

Self-Objectification and Alcohol Use in Young Adult College Women

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ABSTRACT

Although there is a sizeable body of research identifying the gender convergence of drinking rates, fewer studies have explored factors contributing to women's increasing alcohol consumption. Consequently, scholars have called for more research on gender-related predictors of women's drinking behaviors and associated consequences (Iwamoto et al., 2018). One potential gender-relevant factor is self-objectification or the perspective toward the self that the body is primarily valued for its appearance and sexual appeal (Frederickson & Roberts, 1997). Thus, our study investigated the link between self-objectification and young adult college women's alcohol use and alcohol use prior to casual sexual activity or "hooking up." In addition, our study examined novel explanatory (i.e., body shame, sexual self-esteem, body self-consciousness during sexual activity, and alcohol sexual enhancement expectancies) factors in predicting young adult college women's drinking behaviors via a parallel-serial multiple mediation model. Findings revealed that self-objectification was not directly related to alcohol use or alcohol use prior to hooking up. However, self-objectification was indirectly related to alcohol use through sexual self-esteem and alcohol sexual enhancement expectancies, as well as indirectly related to alcohol use prior to hooking up through alcohol sexual enhancement expectancies. None of our theorized three-stage mediation chains linking self-objectification to alcohol use behaviors were significant. Our results highlight the potential negative effects of self-objectification on women's health and the significance of focusing on alcohol sexual enhancement expectancies in intervention efforts.

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CHAPTER 1

INTRODUCTION

Evidence from multiple studies suggests that alcohol use among adults in the United States has increased in the last 20 years (Grucza et al., 2018). Despite men traditionally having higher rates of alcohol consumption (Keyes et al., 2011), this positive trend in drinking has been particularly pronounced among women, suggesting a narrowing gender gap (Grucza et al., 2018; Keyes et al., 2019; Patrick et al., 2017; White, 2020; White et al., 2015). Using data from two nationally representative surveys conducted 10 years apart, Grant et al. (2017) found an 83.7% increase in alcohol use disorder (AUD) among women relative to a 34.7% increase among men. Young adult women may be particularly at risk, with findings suggesting a rise in binge drinking (4-5 + drinks) for women in their late teens through early thirties (Patrick et al., 2017; White et al., 2015). Furthermore, results from a recent survey indicated that between 3.3% and 7.1% of women ages 18-30 years reported engaging in high intensity drinking (10+ drinks) in the past two weeks (Patrick & Terry-McElrath, 2019). In addition, evidence shows that the majority of college students indicated drinking alcohol in the past month, with approximately one-third reporting heavy episodic drinking at least once in the past two weeks (Merrill & Carey, 2016). In 2018, 61% of female college students reported being drunk in the past month compared to 51% of women not in college, 58% of male college students, and 36% of men not in college (White, 2020). To that end, young adult women attending college may be especially vulnerable.

One context in which young adult women attending college may be especially likely to drink in is prior to engaging in casual sexual experiences or “hooking up.” While there is no singular definition of hooking up, many scholars have agreed that it involves a range of sexual

behaviors between two individuals who are not in a committed relationship nor have explicitly acknowledged expectations to be in such a relationship (Fielder & Carey, 2010; Fielder et al., 2013; Garcia et al., 2012; Heldman & Wade, 2010; Lewis et al., 2012; Stinson, 2010). In their meta-analysis, Claxton and colleagues (2015) found that the majority of individuals' casual sexual experiences were preceded by alcohol use, with younger adults more likely to drink prior to engaging in casual sexual activity with a partner compared to older adults. Using a sample of female college students, Fielder and Carey (2010) found that 64% of participants had at least one alcoholic drink prior to hooking up. Findings from another study similarly indicated that over half of female college students drank before a hook up, consuming on average four alcoholic drinks prior to a casual sexual experience (LaBrie et al., 2014).

Women, compared to men, are especially susceptible to the negative consequences associated with drinking such as alcohol-induced heart disease, brain damage during alcohol withdrawal, and alcohol-related physical and sexual assault (Nolen-Hoeksema, 2004). Furthermore, women with AUD tend to experience more associated harmful consequences in young adulthood compared to men with AUD (Foster et al., 2015), suggesting that female young adults may be even more at risk for enduring the negative effects of drinking.

Research has also indicated that on a global level, the link between alcohol use and hooking up is stronger for female college students compared to their male counterparts (Owen & Fincham, 2011; Owen et al., 2011). Relatedly, LaBrie et al. (2014) found similar rates of drinking prior to hooking up between male and female young adults. However, the potential negative impact of consuming alcohol prior to casual sexual activity may be heightened for women relative to men. For example, several studies have demonstrated that consuming greater

amounts of alcohol is correlated with an increased likelihood of unprotected sex for women but not men (Dumas et al., 2013; Kiene et al., 2009; Scott-Sheldon et al., 2009). In addition, Oshri et al. (2013) found that alcohol use before or during sex predicted unprotected sexual intercourse in female adolescents but not male adolescents.

Due to young adult women's increasing alcohol use coupled with their heightened vulnerability for drinking-related consequences, research is needed to identify the unique gender-relevant factors that may influence their alcohol use broadly as well as risky alcohol use behaviors in particular (Brady et al., 2016; Iwamoto et al., 2018). In this study, we investigated these factors through the novel combination of self-objectification and alcohol sexual enhancement expectancy models (see Figure 1). More specifically, we examined body shame, sexual self-esteem, body self-consciousness during sexual activity, and alcohol sexual enhancement expectancies as potential mediators in the relations between self-objectification and both alcohol use and alcohol use prior to hooking up.

Self-Objectification and Alcohol Use

Objectification theory may offer a unique gendered perspective in examining young adult women's alcohol use (Fredrickson & Roberts, 1997). This theory posits that women live in a culture in which their bodies are valued for their appearance and sexual appeal largely as a result of the media's propagation of sexualized images of women. Consequently, women may internalize these messages and engage in self-objectification, perceiving their bodies as sexual objects to be looked at and evaluated. According to objectification theory, women's self-objectification precedes negative psychological states which in turn contribute to mental health problems. Supporting this theory, a significant body of research has provided evidence linking

women's self-objectification to mental health issues including body shame, eating disorder symptoms, appearance anxiety, and depression (Moradi & Huang, 2008).

Self-objectification may similarly predict young adult college women's hazardous alcohol use and associated behaviors. A considerable amount of theory and research has suggested that individuals use alcohol to regulate their affective experiences, drinking in order to reduce negative emotions and enhance positive emotions (Cooper et al., 1995). To that end, young adult women may turn to drinking alcohol in order to regulate internalized distress resulting from self-objectification. This notion is consistent with previous research which has identified internalizing distress as a gender-specific risk factor for alcohol use problems in women (Foster et al., 2014, 2015; Nolen-Hoeksema, 2004).

In addition, self-objectification may be primed for young adult college women in drinking contexts (Hussman & Goldstein, 2019), in which hooking up is prevalent and perceived as a social norm (Lovejoy, 2015). Self-objectification is particularly relevant to the sexual domain because there is a greater focus on the body (Tiggemann, 2011), and this may lead to women's increased anxiety and somatic tension during sexual activity. As somatic tension has been found to be associated with uncomfortable sexual intercourse and a lack of vaginal lubrication (Eaton et al., 2015), women with heightened self-objectification may consume alcohol prior to hooking up in order to reduce tension and prevent these associated negative sexual consequences. In support of this notion, evidence suggests that body surveillance, which is considered a behavioral manifestation of self-objectification (Fredrickson & Roberts, 1997), is a predictor of women's drinking before sexual activity (Littleton et al., 2005). Furthermore, as self-objectification leads women to value their bodies as sexualized objects (Fredrickson &

Roberts, 1997), female young adults with heightened self-objectification may drink before engaging in casual sexual activity not only to reduce anxiety and tension but to enhance feelings of sexual confidence so that they may “perform” for their sexual partners.

Limited research has examined the relationship between self-objectification and alcohol use. Carr and Szymanski (2011) found that self-objectification was positively correlated with alcohol abuse in young adult women. Furthermore, findings from their structural equation model revealed that self-objectification indirectly predicted substance abuse through body shame and depression. However, substance abuse was defined as a latent variable consisting of alcohol, nicotine and drug use measures and alcohol use was not examined independently in the model. Baildon and colleagues (2021) discovered that self-objectification was indirectly related to drinking frequency through body shame, enjoyment of sexualization, and enhancement, conformity, and social motives for drinking.

Despite minimal research on the relationship between self-objectification and alcohol use in women, findings from a related area of research on the link between women’s endorsement of feminine norms and drinking behaviors may offer support for our hypothesis. For example, Iwamoto et al. (2018) found that young adult women who endorsed the feminine norm of appearance investment were more likely to engage in high-risk drinking behaviors. Similarly, another study using a sample of female college students revealed that investing in one’s appearance predicted binge drinking and alcohol-related consequences (Iwamoto, Corbin, Takamatsu, & Castellanos, 2018). In addition, Hussman and Goldstein (2019) found that for young adult women, the norm of desiring thinness was linked with increased alcohol use. As valuing one’s physical appearance and an idealized body are components of self-objectification,

it is likely that self-objectification would similarly be related to alcohol use in young adult college women.

Self-Objectification and Body Shame

Shame is a multifaceted experience composed of social, self-evaluative, behavioral, and physiological components (Gilbert, 2014). Shame is elicited in social contexts and is accompanied by thoughts such as perceiving that others see the self as “bad” or “inadequate.” In addition, shame involves evaluation of the self, in which the person experiencing shame internalizes these beliefs. Different negative emotions may be recruited in response to shame, such as anxiety, anger, and disgust. Furthermore, defensive behaviors, such as hiding or running away, may emerge due to experiencing shame. Moreover, shame can be experienced as physiological in that it evokes a stress response through heightened parasympathetic activity.

Body shame involves negative self-evaluations regarding one’s physical attributes as well as the perception that one’s body is viewed negatively in the minds of others, placing oneself in an unwanted social rank (Duarte et al., 2014). The negative emotions and stress response that accompany body shame lead to behaviors aimed at reducing distress and escaping the “painful gaze of others” (Fredrickson & Roberts, 1997, p. 181). Multiple studies have demonstrated a link between women’s self-objectification and body shame (Carr & Szymanski, 2011; Choma et al., 2009; Moradi & Huang, 2008). Feminine beauty norms dictate that women should strive to have a thin, slender figure (Wiseman et al., 1992). Young adult female college students with high levels of self-objectification may continuously make comparisons between their own bodies and the “ideal” female body (Fredrickson & Roberts, 1997). Consequently, young adult women who

self-objectify may experience body shame due to perceiving that one is failing to achieve this desirable sociocultural standard and thus is vulnerable to rejection by others (Duarte et al., 2015).

Self-Objectification and Sexual Self-Esteem

Scholars have suggested that self-esteem, or an individual's positive and negative attitudes toward the self, is actually a multi-dimensional construct, suggesting the existence of specific types of self-esteem (Rosenberg et al., 1995). One such specific type of self-esteem is sexual self-esteem, or a person's views of the self as a sexual being, including perceptions of acceptability and worth towards sexual aspects of the self (Calogero & Thompson, 2009b; Snell Jr & Papini, 1989). As self-objectification is especially relevant to the sexual sphere (Tiggemann, 2011), how women view themselves as sexual beings may be a consequence of self-objectification (Calogero & Thompson, 2009b). More specifically, young adult women who perceive themselves as sexualized objects for their partner's pleasure may devalue and have negative attitudes toward sexual aspects of the self, especially concerning their ability to sexually relate to an intimate partner.

Minimal research has examined the relationship between self-objectification and sexual self-esteem. However, findings from two studies revealed a negative relationship between self-objectification and sexual self-esteem in female college students, such that greater levels of self-objectification predicted decreased sexual self-esteem (Calogero & Thompson, 2009a, 2009b). Furthermore, related research on the link between body image and sexual self-esteem found that negative body image was associated with poor sexual self-esteem in both male and female college students (La Rocque & Cioe, 2011), as well as in a sample of college women (Weaver &

Byers, 2006). These findings suggest that how female young adults view themselves as sexual beings is ultimately tied to perceptions of the body and physical appearance (Wiederman, 2000).

Self-Objectification and Body Self-Consciousness During Sexual Activity

Depending on the context and situation, body image experiences may vary for young adult women (Cash & Smolak, 2011). For example, women may experience a more negative body image during sexual activity with a partner given the heightened level of focus on the body in this context (Claudat & Warren, 2014). Body self-consciousness may consequently emerge, leading women to engage in anxious self-focus on bodily appearance and avoid body exposure during sexual activity (Cash et al., 2004). Moreover, body self-consciousness during sexual relations may be a fairly common experience for young adult women. For example, Wiederman (2000) found that 35% of female college students experienced body self-consciousness during physical intimacy with a partner at least some of the time. Furthermore, previous research has indicated that during partnered sexual activity, young adult women are most self-conscious about aspects of the body that are especially relevant to weight and gender, including thighs, hips, waist, and buttocks (Cash et al., 2004).

According to Cash (2002), sexual activity with a partner may be experienced by individuals as a “social-evaluative risk” as it typically involves exposing one’s body to another person (p. 185). For young adult women who self-objectify, this social-evaluative risk may be especially pronounced as self-objectification prompts women to adopt an external focus on their bodies rather than an internal focus (Fredrickson & Roberts, 1997), leading them to value their bodies primarily for their appearance and sexual appeal. Consequently, female young adults with heightened self-objectification may experience anxiety related to how their bodies will be

perceived by their sexual partners, resulting in body self-consciousness during partnered sexual activity. Multiple studies have investigated the link between body surveillance and body self-consciousness during sexual activity (Claudat & Warren, 2014; Claudat et al., 2012; Steer & Tiggemann, 2008; Vandebosch & Eggermont, 2014). Findings from several of these studies revealed that among college women, higher levels of body surveillance predicted more body self-consciousness during partnered sexual experiences (Claudat & Warren, 2014; Claudat et al., 2012; Steer & Tiggemann, 2008). In addition, using a longitudinal design, Vandebosch and Eggermont (2014) found that body surveillance led to adolescents' increased body self-consciousness during sexual activity, measured over a period of six months.

The Mediating Role of Alcohol Sexual-Enhancement Expectancies

Beginning with the influential work by Brown et al. in 1980, the concept of alcohol expectancies has emerged as an important component in psychosocial models of alcohol consumption (Leigh & Stacy, 2004). Alcohol expectancy theory postulates that alcohol use can be explained by individuals holding beliefs about the effects or outcomes of drinking, leading those individuals to consume alcohol in a way that delivers the effects or outcomes they expect (Jones et al., 2001). These expectancies may be formed at a young age and ultimately come from direct and indirect interactions with alcohol and alcohol paraphernalia. Alcohol expectancies may be positive (i.e., expectations of reinforcement from consuming alcohol) or negative (i.e., expectations of undesirable consequences from drinking). To that end, while positive expectancies may play a role in motivating individuals to drink more, negative expectancies may serve as a motivator for abstaining from alcohol.

A large body of research has identified significant links between alcohol expectancies for behaviors, moods and emotions, and alcohol use (Leigh, 1989). Notably, many studies have found that among college students in particular, positive alcohol expectancies predict greater alcohol consumption (Carey, 1995; Fromme et al., 1993; Sher et al., 1996; Young et al., 2006). Relatedly, Leigh and Stacy (2004) demonstrated that positive alcohol expectancies were a stronger predictor of drinking relative to negative alcohol expectancies in younger age groups (age 35 years and below) but not older age groups.

One specific type of positive alcohol expectancy is sexual enhancement alcohol expectancies. Individuals who endorse these expectancies may believe that drinking alcohol will elevate their sexual experiences (Fromme et al., 1993). Klassen and Wilsnack (1986) found that among women who drink, the majority reported believing that drinking alcohol reduces their sexual inhibitions while almost half indicated that consuming alcohol makes sexual activity more pleasurable. Sexual enhancement alcohol expectancies may mediate the links between young adult college women's self-objectification-related outcomes (i.e., body shame, sexual self-esteem, body self-consciousness during sexual activity) and both alcohol use and alcohol use prior to casual sexual activity (i.e., hooking up). Negative psychological states, such as those resulting from self-objectification, may serve as motivation for coping responses (Carver & Scheier, 1990), including alcohol use. Young adult women experiencing distress related to high levels of body shame and body self-consciousness during sexual activity and low levels of sexual self-esteem may drink alcohol to reduce discomfort and improve functioning in sexual situations. Negatively reinforcing drinking behaviors may lead to the development of strong beliefs in the positive, sexually enhancing outcomes of alcohol consumption (Cunningham et al., 2017).

Negative emotions thus may serve as a cue for individuals in drinking contexts, connecting alcohol use and its positive expectancies (Hufford, 2001). In support of this proposition, Hufford (2001) demonstrated that individuals' negative affect states predicted their endorsement of positive alcohol expectancies.

Consequently, holding beliefs about sexual enhancement outcomes from drinking may lead to increased alcohol use in general as well as a higher likelihood of alcohol-involved casual sexual activity (George et al., 2000). Carey (1995) found that sexual enhancement alcohol expectancies predicted frequency of alcohol intoxication in college students. Similarly, McBride et al. (2014) found that college students who endorsed sexuality-related positive alcohol expectancies were more likely to report binge drinking in the past two weeks. Furthermore, a study using a nationally representative sample of German adults discovered that alcohol sexual enhancement expectancies were positively linked to both average daily alcohol intake and number of drinking days in young adults (ages 18 to 29 years) but not older adults (Pabst et al., 2010). In addition, findings from previous research have revealed that the endorsement of positive sex-related alcohol expectancies is associated with an increased likelihood of drinking before or during partnered sexual activity (Derman & Cooper, 1994; Dir et al., 2018; Hendershot et al., 2007; Leigh, 1990; Patrick & Maggs, 2009; White et al., 2009).

To that end, young adult women with heightened body shame and self-consciousness during sexual activity and poor sexual self-esteem may drink alcohol with the expectation that it will provide them with the "liquid courage" needed to engage in a hook up (Cunningham et al., 2017; Littleton et al., 2005), leading to increased drinking behaviors. Although minimal research has examined the mediating role of alcohol sexual enhancement expectancies specifically, one

study by Cunningham and colleagues (2017) provides support for our hypothesis. Findings revealed that sexual enhancement expectancies partially mediated the pathway between body image concerns and alcohol use among a sample of Australian college students.

The Current Study

In the current study, we examined two models with parallel and serial mediation properties. Our specific hypotheses were:

1. Self-objectification would be directly linked with alcohol use and alcohol use prior to hooking up.
2. Self-objectification would be indirectly related to alcohol use and alcohol use prior to hooking up. That is, self-objectification would be associated with more body shame, less sexual self-esteem, and greater body self-consciousness during sexual activity, which in turn would be related to greater alcohol sexual enhancement expectancies. This in turn would be associated with more alcohol use and alcohol use prior to hooking up. Further, we hypothesized that all possible direct and indirect effects would be significant.

CHAPTER 2

METHODS

Participants

The initial sample comprised 598 participants who completed an online survey. Seven participants who self-identified as male at birth, 1 participant who resided outside of the U.S., 15 participants who did not consume alcohol in the past year, 9 participants who did not engage in partnered sexual activity in the past year, 7 participants who did not pass the seriousness check, 15 participants who failed two or more validity checks, and 24 participants who were missing more than 20% of items for a particular measure were eliminated from the dataset, which resulted in a final sample of 518 participants.

Of the 518 participants in the final sample, 99% identified as female and 1% identified as genderqueer/gender non-conforming/non-binary. Regarding sexual orientation, participants identified as heterosexual (74%), lesbian/gay (3%), bisexual (18%), asexual (1%), and a different orientation (4%). Participants' ages ranged from 18 to 30 years, with a mean age of 19.48 ($SD = 1.10$). The sample was 5% African American/Black, 4% Asian American/Pacific Islander, 2% Hispanic/Latino/Latina, 85% Caucasian/White, 3% Biracial/Multiracial, and 1% Other.

All participants were currently enrolled in a college or university, with 57% reporting being first-year students, 12% sophomores, 10% juniors, 13% seniors, 7% graduate students and 1% other. Twenty-two percent of participants identified as a first-generation college student. Regarding current relationship status, 42% reported being single/not dating anyone right now, 11% casually dating someone, 44% in a serious and committed relationship, and 2% married.

Participants resided in the Northeast (18%), Midwest (15%), South (62%), and West (6%) regions of the U.S. Due to rounding, percentages may not add up to 100%.

Procedure

Participants were recruited through the University of Tennessee's Department of Psychology human research pool called SONA. On SONA, potential participants only see the study name (i.e., Young Adult Women's Attitudes and Experiences Survey), study type (i.e., online web survey), duration (i.e., 30 to 45 minutes), credits (i.e., 1 credit), eligibility requirements, sign up times, and IRB approval code. Upon signing up for the study, participants received a link to the informed consent page of the survey.

Recruitment of participants also occurred through Facebook advertisements. Advertisements on Facebook were shown to women between the ages of 18 and 30 years old, living in the United States. The advertisement included the name of the study (i.e., Young Adult Women's Attitudes and Experiences Survey) and a brief description of it (i.e., Are you a female college student between 18 and 30 years old? Participants wanted for research study about young adult women's well-being and gender-related attitudes and experiences.). After participants clicked on the Facebook advertisement, the embedded hypertext link directed them to the informed consent page of the survey. Also included in the informed consent for participants recruited via Facebook was information regarding entering an optional raffle to win one of four \$25 Amazon.com gift cards. Participants were informed that data for the raffle would be stored in a separate database location so that it could not be linked to their survey data.

After reading and acknowledging the informed consent, participants were presented with an eligibility screening and then asked to complete a web-based survey. Data was collected from

the survey using the Qualtrics system through the University of Tennessee. Data was stored on Qualtrics, which uses firewall systems, encryption, and secure storage to prevent data tampering and keep survey data confidential. In order to reduce response biases, alcohol use measures were presented prior to and independent of the predictor and mediator variables (Podsakoff et al., 2003). All of the other measures were randomly ordered in the survey, with the exception of demographics, which was presented last.

Measures

Demographics

Items were included that asked participants to self-report their age, sex, gender identity, sexual orientation, relationship status, racial/ethnic identity, year in college, and whether or not they are a first-generation college student. A seriousness check (Aust et al., 2013) and three items used as validity and attention checks were also used throughout the survey.

Self-Objectification

Self-objectification was assessed using the 14-item Self-Objectification Beliefs and Behaviors Scale (SOBBS; Lindner & Tantleff-Dunn, 2017), which measures the internalization of an observer's perspective on the body and perceiving the body as representing the self, including valuing the body above one's personality, intellect, thoughts, and feelings. Participants were asked to indicate their level of agreement with each item. Example items include "I often think about how my body must look to others" and "My physical appearance is more important than my personality." Each item was rated on a 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Mean scores were used with higher scores indicating greater levels of self-objectification. Lindner and Tantleff-Dunn (2017) demonstrated support for

internal consistency (α 's ranged from .91 - .92), test-retest reliability ($r = .89$), and structural validity (via both exploratory and confirmatory factor analyses). Construct validity was supported by positive correlations with previous measures of self-objectification, interpersonal sexual objectification, body shame, appearance anxiety, disordered eating, depression, and public body- and self- consciousness, as well as negative correlations with body satisfaction, self-esteem, and sexual functioning. For the current sample, α was .90.

Body Shame

Body shame was assessed using the 8-item Body Shame subscale from the Objectified Body Consciousness Scale (McKinley & Hyde, 1996), which measures the belief that one is a bad person if they do not live up to cultural expectations related to the body. Example items include "I feel like I must be a bad person when I don't look as good as I could" and "When I'm not the size I think I should be, I feel ashamed." Each item was rated on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Mean scores were used with higher scores indicating greater levels of body shame. McKinley and Hyde (1996) provided support for internal reliability (α 's were .70 for middle-aged women and .84 for undergraduate women) and test-retest reliability ($r = .79$). Validity was supported via exploratory and confirmatory factor analyses in addition to positive correlations with body surveillance, public body consciousness, and disordered eating as well as negative correlations with body esteem and body competence. For the current sample, α was .86.

Sexual Self-Esteem

Sexual self-esteem was assessed using the 5-item Sexual-Esteem subscale from the Sexuality Scale-short form (Snell Jr & Papini, 1989; Wiederman & Allgeier, 1993), which

measures the tendency to engage in internal reinforcement toward oneself resulting from one's ability to sexually relate to another person. Participants indicated extent of agreement with each statement using a 5-point Likert-type scale ranging from -2 (*disagree*) to +2 (*agree*). Example items include "I am a good sexual partner" and "I am confident about myself as a sexual partner." Mean scores were used and values were recoded so that higher scores indicated greater levels of sexual self-esteem. Wiederman and Allgeier (1993) indicated an alpha of .92 for women, demonstrating support for internal reliability. Structural validity was demonstrated via exploratory factor analyses for the full-scale form (Snell & Papini, 1989) and confirmatory factor analyses for the short form (Wiederman & Allgeier, 1993). Construct validity was supported by positive correlations with self-esteem and depression. For the current sample, α was .92.

Body Self-Consciousness During Sexual Activity

Body consciousness during sexual activity was assessed using the 18-item Body Exposure during Sexual Activities Questionnaire-Short Form (BESAQ; Cash et al., 2004; Hangen & Cash, 1991) which measures self-consciousness about the body and avoidance of its exposure during sexual activity. Participants were asked to indicate how characteristic each statement is of them/their experiences during sexual activity. In order to reflect a wide range of participants' sexual experiences, instructions also included the following: "When reading each statement, please note that "sex" and "sexual activity" refer to a range of physically intimate behaviors including kissing, touching, oral, vaginal, and/or anal sex with a partner." Example items include "I am self-conscious about my body during sexual activity" and "During sexual activity, I try to hide certain areas of my body." Each item was rated on a 5-point Likert-type scale from 0 (*never*) to 4 (*always or almost always*). Mean scores were used with higher scores

indicating greater levels of body consciousness during sexual activity. Cash et al. (2004) demonstrated support for internal consistency (α 's was .96 for women). Construct validity was supported by positive correlations with trait body dissatisfaction, overweight preoccupation, and dysfunctional investment in appearance as well as negative correlations with sexual functioning variables (i.e. pleasure, arousal, and orgasm). For the current sample, α was .96.

Alcohol Sexual Enhancement Expectancies

Alcohol sexual enhancement expectancies was assessed using the 4-item Sexuality subscale of the Comprehensive Effects of Alcohol questionnaire (CEOA; Fromme et al., 1993). These questions measure positive expectations of "...physiological, psychological, and behavioral" effects on sexuality resulting from drinking alcohol (p. 19). Items begin with the stem "If I were under the influence from drinking alcohol..." and responses were indicated using a 4-point Likert-type scale ranging from 1 (*disagree*) to 4 (*agree*). Mean scores were used with higher scores indicating greater levels of alcohol sexual enhancement expectancies. Example items include "I would feel sexy" and "I would be a better lover." Structural validity was demonstrated via exploratory and confirmatory factor analyses, with factor loadings ranging from .48 to .75. Construct validity was supported by positive relations with alcohol use measures. For the current sample, α was .83.

Alcohol Use

Alcohol use was assessed using the Alcohol Use Disorders Identification Test Consumption questions (AUDIT-C; Bush et al., 1998). The AUDIT-C includes 3-items that measure frequency of drinking, typical drinking quantity, and binge drinking. Each item has five possible responses ranging from 0 to 4, with total scores used to determine alcohol abuse or

dependence and/or heavy drinking. Example items include “How often do you have a drink containing alcohol?” and “How often do you have six or more drinks on one occasion?” The AUDIT-C has demonstrated good psychometric properties in multiple populations (Barry et al., 2015; Bradley et al., 2003; Campbell & Maisto, 2018; Dawson et al., 2008). Construct validity was supported by positive correlations with other measures of drinking. Using a sample of college students, Barry et al. (2015) provided support for internal reliability ($\alpha = .76$) and split-half reliability ($\rho = .88$). For the current sample, α was .76.

Alcohol Use Prior to Hooking Up

Alcohol use prior to hooking up was assessed using two questions modified from a study by Abbey et al. (1998). These questions include: “Over the past year, how often did you consume alcohol prior to hooking up?” and “During those times that you consumed alcohol prior to hooking up, approximately how intoxicated would you say you usually were?” A definition of hooking up was also provided, more specifically: “hooking up includes a range of sexual behaviors between two individuals (e.g., kissing, touching, oral, vaginal, and/or anal sex) who are not in a committed relationship.” For the first question, participants responded using a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*always*). Participants responded to the second question using a 7-point Likert-type scale ranging from 0 (*not at all intoxicated*) to 6 (*extremely intoxicated*). Responses to these two items were multiplied to form an index of alcohol use prior to hooking up. This measure has been used by several previous studies on alcohol use before/during sexual situations (Abbey et al., 2001; Jacques-Tiura et al., 2007; Parkhill & Abbey, 2008; Parkhill et al., 2014). For the current sample, the correlation between the two items was .70.

CHAPTER 3

RESULTS

Preliminary Analyses and Descriptive Data

Because there are no power analysis guidelines specifically for a parallel-serial mediation model, we used the following suggestion to determine our minimum sample size. When reliability of scores on measures used is good, Weston and Gore (2006) recommend using 20 observations per estimated parameter. Our theorized model has 12 parameters each, so a minimum sample size of 240 participants was needed.

Of the 518 participants who were included in the study, some had missing data. Analysis of the patterns of missing data revealed that 0.12% of all items for all cases were missing, and 61.11% of the items were not missing data for any case. Considering individual cases, 93.82% of participants had no missing data. Finally, no item had 0.6% or more of missing values. Given the very small amount of missing data, we used available case analysis procedures to address missing data points. Missing values were imputed from each participant's observed scores on the measures where missing points occurred (Parent, 2013).

Examination of absolute values of skewness (range = .139 – 1.52) and kurtosis (range = .011 – 2.22) for each variable indicated sufficient normality (i.e., skewness < 3, kurtosis < 10; Weston & Gore, 2006). Three multivariate outliers were observed (Mahalanobis distance $p < .001$). These outliers did not display particular response patterns (e.g., selecting “1” for all item level responses) nor did they have a significant bearing on the overall model (Cook's distance < 1; Field, 2013). Thus, all outliers were retained as we did not have any justifiable reason to remove them.

Means, standard deviations, and inter-correlations among all variables assessed in this study are shown in Table 1. At the bivariate level, self-objectification was positively related to body shame, body self-consciousness during sexual activity, alcohol sexual enhancement expectancies, alcohol use, and alcohol use prior to hooking up, as well as negatively related to sexual self-esteem. Body shame and body self-consciousness during sexual activity were positively related to alcohol sexual enhancement expectancies. Alcohol sexual enhancement expectancies was positively related to alcohol use and alcohol use prior to hooking up. Multicollinearity was not a problem because condition indexes were < 30 and variance inflation factors were < 10 for all regression analyses (Field, 2013).

Mediation Analyses

We used the PROCESS SPSSv3 macro (Hayes, 2018; Model 80) to test the two parallel-serial multiple mediation models, one predicting alcohol use and the other predicting alcohol use prior to hooking up. PROCESS Model 80 estimates all parameters for a fully saturated mediation model with both parallel and serial mediation properties. Direct and indirect effects were examined using bootstrap analyses with 5,000 bootstrapping resamples and the bias corrected method to produce 95% confidence intervals. This is a nonparametric resampling procedure that does not require the assumption of normality in the sampling distribution (Mallinckrodt et al., 2006). Mediation is significant as well as meaningful if the confidence interval does not include zero (Hayes, 2018).

In Figure 2 and Figure 3, we provide results for all direct effects. Contrary to Hypothesis 1, self-objectification was not directly related to alcohol use or alcohol use prior to hooking up. In terms of other direct effects, self-objectification significantly predicted more body shame, less

sexual self-esteem, and more body self-consciousness during sexual activity. Self-objectification was also positively and significantly related to alcohol sexual enhancement expectancies. Alternatively, body shame, sexual self-esteem, and body self-consciousness during sexual activity were not directly associated with alcohol sexual enhancement expectancies. Furthermore, greater levels of sexual self-esteem predicted more alcohol use and alcohol use prior to hooking up, while body shame and body self-consciousness during sexual activity were not directly associated with either of these outcome variables. Alcohol sexual enhancement expectancies was significantly and positively related to alcohol use and alcohol use prior to hooking up.

Results for all indirect effects are shown in Table 2 and Table 3. Contrary to our hypothesis, none of the three-stage mediation paths were significant in predicting alcohol use nor alcohol use prior to hooking up. However, for alcohol use, two of the four possible two-stage mediation chains were significant: (a) self-objectification → sexual self-esteem → alcohol use, and (b) self-objectification → alcohol sexual enhancement expectancies → alcohol use. In addition, for alcohol use prior to hooking up, one of the four possible two-stage mediation chains was significant: self-objectification → alcohol sexual enhancement expectancies → alcohol use prior to hooking up. Finally, the variables in the model accounted for 8% of the variance in alcohol use and 13% of the variance in alcohol use prior to hooking up.

CHAPTER 4

DISCUSSION

Although men historically have had higher rates of drinking relative to women, research from the past twenty years has suggested a narrowing alcohol use gender gap (Gruca et al., 2018; Keyes et al., 2019; Patrick et al., 2017; White, 2020; White et al., 2015). Specifically, this gap is lessening among adults due to increasing drinking rates in women but not men (White, 2020). Furthermore, women are more susceptible to the negative consequences associated with alcohol use compared to men (Nolen-Hoeksema, 2004). With high rates of alcohol use in female college students in particular (White, 2020), this population may be especially at risk for enduring the negative effects of drinking. Moreover, drinking prior to engaging in casual sexual activity (i.e., hooking up) is a common experience for young adults (Claxton et al., 2015) and college students (Fielder & Carey, 2010; LaBrie et al., 2014). However, findings from previous research have indicated that alcohol use prior to casual sexual activity is associated with risky sexual behaviors (i.e., unprotected sexual intercourse) in women, but not men (Dumas et al., 2013; Kiene et al., 2009; Scott-Sheldon et al., 2009). To that end, our study answers the call for research which identifies the gender-specific factors that may play a role in women's alcohol use behaviors. In the present study, we examined the novel combination of self-objectification and alcohol sexual enhancement expectancy models in predicting college women's alcohol use in addition to their drinking alcohol prior to hooking up.

Contrary to our hypothesis, college women's self-objectification was not directly related to their alcohol use or alcohol use prior to hooking up. However, self-objectification indirectly predicted these variables, consistent with limited previous research indicating significant indirect

links between self-objectification and alcohol use (Baildon et al., 2021), as well as self-objectification and substance abuse broadly (Carr & Szymanski, 2011). Our results revealed that alcohol sexual enhancement expectancies mediated the indirect links between self-objectification and both alcohol variables. More specifically, we found that higher levels of self-objectification were associated with greater alcohol sexual enhancement expectancies, which in turn predicted more alcohol use and alcohol use prior to hooking up. One possible explanation for these findings involves women's enjoyment of sexualization, or the perception that appearance-based sexual attention is positive and gratifying (Liss et al., 2011). Baildon et al. (2021) suggests that some women who engage in self-objectification may find sexual attention from men as validating of their heightened body surveillance because the attention may signal their achievement of beauty standards. This idea aligns with previous research indicating a positive relationship between self-objectification and enjoyment of sexualization (Baildon et al., 2021; Liss et al., 2011). Women who self-objectify and consequently enjoy receiving sexual attention may desire to enhance the positive feelings associated with being sexualized, leading to the endorsement of alcohol sexual enhancement expectancies and subsequent alcohol use behaviors. Similar to our findings, Ward et al. (2018) discovered that the latent variable of self-sexualization (composed of body surveillance, enjoyment of sexualization, and sexual appeal self-worth) predicted greater levels of alcohol sexual enhancement expectancies in female college students. Furthermore, findings from another study indicated that college women's self-objectification predicted more enjoyment of sexualization, which in turn was related to enhancement motivations for drinking, in turn predicting higher levels of both drinking frequency and quantity (Baildon et al., 2021).

In terms of other indirect effects, we found that sexual self-esteem mediated the indirect link between self-objectification and alcohol use. Results indicated that self-objectification was negatively related to sexual self-esteem, consistent with previous research (Calogero & Thompson, 2009a, 2009b). In turn, sexual self-esteem was positively associated with alcohol use. Young adult women with high sexual self-esteem may also have higher levels of global self-esteem (Oattes & Offman, 2007). Thus, female college students who hold positive feelings about themselves in general may be more likely to enter social situations where drinking is normative and prevalent, leading to greater alcohol use (Pederson et al., 2013). This is also consistent with our finding that sexual self-esteem was directly related to alcohol use before hooking up and past studies finding positive associations between greater self-esteem and increased drinking in college students (DeHart et al., 2009; Pederson et al., 2013).

Inconsistent with our theorized path models, none of the hypothesized three-stage mediation chains were significant. Our findings revealed that self-objectification directly predicted greater body shame, less sexual self-esteem, and more body self-consciousness during sexual activity, mirroring previous research on the links between self-objectification and body shame (Carr & Szymanski, 2011; Choma et al., 2009; Moradi & Huang, 2008), sexual self-esteem (Calogero & Thompson, 2009a, 2009b), and body self-consciousness during sexual activity (Claudat & Warren, 2014; Claudat et al., 2012; Steer & Tiggemann, 2008; Vandenbosch & Eggermont, 2014). Furthermore, consistent with prior research, we found that alcohol sexual enhancement expectancies predicted more alcohol use (Carey, 1995; McBride et al., 2014; Pabst et al., 2010) and alcohol use prior to hooking up (Derman & Cooper, 1994; Dir et al., 2018; Hendershot et al., 2007; Leigh, 1990; Patrick & Maggs, 2009; White et al., 2009). However, as

body shame, sexual self-esteem, and body self-consciousness during sexuality activity were not associated with alcohol sexual enhancement expectancies in our theorized model, our hypothesized three-stage mediation paths emerged as nonsignificant. It is conceivable that alcohol tension reduction expectancies (Fromme et al., 1993), rather than alcohol enhancement expectancies, may follow the negative psychological consequences associated with self-objectification in women. Related research on drinking motives suggests that positive mood states predict enhancement motives for drinking, while negative mood states predict coping motives (Stevenson et al., 2019). To that end, it is possible that when self-objectification leads to positive affect (i.e., enjoyment of sexualization), alcohol sexual enhancement expectancies may serve as a mediating variable in the three-stage mediation path linking self-objectification to alcohol use behaviors. However, when self-objectification leads to negative affect (i.e., heightened body shame, lower sexual self-esteem, greater body self-consciousness during sexual activity), alcohol tension reduction expectancies may serve as a mediating variable in the three-stage mediation chain linking self-objectification to alcohol use behaviors. Goldsmith et al. (2009) found that generalized anxiety directly predicted greater tension-reduction alcohol expectancies which in turn was indirectly related to heavy drinking in a sample of college students. Relatedly, Baildon et al. (2021) discovered that women's self-objectification was associated with greater body shame, which in turn was related to greater coping motivations for drinking.

Limitations and Future Directions

Despite our study's strengths, several limitations exist. Firstly, our study is limited because the findings are based on cross-sectional, correlational data. Consequently, our results

do not allow for causal inferences about the relations among variables to be made. Thus, future research would benefit from examining the links between self-objectification and alcohol use behaviors using longitudinal designs, such as ecological momentary assessment. Furthermore, laboratory experiments, in which self-objectification is manipulated and alcohol is self-administered, may also be valuable to future research. Secondly, our findings are limited due to having a predominantly white, heterosexual sample and thus our results may not be generalizable to racial and ethnic minority women as well as sexual minority women. Given the high rates of alcohol use among sexual minority women compared to their heterosexual counterparts (Coulter et al., 2018; Dermody et al., 2014; Talley et al., 2012), examining our theorized model with this specific group may be particularly pertinent. Thirdly, our study is limited by our use of self-report data, which is vulnerable to socially desirable responding and inaccurate memory recall. Research suggests that college students who are strongly motivated to impress underreport their alcohol consumption by 20-33%, even in the context of a confidential and anonymous online survey (Davis et al., 2010). To that end, social desirability biases in particular may have affected our respondents' self-reported alcohol use behaviors.

Future research might examine other consequences of self-objectification experienced by women, such as enjoyment of sexualization, as predictors of alcohol sexual enhancement expectancies in the three-stage mediation path from self-objectification to alcohol use behaviors. Relatedly, future studies might also examine additional positive alcohol expectancies including tension reduction and sociability expectancies as mediating variables in the link between self-objectification and alcohol use and alcohol use prior to hooking up. Furthermore, motivational theories of alcohol use suggest that alcohol expectancies inform drinking motives, which in turn

predict alcohol consumption (Cox & Klinger, 1988). Future research might investigate the three-stage mediation chain from self-objectification to alcohol expectancies to drinking motives to alcohol use behaviors.

Practical Implications and Conclusions

Our results highlight the potential negative effects of self-objectification on women's health and the significance of focusing on alcohol sexual enhancement expectancies in particular in clinical intervention strategies. Alcohol expectancy challenge interventions, which emphasize that outcomes associated with alcohol use have more to do with alcohol expectancies instead of the amount of alcohol drunk, have been found to reduce positive alcohol expectancies, alcohol use, and frequency of heavy drinking (Scott-Sheldon et al., 2012). To that end, challenging young adult college women's positive alcohol sexual enhancement expectancies specifically may be effective for preventing and reducing hazardous alcohol use as well as risky sexual behaviors that are associated with using alcohol prior to casual sexual activity (Banks & Zapolski, 2017; Hendershot et al., 2007; Howells & Orcutt, 2014). Furthermore, targeting alcohol expectancies may facilitate other alcohol use interventions, such as motivational interviewing, by allowing clinicians to tailor messages to women's positive beliefs surrounding alcohol use and address motivations for heavy drinking in addition to drinking alcohol before hooking up (Messman-Moore et al., 2013). In these messages, clinicians should both normalize women's pursuit of sexual pleasure and arousal while also highlighting that drinking alcohol is not needed in order to enhance sexual experiences. Furthermore, given our finding that sexual self-esteem mediated the link between self-objectification and alcohol use, it may also be important to target sexual self-esteem in alcohol expectancy challenge interventions. More specifically, it may be beneficial to

challenge the idea that alcohol is necessary to potentiate the positive feelings associated with greater sexual self-esteem.

Our study contributes to research on women's alcohol use behaviors by examining a novel combination of self-objectification and alcohol sexual enhancement expectancy models. Our findings revealed that self-objectification is indirectly linked to college women's alcohol use and drinking prior to hooking up and that sexual self-esteem and alcohol sexual enhancement expectancies are important explanatory variables in these links. Taken together, these findings offer insight into the gender-specific variables that may influence women's alcohol use and associated behaviors.

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APPENDIX

Table 1.

Means, Standard Deviations, and Correlations for All Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Self-Objectification	2.94	.68	---						
2. Body Shame	3.93	1.30	.64*	---					
3. Sexual Self-Esteem	.72	.95	-.17*	-.16*	---				
4. Body Self-Consciousness During Sexual Activity	1.76	.91	.55*	.56*	-.42*	---			
5. Alcohol Sexual Enhancement Expectancies	2.49	.81	.33*	.19*	-.07	.19*	---		
6. Alcohol Use	3.92	2.21	.12*	.06	.15*	.02	.23*	---	
7. Alcohol Use Prior to Hooking Up	2.78	3.39	.14*	.09*	.07	.04	.34*	.54*	---

* $p < .05$

Table 2.

Indirect Effects on Alcohol Use

Path Variables	<i>B</i>	<i>SE</i>	95% CI
Self-Objectification → Body Shame → Alcohol Use	-.032	.127	[-.279, .219]
Self-Objectification → Sexual Self-Esteem → Alcohol Use	-.101*	.036	[-.179, -.038]
Self-Objectification → Body Self-Consciousness During Sexual Activity → Alcohol Use	.051	.101	[-.146, .246]
Self-Objectification → Alcohol Sexual Enhancement Expectancies → Alcohol Use	.239*	.070	[.114, .389]
Self-Objectification → Body Shame → Alcohol Sexual Enhancement Expectancies → Alcohol Use	-.020	.030	[-.085, .035]
Self-Objectification → Sexual Self-Esteem → Alcohol Sexual Enhancement Expectancies → Alcohol Use	.001	.006	[-.011, .015]
Self-Objectification → Body Self-Consciousness During Sexual Activity → Alcohol Sexual Enhancement Expectancies → Alcohol Use	.009	.023	[-.036, .056]

Note. All values are based on unstandardized path coefficients. * $p < .05$

Table 3.

Indirect Effects on Alcohol Use Prior to Hooking Up

Path Variables	<i>B</i>	<i>SE</i>	95% CI
Self-Objectification → Body Shame → Alcohol Use Prior to Hooking Up	.080	.204	[-.312, .494]
Self-Objectification → Sexual Self-Esteem → Alcohol Use Prior to Hooking Up	-.081	.050	[-.189, .002]
Self-Objectification → Body Self-Consciousness During Sexual Activity → Alcohol Use Prior to Hooking Up	-.048	.163	[-.360, .285]
Self-Objectification → Alcohol Sexual Enhancement Expectancies → Alcohol Use Prior to Hooking Up	.567*	.130	[.333, .850]
Self-Objectification → Body Shame → Alcohol Sexual Enhancement Expectancies → Alcohol Use Prior to Hooking Up	-.046	.070	[-.194, .084]
Self-Objectification → Sexual Self-Esteem → Alcohol Sexual Enhancement Expectancies → Alcohol Use Prior to Hooking Up	.003	.015	[-.027, .033]
Self-Objectification → Body Self-Consciousness During Sexual Activity → Alcohol Sexual Enhancement Expectancies → Alcohol Use Prior to Hooking Up	.021	.055	[-.083, .131]

Note. All values are based on unstandardized path coefficients. * $p < .05$

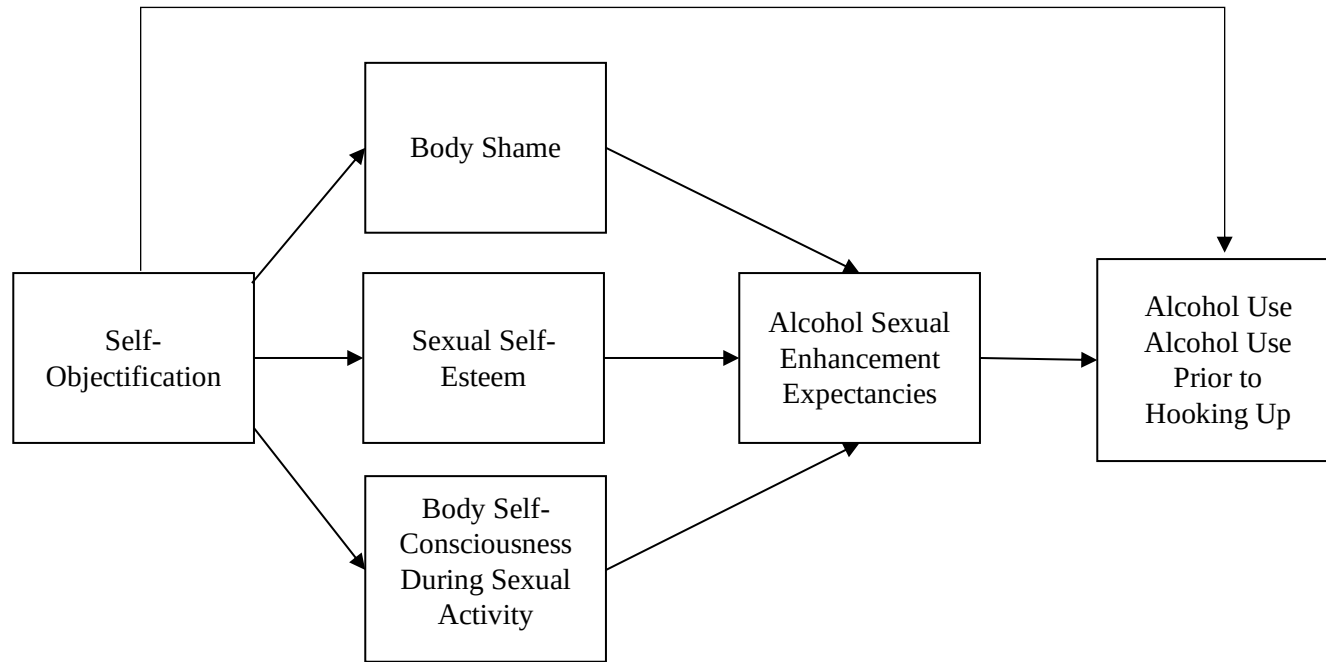


Figure 1. Theorized parallel-serial mediation model.

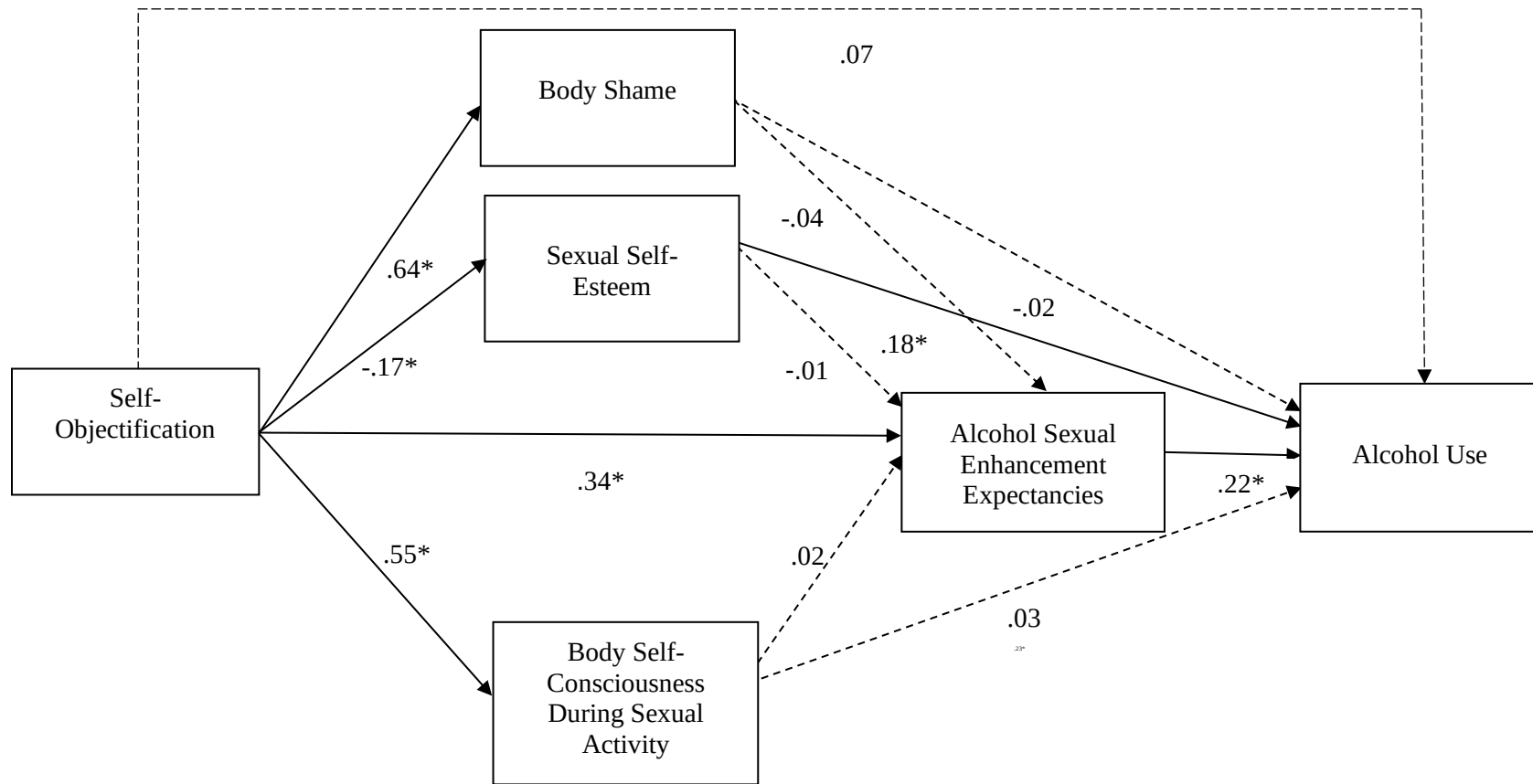


Figure 2. Path model of direct relations of variables of interest predicting alcohol use. Solid lines indicate significant effects while dashed lines indicate nonsignificant effects. Values reflect standardized coefficients. * $p < .05$.

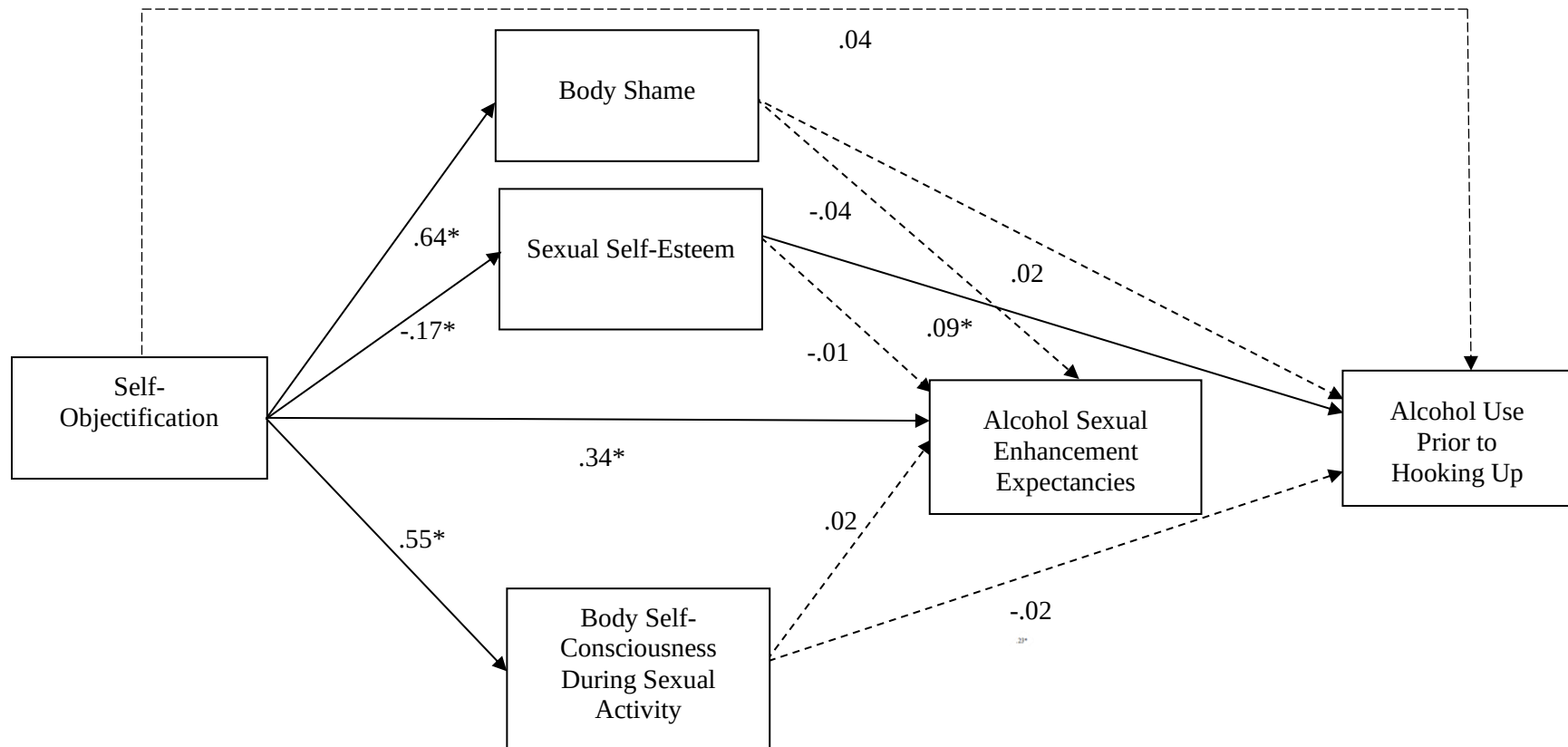


Figure 3. Path model of direct relations of variables of interest predicting alcohol use. Solid lines indicate significant effects while dashed lines indicate nonsignificant effects. Values reflect standardized coefficients. * $p < .05$.

VITA

Rachel Carretta was born in Washington D.C., but moved to New Jersey at a young age and raised in the town of Morris Plains. She attended college at the University of Michigan in Ann Arbor, where she discovered her love of psychology and gender/sexuality studies. Following earning her Bachelors of Arts in Psychology and LGBTQ Sexuality Studies, Rachel applied to psychology doctoral programs in order to pursue her interests in mental health and social justice. She currently is working toward a doctorate degree in Counseling Psychology at the University of Tennessee.