



2015

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## Recommended Citation

Greenhill, Nikki M., "Examining Whether Body Image Dissatisfaction is a Predictor of Risky Sexual Behavior" (2015). *Honors Projects*. Paper 173.  
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Examining Whether Body Image Dissatisfaction is a Predictor of Risky Sexual Behavior.

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### Abstract

The present study sought to determine if body image dissatisfaction is a predictor of risky sexual behavior. Participants ( $n = 146$ , 54.8% women, 45.2% men,  $M_{age} = 19.08$  years) included college students from a small Midwestern university. Participants completed self-report measures of the known correlates of risky sexual behavior (i.e., well-being, depressive symptoms, self-esteem, alcohol and drug use, psychological distress), body image, and risky sexual behavior. Contrary to our predictions, the results indicated that body image satisfaction, as opposed to dissatisfaction, is a significant predictor of risky sexual behavior ( $\beta = -.25, p = .031$ ).

Specifically, for those who report engaging in risky sex acts, being satisfied with one's body is a predictor of engaging in these behaviors at a greater frequency. Alcohol use ( $\beta = .43, p < .001$ ) and relationship status ( $\beta = .32, p = .002$ ) were also found to be significant predictors of risky sexual behavior.

*Keywords:* risky sexual behavior, body image satisfaction, college students

### Examining Whether Body Image Dissatisfaction is a Predictor of Risky Sexual Behavior.

In today's society, increasing numbers of individuals are engaging in risky sexual behavior. This includes behaviors such as intercourse with multiple partners, lack of contraceptive use or other protection against pregnancy, one-night stands, sexual activity with uncommitted partners, and intercourse while under the influence of alcohol or drugs (Merianos, King, & Vidourek, 2013). These behaviors have been found to be particularly prominent among emerging adults, especially college students (Eisenberg, Neumark-Sztainer, & Lust, 2005; Fielder & Carey, 2010; Schwartz et al., 2011). Individuals between the ages of 18 and 25 typically take part in self-exploration, which might provide an explanation for the higher prevalence of risky sexual behavior among this age group (Gillen, Lefkowitz, & Shearer, 2006; Lemer, Blodgett Salafia, & Benson, 2013). Engaging in risky sexual behaviors can result in sexually transmitted infections, unplanned pregnancies, and sexual victimization (Fielder, Walsh, Carey, & Carey, 2013). Studies have also found that involvement in risky sexual behavior is associated with psychological distress, low self-esteem, depression, and low well-being (Bersamin et al., 2014; Fielder et al., 2013; Grello, Welsh, & Harper, 2006). Therefore, these behaviors pose a threat to the physical and psychological health of the individuals involved, and to society at large.

In addition to sexual exploration, another feature of emerging adulthood for both men and women is increasing dissatisfaction with one's body image (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013). Body image in general refers to an individual's subjective thoughts, perceptions, and attitudes about his or her body, while body image dissatisfaction is an individual's unfavorable or negative thoughts and opinions about their body (Grogan, 2008). Body image dissatisfaction indicates that a discrepancy exists between a

person's perception of his or her actual body and their ideal body. The degree to which poor body image is associated with risky sexual behavior has not been well researched, but has been theorized as playing a role in these behaviors according to the problem behavior theory (Fielder et al., 2013) and social comparison theory (Morrison, Kalin, & Morrison, 2004).

### **Problem Behavior Theory**

The problem behavior theory states that problem behaviors, including risky sexual behaviors, are those that are undesirable or concerning in comparison to traditional standards and norms (Fielder et al., 2013). According to this theory, risk factors contribute to the occurrence of problem behaviors, while protective factors decrease the probability of engaging in these behaviors (Jessor, 1991). These factors are based on genetics, personality, behavior, social environment, and perceived environment. Possible risk factors of problem behavior include depression, impulsivity, drug use, and social comparison tendencies, while possible protective factors may include high self-esteem, religiosity, academic achievement, and connectedness with parents (Fielder et al., 2013). Thus, in order to reduce the occurrence of problem behaviors, prevention programs strive to increase protective factors while decreasing risk factors within an individual. Social comparison tendencies are a risk factor for problem behaviors in general, and a significant risk factor specifically for body image dissatisfaction.

### **Social Comparison Theory**

One factor that may increase an individual's probability of engaging in risky sexual behavior is the degree to which one compares oneself to others (Fielder et al., 2013). The social comparison theory provides an explanation for body image dissatisfaction as a specific risk factor for other negative behaviors and consequences. The social comparison theory states that individuals tend to create opinions of themselves based on the self-evaluation of their abilities

and opinions compared with those of other people (Morrison et al., 2004). Comparing oneself with someone who is superior on the element of interest is referred to as upward social comparison, while comparing oneself to someone who is inferior is known as downward social comparison. Partaking in upward social comparison can lead to decreases in self-esteem and well-being, as well as increases in emotional distress (Morrison et al., 2004; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

Social comparison tendencies have also been shown to play a role in how satisfied or dissatisfied individuals are with their body image (Morrison et al., 2004; Thompson et al., 1999). Body comparison is said to occur as a means of gauging where one stands according to cultural standards and norms. In today's society, thinness for women and muscularity for men are often portrayed as ideal (Gillen et al., 2006; Grogan, 2008; Thompson et al., 1999). Individuals can compare their bodies with those of friends, strangers, or even images in the media in order to determine where they stand regarding the ideal body. Often times, appearance-related comparisons are upward and this can contribute to body image dissatisfaction. For both women and men, body image dissatisfaction due to social comparison can lead to decreased well-being, a negative self-perception of attractiveness, and extreme behaviors to "improve" one's body, such as pathological eating behaviors for women or steroid use for men (Morrison et al., 2004). As a result, men and women who experience body image dissatisfaction may be more prone to engage in risky sexual behavior, regardless of the health risks, in order to feel desirable and attractive. In the case of men specifically, they may engage in risky sexual behavior to feel that they are fulfilling their masculine gender role (Gillen et al., 2006). On the other hand, individuals with body image dissatisfaction may also be less likely to engage in risky sexual

behavior due to their lack of confidence in their body and unwillingness to display their bodies to others as a result (Gillen et al., 2006).

In addition to upward social comparison being a risk factor for risky sexual behavior and body image dissatisfaction, many of the psychological outcomes that arise from body image dissatisfaction, such as decreased well-being or increased levels of psychological distress, are associated with risky sexual behavior as well (Bersamin et al., 2014; Schwartz et al., 2011). Yet, there appear to be few studies that examine the influence body image dissatisfaction might have on risky sexual behavior, and the ones that do are inconsistent in their results or their methodology. Thus, the present study aimed to investigate the role that body image might play in risky sexual behavior while improving some of the methodological shortcomings of previous studies.

### **Defining the Construct of Risky Sexual Behavior**

Although many studies have investigated various aspects of risky sexual behavior, there does not appear to be a universally agreed upon definition of this construct. Definitions typically differ between studies, and some studies do not explicitly state what risky sexual behavior is at all. For example, while casual sex is commonly included in the definition of risky sexual behavior, the definitions of casual sex differ greatly. While Eisenberg and colleagues (2005) defined casual sex as sex with a partner that is a stranger, casual acquaintance, or close but not exclusive partner, Bersamin and colleagues (2014) defined casual sex as sexual experiences that do not involve a committed relationship, and Schwartz et al. (2011) defined it as sex with a person that the individual had known for less than a week. Aside from using casual sex to define risky sexual behavior, many studies have included other behaviors in the definition such as early sexual debut, unprotected sex, sex during or after the use of alcohol or drugs, multiple partners,

or one-night stands (Eisenberg et al., 2005; Gillen et al., 2006; Littleton, Breitkopf, & Berenson, 2005; Merianos et al., 2013; Schwartz et al., 2011). Although they did not provide an explanation for doing so, Schwartz and colleagues (2011) also included oral sex in the definition of risky sexual behavior. In most studies, the number of sexual partners considered to be risky was not specified, nor was the age of sexual debut, or the reason for including oral sex (Eisenberg et al., 2005; Gillen et al., 2006; Littleton et al., 2005; Merianos et al., 2013; Schwartz et al., 2011).

One of the problems with these varying definitions of risky sexual behavior is that they have too narrow of a focus (Turchik & Garske, 2009). The present study attempted to improve this issue by focusing on the consequences of risky sexual behavior rather than specific behaviors themselves. Specifically, the present study defined risky sexual behavior as any behavior that can result in an unplanned pregnancy or sexually transmitted infections (Turchik & Garske, 2009). Shifting the focus to the potential negative consequences of sexual contact rather than frequencies of various sexual acts, as some studies have done, avoids confusion when some sex acts may or may not lead to harmful outcomes, depending on whether the individuals use protection (e.g., having casual sex, but using protection against pregnancy and STIs). Therefore, this definition is a more direct way of measuring risk.

### **Correlates of Risky Sexual Behavior**

Much of the current literature regarding risky sexual behavior focuses on the psychological health of the individuals involved. The known correlates of risky sexual behavior include alcohol and drug use, low self-esteem, depression, and low well-being (Bersamin et al., 2014; Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009; Grello et al., 2006; Schwartz et al., 2011).



An association between alcohol consumption and risky sexual behavior, such that increased levels of alcohol intake contribute to the occurrence of riskier sexual behaviors is frequently reported (Adams et al., 2014; Connor, Psutka, Cousins, Gray, & Kypri, 2013; Thompson, Eaton, Hu, Grant, & Hasin, 2014). Alcohol consumption can lead to impairment in one's judgment, which increases the probability of engaging in risky sexual behavior (Thompson et al., 2014). Also, individuals who are not in a committed romantic relationship are especially likely to consume alcohol before engaging in risky sexual behavior (Thompson et al., 2014). Similar to alcohol use, drug use has been found to be associated with the occurrence of risky sexual behavior (Bonar et al., 2013; Nydegger, Ames, Stacy, & Grenard, 2014). Turchik, Garske, Probst, and Irvin (2010) found that higher levels of alcohol and drug use significantly predicted sexual risk taking for both men and women.

Self-esteem is another identified correlate of risky sexual behavior. For example, Peterson, Buser, and Westburg (2010) found that individuals with high levels of self-esteem were less likely to engage in risky sexual behavior. Similarly, Bersamin et al. (2014) found that participants who reported engaging in casual sex were more likely to also report lower levels of self-esteem. Ethier and colleagues (2006) also found a significant relationship between low self-esteem and risky sexual behavior, such that adolescent females that report low self-esteem are more likely to have had an earlier sexual debut, more likely to be involved with risky partners, and more likely to engage in unprotected sex.

Depression is associated with risky sexual behavior as well. Sandberg-Thoma and Kamp Dush (2014) reported that depressive symptoms in adolescence were associated with a higher frequency of casual sex in emerging adulthood. In addition, Grello et al. (2006) demonstrated that depression was associated with casual sex, and different patterns emerged when comparing

women with men. Specifically, women who reported greater amounts of casual sex indicated higher levels of depression, while men who reported greater amounts of casual sex indicated fewer depressive symptoms (Grello et al., 2006).

Well-being, another correlate of risky sexual behavior, is a multidimensional concept that encompasses the psychological, physical, and social health of an individual, as well as one's overall satisfaction with life (Pontin, Schwannauer, Tai, & Kinderman, 2013). Several studies have evaluated well-being in relation to risky sexual behavior. For example, Schwartz et al. (2011) found that well-being was negatively associated with the occurrence of oral sex, anal sex, and unprotected sex, as well as with the frequency of casual sex. Likewise, Bersamin et al. (2014) found casual sex to be negatively correlated with well-being for both men and women.

Although low well-being was found to be associated with many of the risky sexual behaviors studied by Schwartz et al. (2011), a positive association between well-being and frequency of unprotected sex was found as well. Schwartz et al. (2011) attributed this finding to the possibility that individuals who report high levels of well-being and greater frequencies of unprotected sex may be more likely to be in an exclusive, committed relationship. On the contrary, Eisenberg and colleagues (2009) reported no significant relationship between well-being and casual sex. Thus, more research is needed to clarify the relationship between well-being and risky sexual behavior.

### **Body Image Dissatisfaction and Risky Sexual Behavior**

Much of the current literature does not directly evaluate the relationship between body image dissatisfaction and risky sexual behavior. In addition, many of the studies that have examined the connection between body image and sexual behavior have focused on sexual behavior in general rather than risky sexual behavior. Previous studies have indicated that body

image dissatisfaction is related to impaired sexual functioning, decreased sexual satisfaction, and less frequent sexual activity (Lemer et al., 2013; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; Woertman & van den Brink, 2012; Yamamiya, Cash, & Thompson, 2006). Although these variables pertain to sexual behavior, they do not indicate risky sexual behavior. In contrast to the variables that relate to sexual behavior in general, risky sexual behaviors can be health-compromising and are therefore highly important to study.

Body image dissatisfaction has been found to be associated with women's inability to refuse sex and a lack of sexual assertiveness (Yamamiya et al., 2006). In addition, women with high levels of dissatisfaction tend to be more equivocal in their sexual decision-making (Yamamiya et al., 2006). Similarly, Gillen et al. (2006) reported that body image dissatisfaction for women was associated with less confidence communicating about using a condom, whereas women with positive evaluations of their body and appearance reported lower levels of risky sexual behavior (Gillen et al., 2006). This suggests that women who appreciate their appearance might feel more confident to communicate in sexual situations, allowing them to push for safer sexual practices. Therefore, women who experience body image dissatisfaction may be more likely to engage in risky sexual behavior due to this lack of assertiveness and confidence.

Some studies have found no relationship between body image dissatisfaction and risky sexual behavior. For example, Merianos et al. (2013) found no significant differences between college students with high body image satisfaction and low body image satisfaction regarding risky sexual behaviors. The only significant difference found between these groups was participants with high body image satisfaction were significantly more likely to have ever engaged in sexual intercourse than the participants who reported low body image satisfaction

(Merianos et al., 2013). Similarly, Eisenberg et al. (2006) found no significant association between body image satisfaction and risky sexual behavior for male and female college students.

### **Gender Differences<sup>1</sup>**

Throughout the literature evaluating risky sexual behavior, gender differences have emerged. For example, aside from unprotected sex, each of the risky sexual behaviors studied by Schwartz et al. (2011) was significantly more common for men than for women. Higher levels of well-being predicted decreased engagement in risky sexual behavior more so for men than for women (Schwartz et al., 2011). Similarly, Bersamin et al. (2014) found that low well-being was associated with a higher frequency of casual sex, but the relationship was not significantly different for men compared to women. The findings of Schwartz et al. (2011) and Bersamin et al. (2014) indicated that high well-being may serve as a protective factor against risky sexual behavior, such that individuals with high well-being may be less likely to engage in risky sexual behaviors while individuals with low well-being may be more likely to do so. Grello et al. (2006) found that depression was associated with a greater frequency of casual sex for women. However, contrary to the findings of Schwartz et al. (2011) and Bersamin et al. (2014), fewer depressive symptoms was associated with a greater frequency of casual sex for men (Grello et al., 2006).

The association between risky sexual behavior and body image dissatisfaction has been found to differ depending on gender as well. For instance, Gillen et al. (2006) found that men who indicated positive evaluations of their body and appearance were more likely to engage in risky sexual behavior. According to Gillen et al. (2006) men with a positive view of their bodies may feel more confident in sexual situations to pursue their own pleasure (e.g., failing to use a

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<sup>1</sup> The term “gender” instead of “sex” is used throughout this section (and the paper as a whole) as a means to avoid confusion when referring to the sex of an individual versus sexual behavior.

condom) and fulfill their masculine gender role by having multiple partners. Yet, other studies have indicated that men who feel more positive about themselves may be less likely to engage in risky sexual behavior, or there may be no relationship at all (Eisenberg et al., 2006; Eisenberg et al., 2009; Merianos et al., 2013; Schwartz et al., 2011).

On the other hand, while Merianos et al. (2013) and Gillen et al. (2006) did not find an association between body image dissatisfaction and risky sexual behavior for men, Gillen et al. (2006) did find an association for women. Body image dissatisfaction for women was not associated with number of partners and lifetime engagement in unprotected sex, but it was associated with alcohol use before sex and lack of confidence communicating about condom use (Gillen et al., 2006). Thus, although studies have been done to investigate these issues, the literature has not yet converged on a clear consensus of the role body image or body evaluation plays on risky sexual behaviors. In addition, conflicting results have been found in regard to gender. Therefore, more research is necessary in order to understand the relationship between body image dissatisfaction and risky sexual behavior for men and women.

### **Methodological Issues**

An important limitation of many studies examining risky sexual behavior is that they have had to create their own measure due to the lack of a well-known and validated existing measure (Bersamin et al., 2014; Eisenberg et al., 2005; Gillen et al., 2006; Grello et al., 2006; Littleton et al., 2005; Merianos et al., 2013; Schwartz et al., 2011). For example, Grello and colleagues (2006) created a sexual behaviors questionnaire for their study while Bersamin et al. (2014) asked about the frequency of casual sex using a single item. Schwartz et al. (2011) created their own measure that asked participants to report the frequency in which they had engaged in casual sex, as well as various other risky sexual behaviors, but did not specify the

number of items their measure contained. Similarly, Gillen et al. (2006) included three items they created for their study to assess total number of sexual partners, lifetime frequency of condom use, and alcohol consumption before or during sexual encounters. Merianos et al. (2013) created a 14-item measure to evaluate risky sexual behaviors, frequency of condom use, and perceived self-efficacy of condom use. Lastly, Eisenberg et al. (2005) created a measure consisting of five items to examine casual partners, condom use, contraceptive use, number of sexual partners, and intoxication.

Not only do the measures created for these studies not appear to measure risky sexual behavior in a similar manner, but also none of these measures have been widely validated. This lack of use of a validated measure for risky sexual behavior can be problematic in terms of obtaining reliable, comparable results, and these issues may be playing a role in the varied findings among the current literature. Much of the difficulty with measurement may be a result of the differing definitions of risky sexual behavior between studies. For this reason, the present study will use the risky sex acts subscale of the Sexual Risk Survey (Turchik & Garske, 2009) to measure risky sexual behavior. This subscale addresses vaginal sex without a condom, vaginal sex without birth control, fellatio without a condom, cunnilingus without protection, and sex under the influence of substances. The Sexual Risk Survey has been validated for use with college samples and allows for more reliable interpretations of our results, as well as the ability to compare to other studies that have used the same measure (Turchik & Garske, 2009; Turchik, Walsh, & Marcus, 2014).

In addition to improving the measurement issues relating to risky sexual behavior, the present study also improved upon previous studies by using the preferred method for measuring body image satisfaction. Studies of body image have recommended image-based measures

(Grogan, 2008; Thompson & Gray, 1995; Wertheim, Paxton, & Tilgner, 2004). Image-based measures involve presenting the participants with images of bodies that range from very thin to obese. Participants are asked to choose an image that corresponds most with their actual body, and then to select an image that corresponds with their ideal body. A discrepancy between these choices indicates body image dissatisfaction, and the selection of the ideal body indicates whether the participant would like their body to be thinner or heavier than it currently is (Grogan, 2008). This allows for an easy, direct measure of body image satisfaction (Wertheim et al., 2004). Based on this, the present study used the Contour Drawing Rating Scale (Thompson & Gray, 1995) as the body image satisfaction measure. Thus, the present study addressed the current discrepancies in the literature by improving the methodological shortcomings of previous studies in terms of how the variables were defined measured.

### **The Present Study**

Current literature in regard to the relationship between body image satisfaction and risky sexual behavior is frequently either inconclusive or lacking methodologically. Key problems with methodology are a lack of definitional consistency and the use of measures for risky sexual behavior that have not been well-validated. Thus, the present study investigated the correlates of risky sexual behavior previously mentioned (i.e., alcohol and drug use, self-esteem, depression, well-being), as well as the role that body image plays in risky sexual behavior, using a validated measure of risky sexual behavior and the preferred form of measurement for body image. Participants completed packets of questionnaires, and body image was the variable of interest in relation to risky sexual behavior. We predicted that body image dissatisfaction would be correlated with riskier sexual behaviors; however, we predicted that this would be moderated by gender. That is, this link would be stronger for women than it is for men. These predictions

were based on the results of Gillen et al. (2006) and Yamamiya et al. (2006). We used validated, reliable measures for body image and risky sexual behavior, which allowed for more coherent, valid, and comparable results.

## Method

### Participants

Participants included male and female undergraduate students from a small Midwestern university ( $n = 146$ , 54.8% women, 45.2% men,  $M_{\text{age}} = 19.08$  years,  $SD_{\text{age}} = 1.16$  years, age range: 18-24 years). Of the sample, 66.4% was White; 5.5% was Black or African American; 5.5% was Hispanic, 6.2% was Asian, and 4.9% was multiracial. The remaining participants (11.7%) identified as international students; ethnicities included African and Asian. Thirty-seven percent of the sample was currently in a committed romantic relationship, and 63% was not. Of those who reported being in a committed romantic relationship, 77.8% reported being in the relationship for six months or longer, while 22.2% reported being in the relationship for less than six months. Thirty-nine percent of the sample reported no risky sex acts with a partner within the past six months. The parents of 74% of the participants were married, 18.5% were divorced, 2.1% were widowed, and 5.5% were single or never married. Self-reported annual family income was as follows: 22.1% between 0 and \$55,000, 18% between \$55,001 and \$80,000, 13.8% between \$80,001 and \$100,000, 20.7% between \$100,001 and \$150,000, 10.3% between \$150,001 and \$200,000, and 15.1% reported \$200,001 or more.

Participants for this study were recruited through General Psychology courses and via posters advertising the study on campus. Participation was voluntary and the only exclusion criteria was age; participants had to be 18 years or older. Individuals who agreed to take part in the study received REP credit if they were a General Psychology student, which provides partial



fulfillment of a requirement for that course, or they were entered into a raffle to win a \$25 gift card for a restaurant if they were not currently enrolled in General Psychology.

## Measures

**Demographics.** A demographic questionnaire assessed gender, age, race, romantic relationship status, and socioeconomic status.

**Subjective well-being.** The BBC Subjective Well-Being Scale (BBC-SWB) measures participants' subjective well-being in terms of psychological health, physical health, and relationships (Pontin et al., 2013). The BBC-SWB contains 24 items (e.g., "Do you feel happy with yourself as a person?") and each item is scored using a 5-point Likert scale (e.g., 1 = *not at all* to 5 = *Extremely*). Item four is reverse scored ("Do you feel depressed or anxious?") such that endorsing a high score signifies lower well-being. Well-being is defined as an individual's score on this scale, with high scores indicating greater well-being. The scale demonstrated high internal consistency (Cronbach's  $\alpha = .93$ ).

**Depressive symptoms.** The Beck Depression Inventory-II (BDI-II) assesses the presence and severity of symptoms of depression (Beck, Steer, & Brown, 1996). The BDI-II contains 21 items. Each item is rated on a 4-point Likert scale ranging from 0 to 3, with 0 indicating no presence of the symptom (e.g., 0 = "I do not feel sad."), and 3 indicating extreme presence of the symptom (e.g., 3 = "I am so sad or unhappy that I can't stand it."). High scores indicate greater presence and severity of depressive symptoms. Specifically, "Minimal" severity of depressive symptoms is indicated by total scores from 0 to 13, "Mild" includes scores ranging from 14 to 19, "Moderate" includes scores from 20 to 28, and "Severe" includes total scores from 29 to 63. The measure demonstrated good internal consistency (Cronbach's  $\alpha = .88$ ).

**Self-esteem.** Perceived self-worth and value is measured using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). This scale contains 10 items (e.g., “On the whole, I am satisfied with myself.”) and each item is rated using a 4-point Likert scale (e.g., 1 = *strongly disagree* to 4 = *strongly agree*). Five items are reverse scored (e.g., “I certainly feel useless at times.”) such that high scores signify lower levels of self-esteem. Higher overall scores indicate higher self-esteem. The RSES demonstrated high internal consistency (Cronbach’s  $\alpha = .90$ ).

**Alcohol use.** Alcohol use is assessed using the Alcohol Use Disorder Identification Test (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). This measure has items that relate to alcohol consumption (e.g., quantity, frequency), alcohol dependence (e.g., failure to fulfill responsibilities, guilt), and alcohol-related problems (e.g., memory loss, injury). The version used in this study is self-report and contains 10 items (e.g., “How often do you have a drink containing alcohol?”). Each item is rated on a scale of 0 to 4 (e.g., 0 = *never* to 4 = *daily or almost daily*). Scores of 8 and above indicate excessive or hazardous drinking. This measure demonstrated good internal consistency (Cronbach’s  $\alpha = .83$ ).

**Drug use.** Drug use is measured using the Drug Abuse Screening Test (DAST-10; Skinner, 1982). This scale consists of 10 items (e.g., “Have you used drugs other than those required for medical reasons?”) and participants are asked to circle “yes” or “no.” Each “yes” response is worth one point. Item 3 is reverse scored such that selecting “no” indicates an inability to control one’s drug use. Thus, higher scores indicate greater drug abuse, with a score of 3 or above suggesting possible dependence. Despite showing appropriate reliability in previous studies, in the present study, this scale demonstrated poor internal consistency (Cronbach’s  $\alpha = .59$ ) and was thus subsequently dropped from further analysis.

**Body image.** The Contour Drawing Rating Scale (CDRS) measures body image satisfaction (Thompson & Gray, 1995). This scale consists of nine female and nine male contour drawings of bodies ranging in size from very thin to obese. Participants select which figure corresponds most with their current body, and then they select a figure that represents their ideal body. A discrepancy between these selections indicates body image dissatisfaction. Because this measure is comprised of two disparate items, it was not a candidate for Cronbach's internal consistency analysis.

**Social desirability.** The Marlowe-Crowne Social Desirability Scale (M-C SDS) measures response style patterns (Crowne & Marlowe, 1960). Because the present study asked about sensitive topics (e.g., depression, body image, sexual behavior), this scale is used to help determine if participants are under-reporting undesirable behaviors. The M-C SDS consists of 33 items (e.g., "I have almost never felt the urge to tell someone off."), and participants are instructed to select "true" or "false" for each statement. Half of the items are reverse scored (e.g., "I sometimes feel resentful when I don't get my way."), such that selecting "true" would indicate nonbiased responding. Higher scores reflect a greater tendency to respond in a socially desirable manner. A score of 20 and above means the individual answered items in a way that shows a reluctance to report socially undesirable behaviors. This scale demonstrated good internal consistency (Cronbach's  $\alpha = .77$ ).

**Risky sexual behavior.** The Sexual Risk Survey (SRS) assesses risky sexual behavior (Turchik & Garske, 2009). This measure has been designed and validated for use with college students. The scale consists of 23 items that address sexual risk taking with uncommitted partners, risky sex acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts. Participants are asked to write the frequency at which they have engaged

in each behavior. Written responses are rescaled as 0 through 4 based on standards established with college student populations. For example, item 1 was coded as 0 = 0 partners, 2 = 3-4 partners, 4 = 10+ partners. The sexual risk taking with uncommitted partners, risky sex acts, impulsive sexual behaviors, and risky anal sex acts subscales each demonstrated good internal consistency (Cronbach's  $\alpha = .85, .82, .77,$  and  $.71$  respectively). The intent to engage in risky sexual behaviors subscale demonstrated adequate internal consistency (Cronbach's  $\alpha = .67$ ). The risky sex acts subscale was the focus of our analyses. This subscale includes five items (i.e., frequencies of vaginal intercourse without a latex or polyurethane condom, vaginal intercourse without protection against pregnancy, giving or receiving fellatio (oral sex on a man) without a condom, giving or receiving cunnilingus (oral sex on a woman) without a dental dam or a barrier method of protection, and using alcohol or drugs before or during sex).

**Psychological distress.** The Depression, Anxiety, and Stress Scales (DASS) evaluates levels of stress, symptoms of anxiety, and symptoms of depression over the past week (Lovibond & Lovibond, 1995). This questionnaire contains three subscales (i.e., depression, anxiety, stress) among 42 items (e.g., "I found myself getting upset rather easily."), and each item is rated using a 4-point Likert scale (e.g., 0 = *did not apply to me at all* to 3 = *applied to me very much, or most of the time*). Higher scores on each scale demonstrate higher levels of stress and a greater presence of symptoms of anxiety or depression. Each subscale demonstrated high internal consistency (Cronbach's  $\alpha = .93$  for the depression subscale,  $.89$  for the anxiety subscale,  $.93$  for the stress subscale).

## Procedure

After students were determined to be 18 years or older, they were eligible to participate. All eligible individuals were provided with an informed consent form and an opportunity to ask

questions regarding the study. The informed consent form provided participants with information about the general purpose of the study and where they could receive help if they experienced discomfort or distress due to the nature of some of the items in the questionnaire packet. Once the informed consent form was signed and returned to the research assistant, participants were provided with a packet of questionnaires. The packet of questionnaires contained a demographic questionnaire, followed by the BBC-SWB, then the BDI-II, the RSES, the AUDIT, the DAST-10, the CDRS, the M-C SDS, the SRS, and the DASS. Participants were free to skip any items that they did not feel comfortable answering. If a participant did not wish to continue completing the questionnaires, they were free to leave the study at any time and still receive the incentives that were advertised. However, no students chose to leave the study early.

Following the completion of the questionnaire packet, participants returned the packet to the research assistant who briefly scanned responses to items on a depression measure. If the participant answered items that indicated they might be experiencing high levels of distress, they were provided with an information sheet for agencies that could provide free care (e.g., a crisis hot line phone number). After scanning the responses, the research assistant then provided the participant with a debriefing form and copy of the informed consent. The debriefing form contained more specific information regarding the purpose of the study.

## **Design**

This study used a correlational design. We evaluated the independent/predictor variables (i.e., well-being, depressive symptoms, self-esteem, alcohol use, drug use, body image, psychological distress) in relation to risky sexual behavior, the dependent/criterion variable. The main independent variable of interest for the present study was body image. In order to analyze the data, we used a logistic regression analysis for the full sample, and a hierarchical multiple

regression analysis for the subsample that reported engaging in risky sex acts. This allowed us to determine if body image dissatisfaction is a significant predictor of risky sexual behavior after accounting for the known correlates of risky sexual behavior.

## Results

### Comparing Gender Ratings on the Predictor Variables

Independent samples *t*-tests were run to compare women and men on each of the predictor variables. Means and standard deviations for each predictor variable for men and women are provided in Table 1. Women were significantly more likely than men to be dissatisfied with their body ( $t[141.71] = -3.46, p = .001$ ). However, men were significantly more likely to report alcohol use than women ( $t[121.66] = 4.34, p < .001$ ). In addition, men were significantly more likely than women to report drug use ( $t[98.57] = 3.28, p = .001$ ). Men and women did not differ significantly on any of the remaining predictor variables.

### Regression Analyses

Regression analyses were used to assess whether our independent variables predicted risky sex acts. The first analysis included the full sample, while the second only included participants that scored greater than zero on the risky sex acts subscale of the SRS. For both analyses, the predictor variables were gender, well-being, depression, self-esteem, alcohol use, drug use, psychological distress, social desirability, romantic relationship status, and body image. Some variables measured similar constructs, thus after evaluating the correlations between the predictor variables, scores from the BDI-II and the DASS were standardized and combined to create a composite variable representing psychological distress (i.e., a global measure of distress taking into consideration stress, anxiety, and depressive symptoms). Along the same lines, scores from the wellness measure (BCC-SWB) and self-esteem measure (RSES) were

standardized and combined to create a composite variable representing positive wellness after examining correlations. Correlations for the predictor variables are listed in Table 2. After combining these variables to make two composite variables, multicollinearity and outliers were examined among the predictors. There was no evidence of significant multicollinearity (variance inflation factors did not exceed 1.46) and there were no significant outliers detected on any of the predictor variables. As previously mentioned, the DAST-10 was dropped from the regression analysis due to low internal consistency. Predictor variables were entered into the regression analysis in the following order: gender, alcohol use, psychological distress, positive wellness, and body image. Further, because response styles and romantic relationship status may also influence reports of risky sexual behavior, these variables were also added into the regression.

**Regression 1.** The results of the logistic regression analysis including all participants indicated the seven predictor variables explained 25.1% of the variance in risky sex acts ( $R^2 = .25$ ,  $F(7, 145) = 6.62$ ,  $p < .001$ ). Regression coefficients are provided in Table 3. Alcohol use was a significant predictor of risky sex acts for both genders, indicating that those who consumed greater amounts of alcohol were more likely to report engaging in risky sex acts. Romantic relationship status was also a significant predictor of risky sex acts, indicating that those who reported being in a committed romantic relationship were more likely to report engaging in risky sex acts. None of the other predictor variables significantly predicted risky sex acts.

**Regression 2.** Because our goal was to understand predictors of risky sexual behaviors, a subsequent analysis was conducted that included all participants who reported engaging in any risky sex acts, therefore excluding those who did not report these behaviors. This subsample of our study was comprised of 88 participants. Thus, a hierarchical multiple regression analysis was run using this sub-sample. We examined the predictors in several models; the first model of

the regression analysis included gender alone, followed by alcohol use, and then including positive wellness and psychological distress. This model, with all four predictors, explained 11% of the variation in risky sex acts ( $R^2 = .11$ ,  $F(4, 88) = 2.59$ ,  $p = .042$ ). After adding body image to the fourth model, 15.2% of the variation in risky sex acts was accounted for ( $R^2 = .15$ ,  $F(5, 88) = 2.98$ ,  $p = .016$ ). In this model, alcohol use and body image were significant predictors of risky sex acts, such that those who reported greater alcohol use reported engaging in more risky sexual behaviors, and those who were more satisfied with their bodies reported engaging in more frequent risky sexual behaviors. The following model added social desirability, which explained 17.3% of the variation of risky sex acts ( $R^2 = .17$ ,  $F(6, 88) = 2.86$ ,  $p = .014$ ). Alcohol use and satisfaction with one's body remained significant predictors of risky sex acts. Lastly, the model with all predictor variables also included romantic relationship status. This final model explained 26.5% of the variation in risky sex acts ( $R^2 = .27$ ,  $F(7, 88) = 4.16$ ,  $p = .001$ ). Similar to the previous model, alcohol use and satisfaction with one's body continued to be significant predictors of risky sex acts. Romantic relationship status was also found to be a significant predictor, indicating that those who reported being in a committed romantic relationship were more likely to report engaging in risky sex acts. Regression coefficients for the third, fourth, and sixth models are provided in Table 4.

### Discussion

Contrary to what was predicted, body image dissatisfaction did not predict risky sexual behaviors, but body image satisfaction did. Specifically, for those who report engaging in risky sex acts, being satisfied with one's body significantly predicted a greater frequency of these behaviors. These results contradict the findings of no association between body image satisfaction and risky sexual behavior (e.g., Eisenberg et al., 2005; Merianos et al., 2013) and



studies that have found support that body image dissatisfaction predicted risky sexual behavior (e.g., Gillen et al., 2006, with female participants). This finding is surprising. A possible explanation for this finding may be that people who feel more confident about their bodies may feel more inclined to engage in sexual behavior as a result. Another possible explanation is that people that feel good about their bodies may also feel a sense of invincibility; they may engage in risky sexual behaviors with that attitude that they will not contract an STI or become pregnant. More research is necessary in order to better understand this issue.

When examining patterns between men and women, we found that women reported being more dissatisfied with their bodies than men. While this finding is contrary to Merianos et al. (2013) in which no gender differences were found, it is consistent with other research (e.g., Eisenberg et al., 2005). Even though these patterns emerged regarding body image dissatisfaction, the gender of the participant was not a significant predictor of risky sexual acts.

The present study has notable strengths. Unlike the majority of the previous literature, the present study used a reliable, comprehensive measure of risky sexual behavior that has been validated for use with college students (Turchik & Garske, 2009). The SRS asks participants to write the frequency at which they have engaged in specific behaviors during the past six months. This allows participants to report freely without the influence of predetermined options that may lead them to underreport if they see that the frequency at which they engage in a particular behavior falls in the last option (Turchik et al., 2014). Wide use of this validated measure will allow for more consistency in the results amongst the literature on risky sexual behavior, and this will allow for comparison across studies. If we had created our own measure for risky sexual behavior, comparison with other studies would be difficult. Another strength of the present study is that the sample is fairly evenly split between men and women, meaning that neither

gender was overrepresented. In addition, unlike other previous studies (Eisenberg et al., 2005; Gillen et al., 2006; Merianos et al., 2013; Yamamiya et al., 2006), the present study measured social desirability. Due to the sensitive nature of some of the items in the questionnaire packet, assessing social desirability is important to determine if participants are concerned with impression management when responding because this could influence the extent to which participants report undesirable or concerning behaviors (Turchik et al., 2010).

There are several limitations to the present study. One possible limitation to our results is the age of our sample; the majority were young college students ( $M_{age} = 19.08$  years). Because older students have more time to acquire sexual experience, this young sample could have posed a problem (Gillen et al., 2006). For example, Turchik and colleagues (2014) found that older college students (21 years or older) were significantly more likely than younger college students (20 years and younger) to report having ever engaged in risky sexual behavior. Perhaps if the sample of the present study had been older, significant results may have been found in the first stage of the analysis because older students may be more likely to have engaged in risky sexual behaviors. Also, a larger sample of recently sexually active individuals would allow for more power. Further evaluation of the participants that reported engaging in risky sexual behavior based on gender could not be conducted due to a lack of power. Reducing the sample to participants that scored above zero on the SRS and then splitting this based on gender was simply not feasible because the groups would have been too small to evaluate in conjunction to the other predictor variables. Thus, future studies could strive to have larger samples that include older college students. Another limitation of the present study is the body image measure that was used. It is possible that additional measures assessing body image satisfaction more comprehensively may be beneficial (Eisenberg et al., 2005). In addition, the Contour

Drawing Rating Scale may have been particularly troublesome for male participants. An important factor in men's perceptions of their bodies in today's society is muscularity (Bucchianeri et al., 2013; Gillen et al., 2006; Grogan, 2008). While our body image measure depicted male bodies ranging from thin to obese, muscularity was not included. Thus, a scale that includes muscularity may be important when evaluating male body image satisfaction. Finally, the present study has limited external validity; one cannot likely generalize these results beyond other private, small Midwestern universities.

Future research could go in many different directions. In addition to the suggestions about increasing sample size and striving for older participants, future research could include other possible predictors of risky sexual behavior. For example, according to the problem behavior theory, religiosity may serve as a protective factor that could decrease an individual's probability of engaging in risky sexual behavior (Fielder et al., 2013). Thus, future research could include this variable. In addition, a possible risk factor that may add to the probability of engaging in risky sexual behavior is if the individual has been a victim of childhood sexual abuse (Fergusson, McLeod, & Horwood, 2013; Lacelle, Hébert, Lavoie, Vitaro, & Tremblay, 2012; Niehaus, Jackson, & Davies, 2010; Walsh, Latzman, & Latzman, 2014). Childhood sexual abuse has been found to be associated with alcohol dependence as an adult in addition to being related to engagement in risky sexual behavior (Walsh et al., 2014). Thus, measuring this may allow for more information on what the most prominent predictors of risky sexual behavior are.

While the results of the present study did not support our original hypotheses, our findings are important because they were significant in the opposite direction of what we predicted; body image satisfaction significantly predicted a higher frequency of risky sex acts for participants that reported engaging in risky sexual behavior. These findings have important

implications. Identifying the possible predictors of risky sexual behavior is crucial to preventing these behaviors from occurring again in the future, or at all (Ethier et al., 2006). Information such as the results from the present study may be valuable for prevention programs aimed at reducing risky sexual behavior by acknowledging and effectively addressing possible predictors.

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Table 1

*Comparing Gender Ratings on the Predictor Variables*

Variable	Men	Women
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Alcohol use <sup>a</sup>	8.21 (5.90)*	4.35 (4.61)*
Anxiety <sup>b</sup>	5.17 (5.41)	6.71 (7.23)
Body dissatisfaction <sup>c</sup>	.95 (.72)*	1.44 (.99)*
Depressive symptoms 1 <sup>d</sup>	8.44 (7.11)	9.96 (6.72)
Depressive symptoms 2 <sup>b</sup>	4.53 (6.63)	4.65 (5.69)
Drug use <sup>e</sup>	1.05 (1.36)*	.43 (.78)*
Risky sex acts <sup>f</sup>	4.73 (4.99)	4.16 (5.19)
Self-esteem <sup>g</sup>	32.68 (5.89)	32.19 (5.08)
Stress <sup>b</sup>	7.98 (7.18)	9.85 (8.56)
Social desirability <sup>h</sup>	15.32 (5.00)	16.01 (5.25)
Subjective well-being <sup>i</sup>	93.95 (14.42)	92.21 (12.66)

*Note.* \* $p < .001$ ; a = Scores from AUDIT; b = Scores from DASS; c = Scores from CDRS; d = Scores from BDI-II; e = Scores from DAST-10; f = Scores from SRS; g = Scores from RSES; h = Scores from M-C SDS; i = Scores from BBC-SWB.

Table 2

*Correlations for Predictor Variables for the Full Sample (n = 146)*

Variable	1	2	3	4	5	6	7	8	9
1. Alcohol use <sup>a</sup>	1								
2. Anxiety <sup>b</sup>	-.073	1							
3. Body dissatisfaction <sup>c</sup>	-.027	.187*	1						
4. Depressive symptoms 1 <sup>d</sup>	-.027	.566**	.317**	1					
5. Depressive symptoms 2 <sup>b</sup>	-.097	.643**	.175*	.741**	1				
6. Drug use <sup>e</sup>	.397**	.088	-.138	.024	-.044	1			
7. Self-esteem <sup>f</sup>	.103	-.266**	-.257*	-.629**	-.536**	.066	1		
8. Stress <sup>b</sup>	.070	.742**	.324**	.581**	.596**	.024	-.304**	1	
9. Subjective well-being <sup>g</sup>	.145	-.320**	-.294**	-.608**	-.538**	.042	.655**	-.355**	1

*Note.* \* $p < .05$ ; \*\* $p < .001$ ; a = Scores from AUDIT; b = Scores from DASS; c = Scores from CDRS; d = Scores from BDI-II; e = Scores from DAST-10; f = Scores from RSES; g = Scores from BBC-SWB.

Table 3

*Regression Coefficients for Predictor Variables on Risky Sex Acts for the Full Sample (n = 146)*

Variable	Standardized Coefficient ( $\beta$ )	p-value
Gender	.034	.677
Alcohol	.272	.001
Psychological Distress	.033	.716
Positive Wellness	-.030	.749
Body Image	-.090	.281
Social Desirability	-.141	.084
Romantic Relationship Status	.397	< .001

*Note.* Psychological distress is a composite of BDI-II and DASS scores; Positive Wellness is a composite of BBC-SWB and RSES scores.

Table 4

*Regression Coefficients for Predictor Variables on Risky Sex Acts Only Including Participants Reporting Risky Sexual Acts (n = 88)*

Variable	Model 3		Model 4		Model 6	
	Standardized Coefficient ( $\beta$ )	<i>p</i> -value	Standardized Coefficient ( $\beta$ )	<i>p</i> -value	Standardized Coefficient ( $\beta$ )	<i>p</i> -value
Gender	.066	.540	.139	.217	.188	.080
Alcohol	.306	.005	.345	.002	.426	< .001
Psychological Distress	.180	.143	.214	.079	.159	.172
Positive Wellness	.091	.448	.038	.752	.043	.711
Body Image			-.234	.045	-.246	.031
Social Desirability					-.124	.232
Romantic Relationship Status					.323	.002

*Note.* Psychological distress is a composite of BDI-II and DASS scores; Positive Wellness is a composite of BBC-SWB and RSES scores.