and be assured that your data will not be used in the study.

Confidentiality: Please keep the extra copy of the consent form for your own records. **All information that you provide will be kept strictly confidential and anonymous.** Your name will not be linked in any way to the data in this study and will not be used in the reporting of this data. The signed consent forms and questionnaires collected for this study will be protected in a locked file cabinet, with consent forms stored separately from

questionnaires. Completed questionnaires and consent forms will be shredded after being stored under locked conditions for three (3) years. Only Lauren Chilian, Dr. Richard Ferraro, undergraduate research assistants, and individuals that audit IRB procedures will have access to the data.

This study has been reviewed by the University of North Dakota Institutional Review Board (IRB). In the unlikely event that you experience adverse effects as a result of your participation in this study, you may contact the Counseling Center (777-2127), Psychological Services Center (777-3691) or Lauren Chilian (701-720-4089) for direction. If you have any questions or concerns about the research, please contact Lauren Chilian at 701-720-4089 (email: lauren.chilian@my.und.edu) or Dr. Richard Ferraro at 777-2414. If you have questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at 701-777-4279. Please call this number if you cannot reach research staff, or you wish to talk with someone else.

By signing below, you are consenting to participate in the present study. Thank you for your participation.

_____   _____

    Signature of Participant   Date

_____   _____
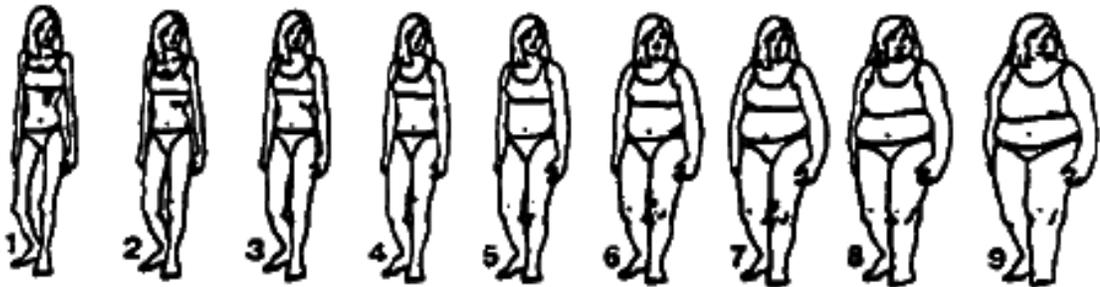
    Signature of Researcher   Date
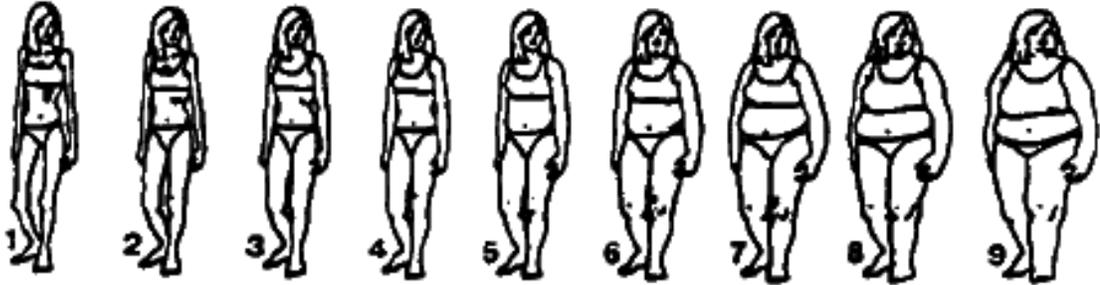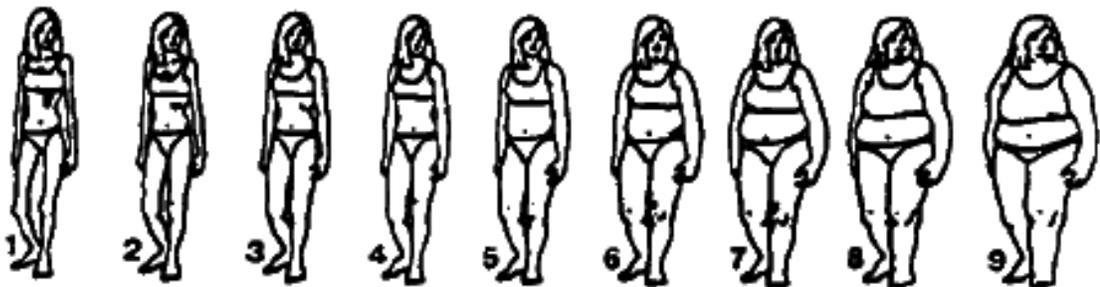
Appendix B

Figure Rating Scales

1) Choose the figure that best matches your current figure

2) Choose the figure that most closely resembles your ideal figure

3) Choose the figure that you think would be most attractive to men

Appendix C

SES

Please fill out the following questionnaire. *Sexual intercourse* is defined in this survey as the penetration of a woman's vagina by a penis or other object for *any* length of time.

1. Have you given in to sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because you were overwhelmed by a person's continual arguments and pressure?	Yes	No
2. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a person used his position of authority (boss, teacher, camp counselor, supervisor) to make you?	Yes	No
3. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a person threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Yes	No
4. Have you had a person attempt sexual intercourse (get on top of you, attempt to insert a penis or other object) when you didn't want to by threatening or using some degree of force (twisting your arm, holding you down, etc.), but intercourse *did not* occur?	Yes	No
5. Have you had a person attempt sexual intercourse (get on top of you, attempt to insert a penis or other object) when you didn't want to by giving you alcohol or drugs, but intercourse *did not* occur?	Yes	No
6. Have you given in to sexual intercourse when you didn't want to because you were overwhelmed by a person's continual arguments and pressure?	Yes	No
7. Have you had sexual intercourse when you didn't want to because a person used his or her position of authority (boss, teacher, camp counselor, supervisor) to make you?	Yes	No
8. Have you had sexual intercourse when you didn't want to because a person gave you alcohol or drugs?	Yes	No

9. Have you had sexual intercourse when you didn't want to because a person threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Yes	No
10. Have you had sex acts (anal or oral intercourse or penetration by objects other than the penis) when you didn't want to because a person threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	Yes	No

APPENDIX D

RSE

Please fill out the following questionnaire:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel that I am a person of worth, at least on an equal plane with others.	O	O	O	O
2. I feel that I have a number of good qualities.	O	O	O	O
3. All in all, I am inclined to feel that I am a failure.	O	O	O	O
4. I am able to do things as well as most other people.	O	O	O	O
5. I feel I do not have much to be proud of.	O	O	O	O
6. I take a positive attitude toward myself.	O	O	O	O
7. On the whole, I am satisfied with myself.	O	O	O	O
8. I wish I could have more respect for myself.	O	O	O	O
9. I certainly feel useless at times.	O	O	O	O
10. At times I think I am no good at all.	O	O	O	O

APPENDIX E

SOQ

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

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

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

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

9 = greatest impact
8 = next greatest impact
:
1 = next to least impact
0 = least impact

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

1. . . .what rank do you assign to *physical coordination*?...................................... _____

2. . . .what rank do you assign to *health*?.. _____

3. . . .what rank do you assign to *weight*?... _____

4. . . .what rank do you assign to *strength*?.. _____

5. . . .what rank do you assign to *sex appeal*?.. _____

6. . . .what rank do you assign to *physical attractiveness*?...................................... _____

7. . . .what rank do you assign to *energy level (e.g., stamina)*?.............................. _____

8. . . .what rank do you assign to *firm/sculpted muscles*?...................................... _____

9. . . .what rank do you assign to *physical fitness level*?.. _____

10. . . .what rank do you assign to *measurements (e.g., chest, waist, hips)*?............. _____

APPENDIX F

EAT

Directions: Please check a response for each of the following statements:

	Always	Usually	Often	Sometimes	Rarely	Never
1. Am terrified about being overweight	O	O	O	O	O	O
2. Avoid eating when I am hungry	O	O	O	O	O	O
3. Find myself preoccupied with food	O	O	O	O	O	O
4. Have gone on eating binges where I feel that I may not be able to stop	O	O	O	O	O	O
5. Cut my food into small pieces	O	O	O	O	O	O
6. Aware of the calorie content of foods that I eat	O	O	O	O	O	O
7. Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)	O	O	O	O	O	O
8. Feel that others would prefer if I ate more	O	O	O	O	O	O
9. Vomit after I have eaten	O	O	O	O	O	O
10. Feel extremely guilty after eating	O	O	O	O	O	O
11. Am preoccupied with a desire to be thinner	O	O	O	O	O	O
12. Think about burning up calories when I exercise	O	O	O	O	O	O
13. Other people think that I am too thin	O	O	O	O	O	O

14. Am preoccupied with the thought of having fat on my body	O	O	O	O	O	O
15. Take longer than others to eat my meals	O	O	O	O	O	O
16. Avoid foods with sugar in them	O	O	O	O	O	O
17. Eat diet foods	O	O	O	O	O	O
18. Feel that food controls my life	O	O	O	O	O	O
19. Display self-control around food	O	O	O	O	O	O
20. Feel that others pressure me to eat	O	O	O	O	O	O
21. Give too much time and thought to food	O	O	O	O	O	O
22. Feel uncomfortable after eating sweets	O	O	O	O	O	O
23. Engage in dieting behavior	O	O	O	O	O	O
24. Like my stomach to be empty	O	O	O	O	O	O
25. Enjoy trying new rich foods	O	O	O	O	O	O
26. Have the impulse to vomit after meals	O	O	O	O	O	O

OBCS

Directions: Please check a response for each of the following statements:

	Strongly Agree	Moderately Agree	Agree	Neither Agree Nor Disagree	Disagree	Moderately Disagree	Strongly Disagree	NA
1. I rarely think about how I look.	O	O	O	O	O	O	O	O
2. When I can't control my weight, I feel like something must be wrong with me.	O	O	O	O	O	O	O	O
3. I think a person is pretty much stuck with the looks they are born with.	O	O	O	O	O	O	O	O
4. I think it is more important that my clothes are comfortable than whether they look good on me.	O	O	O	O	O	O	O	O
5. I feel ashamed of myself when I haven't made the effort to look my best.	O	O	O	O	O	O	O	O

6. A large part of being in shape is having that kind of body in the first place.	O	O	O	O	O	O	O	O
7. I think more about how my body feels than how my body looks.	O	O	O	O	O	O	O	O
8. I feel like I must be a bad person when I don't look as good as I could.	O	O	O	O	O	O	O	O
9. I think a person can look pretty much how they want to if they were willing to work at it.	O	O	O	O	O	O	O	O
10. I rarely compare how I look with how other people look.	O	O	O	O	O	O	O	O
11. I would be ashamed for people to know what I really weigh.	O	O	O	O	O	O	O	O
12. I really don't think I have much control over how my body looks.	O	O	O	O	O	O	O	O
13. During the day, I think about how I look many times.	O	O	O	O	O	O	O	O

14. I never worry that something is wrong with me when I am not exercising as much as I should.	O	O	O	O	O	O	O	O
15. I think a person's weight is mostly determined by the genes they are born with.	O	O	O	O	O	O	O	O
16. I often worry about whether the clothes I am wearing make me look good.	O	O	O	O	O	O	O	O
17. When I'm not exercising enough, I question whether I am a good enough person.	O	O	O	O	O	O	O	O
18. It doesn't matter how hard I try to change my weight, it's probably always going to be about the same.	O	O	O	O	O	O	O	O
19. I rarely worry about how I look to other people.	O	O	O	O	O	O	O	O
20. Even when I can't control my weight, I think I'm an okay person.	O	O	O	O	O	O	O	O

21. I can weight what I'm supposed to when I try hard enough.	O	O	O	O	O	O	O	O
22. I am more concerned with what my body can do than how it looks.	O	O	O	O	O	O	O	O
23. When I'm not the size I think I should be, I feel ashamed.	O	O	O	O	O	O	O	O
24. The shape you are in depends mostly on your genes.	O	O	O	O	O	O	O	O

APPENDIX H

1. **Age**: _____

2. **Please fill in your height and weight:**
_____ Height (in feet and inches; for example, you might put 5 feet 2 inches)
_____ Weight (to the nearest pound)

3. **Ethnicity (check all that apply)**:

__Black/African American	__Latino/Hispanic
__Native American/Alaskan Native	__Native Hawaiian/Other Pacific Islander
__Asian	__Non-Hispanic White/Caucasian
__Prefer not to answer	__Other (please specify) _____

4. **Year in School**:
__ Freshman
__Sophomore
__Junior
__Senior or above

5. **Socioeconomic status of family when growing up**:

__Low Class	__Middle High Class
__Low Middle Class	__High Class
__Middle Class	

6. **Relationship Status**:

__Single	__Divorced/Separated
__Dating	__Cohabiting
__Engaged	__Widowed
__Married	__Other (describe)_____

7. **If you belong to a sorority, what is the length of time that you have belonged to your sorority? If you are not involved in a sorority, please skip this question.**

__ Less than 3 months	__2 years
__ 3 to 6 months	__3 years
__ 6 months to 1 year	__4 years
__1 year	__ More than 4 years.

8. **Where you live:**
__ In the sorority. If so, how long? _____
__ On campus, but not in the sorority. If so, how long? _____
__ Off campus. If so, how long? _____

9. **If you do live in a sorority, how important are physical looks in your sorority?**
__ Very Important
__ Moderately Important
__ Neutral
__ Moderately Unimportant
__ Very Unimportant

APPENDIX I

KAT

1. How often do you usually drink beer?

2. How often do you usually drink wine?

3. How often do you usually drink whiskey or liquor?

4. Think of all of the times you have had beer recently. When you drink beer, how much beer do YOU USUALLY DRINK each time in cans or glasses?

5. How often do you drink this MOST amount of beer?

6. Think of all of the times you have had wine recently. When you drink wine, how much wine do YOU USUALLY DRINK each time in glasses (4 oz.)?

7. How often do you drink this MOST amount of wine?

8. Think of all of the times you have had drinks containing whiskey or liquor recently. When you drink whiskey or liquor, how much DO YOU USUALLY DRINK each time (in mixed drinks, approximately 1 oz. shots)?

9. How often do you drink this MOST amount of liquor?

10. Each time you drink beer, what is the MOST YOU DRINK at one time in cans or glasses?

11. Each time you drink wine, what is the MOST YOU DRINK at one time in glasses (4 oz.)?

12. Each time you drink liquor, what is the MOST YOU DRINK at one time (in mixed drinks, approximately 1 oz. shots)?

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