

UTRECHT UNIVERSITY

**State body image during sexual activity  
and sexual risk behavior in Dutch  
female university students: the  
mediating role of sexual assertiveness**

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MASTER THESIS

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## **Abstract**

This study investigated the relationships between state body image during sexual activity, sexual assertiveness and sexual risk behavior among female young adults who are not involved in a romantic relationship. It was predicted that sexual assertiveness would mediate the positive relationship between body image self-consciousness during sexual intimacy, as a measure of state body image during sexual activity, and sexual risk behavior. A total of 104 Dutch female university students, who filled out a self-report questionnaire including the Body Image Self-Consciousness scale (Wiederman, 2000), the Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991) and questions concerning sexual risk behavior, were included in the analyzed sample. Contrary to earlier surveys, the results showed that lower body image self-consciousness during sexual intimacy was related to higher sexual risk behavior. Consistent with the predictions, the results indicated that body image self-consciousness during sexual intimacy had a significant negative relationship with sexual assertiveness. A significant association between sexual assertiveness and sexual risk behavior was not found. Therefore, sexual assertiveness did not have a mediating role. Accordingly, this study suggests only direct links between body image self-consciousness during sexual intimacy and sexual risk behavior, and between body image self-consciousness during sexual intimacy and sexual assertiveness. These results implicate that the focus of interventions, targeting sexual risk behavior of Dutch female university students, does not have to be on improving their state body image during sexual activity.

## **Foreword**

This thesis was written for my Master degree in Clinical Psychology, at Utrecht University. The master program focuses mainly on depression, anxiety disorders, post-traumatic stress syndrome and grief. Though, I wanted to focus on sexuality. Topics related to sexuality have always attracted my attention. As a consequence, I chose courses such as *Psychosocial aspects of sexuality and relationships* and *Youth and sexuality* for the optional course profile during my Bachelor Clinical and Health Psychology. Likewise, my Bachelor thesis was focused on concepts related to relationships and sexuality.

While writing my thesis, I gained considerable experience with designing and carrying out a research plan and reporting results. I have experienced this period as very interesting and instructive. I have been able to achieve a result I am very satisfied with. Therefore, I would like to thank the following people, without whose help and support this thesis would not have been possible. I want to show my gratitude to my supervisor Femke van den Brink for her suggestions, thoughts, advices and guidance while writing the thesis. I would also like to thank Niamh Deutz Ebeling for her vision and help, and my parents, Miriam Zegger and Jelle Meinema, for their constant support during the time I studied.

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## INTRODUCTION

Sexuality is a significant theme in many people's lives (Gijs, Gianotten, Vanwesenbeeck, & Weijenborg, 2009), seeing few people for whom sex has not been important at some time (Bancroft, 2009). Sexuality involves various attitudes about and actual involvement in the physical expression of sexual feelings (Gillen, Lefkowitz, & Shearer, 2006). This actual involvement in sex is seen as a driving force leading two people to intimate contact (Bancroft, 2009). Even so, sexuality includes some concerns like sexual risk behavior involving negative consequences (Moore & Rosenthal, 2006), given that sexual risk behavior increases the chance of sexually transmitted diseases and the chance of the occurrence of unwanted pregnancy (Kotchick, Shaffer, Miller, & Forehand, 2001). Condom use and contraceptive use have a central role in protecting oneself from these sexually transmitted diseases and unwanted pregnancy (Schooler, Ward, Merriwether, & Caruthers, 2005). The use of a condom still does not seem to be self-evident. A study of Goenee, Kedde, and Picavet (2012) in The Netherlands found that 48.0% of the men ( $N = 496$ ) and 60.3% of the women ( $N = 380$ ) in their study did not use a condom the last time they had vaginal sex with a casual partner. Based on these and other results of their study, the researchers concluded that a great part of the Dutch population still performs a lot of sexual risk behavior while being well informed about the risks (Goenee et al., 2012). It is important to identify factors related to sexual risk behavior for selecting the appropriate targets in the context of prevention of sexual risk behavior. This could lead to an improved sexual health and well-being (Luster & Small, 1994).

Research indicated that one of these factors might be body image (Eisenberg, Neumark-Sztainer, & Lust, 2005; Gillen et al., 2006; Wild, Flisher, Bhana, & Lombard, 2004). Body image has been defined in different ways, but there is an overall agreement that body image is multidimensional, including physiological, psychological and sociological components (Cash & Smolak, 2011; Hoyt & Kogan, 2001), and it is seen as one's attitudes, affective experiences and perceptions regarding one's own body and physical appearance (Cash, 1994; Cash & Smolak, 2011). The way people feel about and see their bodies has a strong effect on the ability to experience sex as fulfilling and pleasurable (Faith & Schare, 1993; Wiederman, 2000), for instance worrying about one's body diminishes sexual confidence and enjoyment (Peplau et al., 2009). The fact that body image and sexuality are connected, should not be too surprising because these variables are both physically-oriented

domains of the self. In addition, when partners begin sexual activity, the importance of body image and sexuality together becomes evident (Gillen et al, 2006).

Body image changes in different contexts and in relation to certain situations or events, what has resulted in the recently developed distinction between (general) trait-level body image and state body image (Cash & Smolak, 2011). Hereby, trait-level body image is seen as a global body image not depending on a particular situational context, whereas state body image does depend on a particular situational context (Cash, Maikkula, & Yamamiya, 2004; Cash & Smolak, 2011). For example, female athletes have various body images about their own body, depending on the context. These women have developed strong muscular bodies, which are contrary to the cultural ideal image of femininity. This could result in a positive body image while practicing their sports, but in a negative body image while having sex (Krane, Waldron, Michalenok, & Stiles-Shiple, 2001). Apparently their body image, and also the body image of every other person, changes in different contexts leading to different state body images. Steer and Tiggemann (2008) found that state body image during sexual activity is predicted by self-objectification, a concept of the Objectification Theory. The Objectification Theory has defined objectification as the process of seeing a person and his/her body solely as an object to be evaluated and consumed by others, which turns into self-objectification when the objectification process is focused on oneself (Fredrickson & Roberts, 1997). Mainly for women, self-objectification could lead to negative feelings about the sexual aspects of the self, by internalizing an objectifying gaze that women come to view their bodies from an objectifying observers' perspective. As a consequence, self-objectification can lead to persistent body image self-consciousness characterized by habitual monitoring of the body's outward appearance (Fredrickson & Roberts, 1997). One of the causes of this self-perspective of women is the consistent and insistent sexualization of women's bodies through the idealized images in the media that spotlight female bodies and body parts in Western societies. These sexualized media environments are linked to individuals' perceptions of women as sex objects (Calogero & Thompson, 2009<sup>a</sup>; Fredrickson & Roberts, 1997).

Due to the fact that the existence of state body images is recently recognized, most of the studies so far have focused on trait-level body image. Several trait-level body image variables, such as body satisfaction, body shame and body appreciation, have been related to different aspects of sexuality, such as sexual activity, sexual functioning and sexual satisfaction (Ackard, Kearney-Cooke, & Peterson, 2000; Calogero & Thompson, 2009<sup>b</sup>; Cash & Smolak, 2011; Faith & Schare, 1993; Murstein & Holden, 1979; Pujols, Meston, & Seal,

2010; Sanchez & Kiefer, 2007; Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012; Seal, Bradford, & Meston, 2009; Yamamiya, Cash, & Thompson, 2006). Trait-level body image also appears to be associated with sexual risk behaviors. In a sample of 1,168 college students (Eisenberg et al., 2005), in a sample of 434 emerging adult undergraduates (Gillen et al., 2006), and in a sample of 939 students at public high school in South Africa (Wild et al., 2004), relationships were found between trait-level body image and performing behaviors that increase the risk of sexually transmitted diseases and unwanted pregnancy, like sexual activity with casual partners, not using condoms or other contraceptives, or intoxication during sexual activity. Particularly women who have a negative trait-level body image are more likely to engage in sexual risk behavior, because they may be less secure about their ability to attract and maintain a sexual partner than those who have a healthy trait-level body image (Wingood, DiClemente, Harrington, & Davies, 2002). In line with this reasoning, Gillen and colleagues (2006) found that women who evaluated their appearance more positive were less likely to engage in unprotected sex.

Thus, there is already evidence for the connection between trait-level body image and sexual risk behavior, referring to the numerous studies mentioned before. However, this does not count for state body image, while several studies latterly indicated that state body image is a better predictor of sexual experiences and behavior than trait-level body image (Steer & Tiggemann, 2008; Yamamiya et al., 2006). Futhermore, Claudat and Warren (2014) suggested that body image concerns are particularly meaningful in situations that involve a high degree of focus on the body, such as physical intimacy with a partner. Therefore, it is relevant that studies are focused on state body image during sexual activity instead of trait-level body image, in the exploration of sexual risk behavior.

The earlier mentioned Objectification Theory could clarify a connection between state body image during sexual activity and sexual risk behavior. Because of self-objectification, in compliance with a negative state body image during sexual activity, women become more distanced from their own inner states (Fredrickson & Roberts, 1997). This kind of distance from one's body could be especially destructive in sexual situations, for the reason that a woman will find it more difficult to assert her desires in sexual situations. This results often in events based on the partner's wants and interests (Schooler et al., 2005). As a consequence, a negative state body image during sexual activity may hinder sexual assertiveness (Dove & Wiederman, 2000; Yamamiya et al., 2006) and thereby enforce sexual risk behavior (Breakwell & Millward, 1997). Sexual assertiveness is defined as the ability to express one's preferences during sexual situations and thereby effectively communicating one's sexual

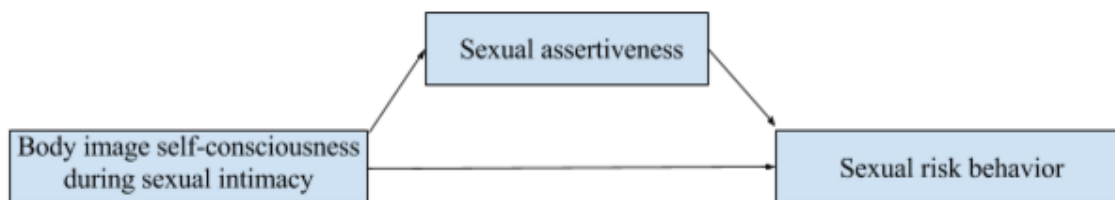
beliefs and desires, for instance through requesting wanted behavior, refusing unwanted activity or negotiating the use of protection (Morokoff et al., 1997; Schooler et al., 2005). Consequently, sexual assertiveness is needed to protect oneself against unwanted or unsafe sexual activities which in turn could lead to unwanted pregnancy and diseases (Morokoff et al., 1997). Previous studies have focused on the role of sexual assertiveness. For instance, Schooler and colleagues (2005) concluded that women who reported more body comfort and less body image self-consciousness also reported more sexual assertiveness and less sexual risk. In line with these results, Yamamiya and colleagues (2006) found that a negative contextual body image during sex was associated with lower self-confidence to refuse sex and with reduced sexual assertiveness. In addition, Wiederman (2000) found that, for women, higher levels of body image self-consciousness during physical intimacy with a partner were associated with lower sexual assertiveness.

Hence, this study will focus on the connection between state body image during sexual activity and sexual risk behavior, taking into account sexual assertiveness. Only women will be included in this study because of the objectification of, primarily, the female body in our culture (Calogero & Thompson, 2009<sup>a</sup>; Fredrickson & Roberts, 1997). More specific, the focus will lie on young female adults because it is particularly important to examine sexual risk behavior during young adulthood, seeing as this is the period during which exploration in sexuality takes place and is heightened. This exploration during young adulthood often coincides with sexual risk behavior (Lefkowitz & Gillen, 2006). In line with this reasoning, young adults seem to be more likely to have had two or more sex partners in the past year and more likely to report casual sexual experiences (Arnett, 2000; Goenee et al., 2012). Another study (Langer, Warheit, & McDonald, 2001) has shown that the rates of unprotected sexual activity increased among young adults in the United States. Furthermore, this study will focus only on women who are not in a relationship due to the fact that having a romantic partner can impact the experiences of body image and sexuality (Steer & Tiggemann, 2008). Avalos and Tylka (2006) assumed that women who had an influential significant other, who offered unconditional acceptance of their appearance, are better able at not objectifying their own bodies, which in turn affects state body image during sexual activity (Steer & Tiggemann, 2008). Additionally, women with a romantic relationship may become more comfortable with their partner over time and, therefore, are less concerned about their appearance during sexual activity (Wiederman, 2000). Steer and Tiggemann (2008) confirmed these findings by concluding that women are less self-conscious during sexual activity while being in an



exclusive relationship. Consequently, this study will focus on female young adults who are not involved in a romantic relationship.

To summarize, this study will focus on the relationships between state body image during sexual activity, sexual assertiveness and sexual risk behavior in female young adults. A higher degree of body image self-consciousness during sexual intimacy, as a measure of state body image during sexual activity (Wiederman, 2000), is expected to be related to a higher degree of sexual risk behavior (Steer & Tiggemann, 2008; Yamamiya et al., 2006). Furthermore, it is expected that this predicted positive connection will be mediated by sexual assertiveness. This means that having a higher degree of body image self-consciousness during sexual intimacy would relate to being less sexual assertive, which in turn would relate to more sexual risk behavior (Breakwell & Millward, 1997; Dove & Wiederman, 2000; Morokoff et al., 1997; Schooler et al., 2005; Wiederman, 2000; Yamamiya et al., 2006). In other words, body image self-consciousness during sexual intimacy is expected to have a direct connection with sexual risk behavior, and an indirect connection with sexual risk behavior through sexual assertiveness. The proposed hypothesis is summarized schematically in Figure 1.



*Figure 1.* Schematic representation of the associations between body image self-consciousness during sexual intimacy, sexual risk behavior and sexual assertiveness.

## METHOD

### **Procedure and participants**

The participants were recruited via an online advertisement on the website of Utrecht University, via online advertisements on Facebook, and via flyers distributed at Utrecht University. They were asked to participate in an online self-report questionnaire if they met the following criteria: (1) being a woman, (2) having had at least one sexual partner in the past, (3) being older than 18 years, and (4) being an university student. The online

computerized data collection system “LimeSurvey” was used to create the online survey. This study was part of a larger study measuring sexuality, body image and self-image. The focus of this study was specifically aimed at state body image during sexual activity, sexual assertiveness and sexual risk behavior. In addition to the earlier mentioned criteria, for this study participants might not be involved in a romantic relationship at that moment.

When opening the link, participants first viewed the informed consent form (see Appendix A) which they had to agree to. This informed consent explained that they were going to be asked to complete a series of questionnaires and it mentioned that responses to the questionnaire would remain confidential and anonymous. The participants were also reminded of the voluntary nature of their participation and were encouraged to discontinue participation if they, for instance, felt uncomfortable. After reading the informed consent, participants had to complete a questionnaire containing demographic variables, such as current age and relationship status, before they were directed to rest of the survey. The questionnaires of this study measured body image self-consciousness during sexual intimacy, sexual assertiveness and sexual risk behavior. The total survey required approximately 45 minutes to complete. Then they were directed to submit their responses. At Utrecht University undergraduate psychology students are required to spend a minimum of 10 hours as research participant in scientific studies. Therefore, completion of the survey resulted in crediting one hour to the account of the participants if they left the details of their account in the end. Furthermore, contact information of the researcher was provided in case they had any concerns or questions about the study.

A total of 279 female university students from The Netherlands completed the whole survey over a period of one month (December 2015). Of the 279 initial participants, 169 were not included in this study analysis due to being involved in a romantic relationship, one was not included due to being a man, two were not included due to not being an university student, and three were not included due to not having had a sexual partner. Thus, the analyzed sample consisted of 104 female university students. Of the final study sample ( $N = 104$ ), the age ranged from 18 to 30 ( $M = 20.96$ ,  $SD = 2.22$ ). Heterosexual women (86.5%) comprised the majority of the sample, with others identifying themselves as homosexual (2.9%), bisexual (8.7%) or not specified (1.9%). The mean self-reported weight was 64.01 kg ( $SD = 7.94$ ), ranging from 50 to 85 kg. The mean self-reported height was 170.78 cm ( $SD = 6.79$ ), ranging from 159 to 187 cm. Research has shown that self-reported body weight and height are highly reliable for measuring BMI (Wiederman, 2000). Percentages of underweight (BMI < 18.5 kg/m<sup>2</sup>), normal weight (BMI 18.5 to 25 kg/m<sup>2</sup>), overweight (BMI 25 to 30 kg/m<sup>2</sup>), and obese

(BMI > 30 kg/m<sup>2</sup>) participants were calculated, according to Quetelet's Index (kg/m<sup>2</sup>; Garrow & Webster, 1984). BMI ranged from underweight (BMI 17.67) to overweight (BMI 29.41) ( $M = 21.94$ ,  $SD = 2.28$ ). The majority of the participants were in the normal weight range (83.7%,  $n = 87$ ); 5.8% ( $n = 6$ ) were underweight; and 10.6% ( $n = 11$ ) were overweight.

A comparison with another sample of Dutch female university students (Van den Brink, Smeets, Hessen, Talens, & Woertman, 2013) showed that the samples were quite corresponding. In their total sample of 319 women, 95.5% were heterosexual, 0.8% were homosexual, and 3.6% were bisexual. Besides, the majority of the participants in their sample were also in the normal weight range (84.0%), with 5.6% being underweight, 7.8% being overweight and 2.5% being obese. However, differences were found when sexual orientation and BMI of the sample in the current study were compared with a sample of American and Canadian female college students (Laska et al., 2015;  $N = 21384$ ). In their sample, 93.7% were heterosexual, 1.2% were homosexual, 3.5% were bisexual and 1.6% were not specified. Further, 4.2% were found to be underweight, 55.4% were in the normal range, 22.3% were found to be overweight and 18.0% were classified as obese.

## Measures

### *State body image during sexual activity*

State body image during sexual activity was measured using the Dutch translated version (Van den Brink et al., 2013; see Appendix B) of the Body Image Self-Consciousness scale (BISC), developed by Wiederman (2000). The BISC examined body image self-consciousness during sexual intimacy and consisted of 15 items (e.g., "The idea of having sex without any covers over my body causes me anxiety"). Each item was rated on a 6-point Likert-type scale ranging from 0 (*Never*) to 5 (*Always*). The possible scores ranged from 0 to 75, with higher scores indicating greater body image self-consciousness during sexual intimacy and therefore a more negative state body image during sexual activity (Wiederman, 2000). The BISC has shown test-retest reliabilities at .92 and high internal consistency (Cronbach's  $\alpha = .94$ ) among undergraduate women (Wiederman, 2000). Cronbach's alpha in the current study was .92.

### *Sexual assertiveness*

The Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991), translated from English to Dutch with the translate-retranslate method (retranslation by native speaker), was included to determine participant's ability to assert themselves in sexual situations (see Appendix C).

This scale consisted of 25 items such as “I find myself doing sexual things I do not like”. Participants had to indicate how accurately each statement described their thoughts, feelings and opinions in sexual situations using a 5-point Likert scale from 0 (*All of the time*) to 4 (*None of the time*). The possible scores ranged from 0 to 100, with higher scores indicating greater sexual assertiveness. This index has shown good content or face validity, predictive validity, and discriminant validity, and an overall test-retest reliability of .85 (Pierce & Hurlbert, 1999). Cronbach’s alpha in the current study was .91.

### *Sexual risk behavior*

Sexual risk behavior was measured by 23 items which contained factors commonly associated with risky sexual practices: sexual intercourse without the use of a condom with a new partner, anal sex, alternating sexual contacts, history of STDs, use of contraceptive methods other than condoms, unwanted pregnancy, sexual intercourse while being under the influence of alcohol or drugs, and sexual intercourse before the age of 16 (see Appendix D). Each item had two answer options (*Yes/No*). The possible scores ranged from 0 to 23, with higher scores indicating greater sexual risk behavior. This scale was developed combining questions from other studies. Questions about condom use, anal sex, alternating sexual contacts, STDs and being under the influence of alcohol or drugs were used in, and for the current study retrieved from, studies of Goenee and colleagues (2012), Langer and colleagues (2001), *Rijksinstituut voor Volksgezondheid en Milieu* (RIVM, 2015) and Simkins (1995). The questions in the current study about unwanted pregnancy and contraceptive methods other than condoms were specifically acquired from *Rijksinstituut voor Volksgezondheid en Milieu* (RIVM, 2015). Besides, Langer and colleagues (2001) and *Rijksinstituut voor Volksgezondheid en Milieu* (RIVM, 2015) have explained that the age of first sex is a derived measure of unsafe sexual behavior, because young people protect themselves less against sexual risks and because those who begin earlier with sexual intercourse than others have been found to exhibit a greater number of risky sexual behaviors as they become young adults. Therefore, the question about sexual intercourse before the age of 16 was added to the scale. Cronbach’s alpha in the current study was .79.

### **Statistical analyses**

The used software for assembling and analyzing the data was IBM SPSS Statistics 23. Multiple regression analysis was used to investigate the hypothesis that the association between state body image during sexual activity, as independent variable, and sexual risk

behavior, as dependent variable, was mediated by sexual assertiveness. Ideally, this analysis would comprise four steps. In the first step, the relationship between the independent variable and dependent variable had to be significant to allow mediation. In the second step, the relationship between the independent variable and the mediator variable had to be significant to allow mediation. In the third step, the relationship between the mediator variable and the dependent variable had to be significant to allow mediation. Then finally in the last step, the regression coefficients would determine (the type of) mediation. Thus, performing the next step would only be fundamental when the relationship between the variables in the previous step was significant.

## RESULTS

### Descriptive statistics

Descriptive statistics of each measure and correlations between the measures are provided in Table 1.

Table 1

*Descriptive statistics and Pearson correlations between the measures (N = 104)*

Measure	Min	Max	<i>M</i>	<i>SD</i>	1	2	3
1. BISC	1	55	17.32	11.27	-		
2. HISA	32	94	65.63	13.38	-.358*	-	
3. SRB	0	17	8.20	3.62	-.355*	.119	-

*Note.* BISC = Body Image Self-Consciousness scale; HISA = Hurlbert Index of Sexual Assertiveness; SRB = Sexual Risk Behavior.

\*  $p < .01$ .

### Testing the hypotheses

First, a linear regression was used to determine a direct path from body image self-consciousness during sexual intimacy to sexual risk behavior excluding the potential mediator variable. In other words, to predict sexual risk behavior based on body image self-consciousness during sexual intimacy. A significant equation was found,  $R^2 = .126$ ,  $F(1, 102)$

= 14.726,  $p < .001$ . Body image self-consciousness during sexual intimacy accounted for 12.6% of the variance in sexual risk behavior. Thus, it was found that women who reported higher body image self-consciousness during sexual intimacy reported lower sexual risk behavior.

Second, a linear regression was used to determine a direct path from body image self-consciousness during sexual intimacy to sexual assertiveness. In other words, to predict sexual assertiveness based on body image self-consciousness during sexual intimacy. A significant equation was found,  $R^2 = .128$ ,  $F(1, 102) = 15.030$ ,  $p < .001$ . Body image self-consciousness during sexual intimacy accounted for 12.8% of the variance in sexual assertiveness. Thus, high body image self-consciousness during sexual intimacy was directly associated with lower sexual assertiveness.

Third, a linear regression was used to predict sexual risk behavior based on sexual assertiveness. A non-significant equation was found,  $R^2 = .014$ ,  $F(1, 102) = 1.458$ ,  $p = .230$ . This non-significant equation implicates that a mediator effect was not found. Thus, mediation could be rejected.

Because of the non-significant equation between sexual assertiveness and sexual risk behavior in the previous step, the last step of the multiple regression analysis has not been performed.

Unstandardized (B) and standardized ( $\beta$ ) regression coefficients, and squared semi-partial ( $sr^2$ ) for each predictor variable in each regression are reported in Table 2.

Table 2

*Unstandardized (B) and standardized ( $\beta$ ) regression coefficients, and squared semi-partial correlations ( $sr^2$ ) for each predictor variable in each regression (N = 104)*

Measure	B [95% CI]	$\beta$	$t$	$p$	$sr^2$
Regression 1					
BISC	-0.11 [-0.17, -0.06]	-0.36	-3.84	.000	0.13
Regression 2					
BISC	-0.43 [-0.64, -0.21]	-0.36	-3.88	.000	0.13
Regression 3					
HISA	0.03 [-0.02, 0.09]	0.12	1.21	.230	0.01

*Note.* BISC = Body Image Self-Consciousness scale; HISA = Hurlbert Index of Sexual Assertiveness. CI = confidence interval.

Hence, these results indicated that body image self-consciousness during sexual intimacy was a significant predictor of sexual risk behavior, but did not support the mediational hypothesis. Although body image self-consciousness during sexual intimacy had a significant negative relationship with sexual risk behavior as well as with sexual assertiveness, sexual assertiveness was not related to sexual risk behavior. Therefore, in contrast with the hypothesis, a mediation model with sexual assertiveness as a mediator between body image self-consciousness during sexual intimacy and sexual risk behavior did not hold.

## DISCUSSION

The present study investigated the relationships between state body image during sexual activity, sexual assertiveness and sexual risk behavior among Dutch female university students who are not involved in a romantic relationship. Until now, little research has focused on the relationships between these constructs. Yet, it is important to investigate factors related to sexual risk behavior for selecting appropriate targets in the context of prevention of sexual risk behavior, for the purpose of improving sexual health and well-being (Luster & Small, 1994). The aim of this study was to determine whether state body image during sexual activity was associated with sexual risk behavior, and whether this relationship was mediated by sexual assertiveness.

Because previous research suggested that women who had a more positive evaluation of their body image engaged in less sexual risk behavior (Eisenberg et al., 2005; Gillen et al., 2006; Steer & Tiggemann, 2008; Wild et al., 2004; Yamamiya et al., 2006), it was predicted that a higher degree of body image self-consciousness during sexual intimacy would relate to a higher degree of sexual risk behavior. In the current study, a relationship between body image self-consciousness during sexual intimacy and sexual risk behavior was found. However, the results of this study revealed that lower body image self-consciousness during sexual intimacy was related to higher sexual risk behavior. Remarkably, this is not in line with findings from previous research indicating a positive relationship between these variables. The negative relationship between body image self-consciousness during sexual intimacy and sexual risk behavior could be explained by findings of Van den Brink and colleagues (2013). They found that low body image self-consciousness was independently associated with higher sexual activity with a partner among Dutch female university students. This implicates that

women who are highly satisfied with their bodies and engage in sexual activity more frequently, also, as a consequence, engage in sexual risk behavior more frequently. Possibly they enjoy displaying their bodies for a partner, or feel a sense of control with respect to their bodies. In line with this reasoning, Morgan, Wiederman, and Pryor (1995) concluded that women with disorders that are associated with poor body image, such as anorexia and bulimia, show less interest in sex than women without these disorders. Furthermore, Gillen and colleagues (2006) found in their sample that men with a more positive evaluation of their appearance had more lifetime sex partners and more unprotected sex. These results among men correspond to the results among women in this study. This could imply similarities in the characteristics of the samples. An explanation for this positive relationship could be that a positive view of one's body may provide an extra dose of confidence. As a result, these people may be confident enough to seek multiple sexual partners and to participate in sexual risk behavior (Gillen et al., 2006). More studies could focus on these concepts and associations.

Furthermore, previous research suggested that a negative state body image during sexual activity may hinder sexual assertiveness (Dove & Wiederman, 2000; Yamamiya et al., 2006) and thereby enforce sexual risk behavior (Breakwell & Millward, 1997; Morokoff et al., 1997). Also, Schooler and colleagues (2005) and Wiederman (2000) suggested that women who reported less body image self-consciousness also reported more sexual assertiveness, and the Objectification Theory clarified the connection between state body image during sexual activity and sexual risk behavior through sexual assertiveness (Fredrickson & Roberts, 1997). Therefore, it was expected that sexual assertiveness would mediate the relationship between body image self-consciousness during sexual intimacy and sexual risk behavior. The present study confirmed the expectation that body image self-consciousness during sexual intimacy would significantly associate with sexual assertiveness, whereby lower body image self-consciousness during sexual intimacy related to increased sexual assertiveness. One possible explanation for the negative relationship between body image self-consciousness during sexual intimacy and sexual assertiveness could lie in the individual characteristics. Costa, Fagan, Piedmont, Ponticas, and Wise (1991) illustrated that extraverted individuals reported a more positive body image. Perhaps extraversion, as an individual characteristic, is associated with sexual assertiveness, which could clarify the connection between body image self-consciousness during sexual intimacy and sexual assertiveness. Another possible explanation for the negative relationship between the variables could be that women who report less body image self-consciousness during sexual



intimacy show greater body comfort. Schooler and colleagues (2005) found that body comfort, in turn, was associated with higher levels of sexual assertiveness. Possibly, body comfort mediates the negative relationship between body image self-consciousness during sexual intimacy and sexual assertiveness. Further research is needed to investigate these relationships. Besides the negative relationship between body image self-consciousness during sexual intimacy and sexual assertiveness, it was expected that being less sexual assertive would associate with more sexual risk behavior. However, the results did not show a significant association between sexual assertiveness and sexual risk behavior. Possibly, other factors have influenced this relationship. One of these factors might be alcohol, because Scott-Sheldon, Carey, Cunningham, Johnson, and Carey (2016) found that alcohol consumption determined intentions to engage in unprotected sex, which in turn appeared to be associated with increased sexual risk behavior and incident HIV. Although alcohol consumption is highly prevalent in young adulthood overall, students drink somewhat more than their peers do who do not attend college (Quinn & Fromme, 2011; Trimbos instituut, 2015). Since the sample of this study consisted of students, it is assumed that alcohol could be a factor influencing the relationship between sexual assertiveness and sexual risk behavior. Therefore, outcomes of previous studies showing significant relationships between the variables could be the result of using target groups of non-students. Consequently, it turned out that the significant relationship between body image self-consciousness during sexual intimacy and sexual risk behavior was not mediated by sexual assertiveness, which is inconsistent with previous research and literature suggesting a mediating role of sexual assertiveness (Breakwell & Millward, 1997; Fredrickson & Roberts, 1997; Morokoff et al., 1997). Future research should replicate the present study to test the mediating role of sexual assertiveness for unambiguous results.

This study has several strengths. First, the multiple items that were used to assess sexual risk behavior permitted a deep investigation into their associations with body image self-consciousness during sexual intimacy and sexual assertiveness. Also, collecting personal information via the Internet, in contrast to face-to-face interviews, provided considerable protection of anonymity and allowed individuals to participate from the privacy of their home. It has been shown that respondents are more willing to reveal sensitive and highly personal information on a computer than in face-to-face interviews (Cooper, Scherer, Boies, & Gordon, 1999; Ross, 2005). Despite these strengths, it is important to consider several limitations in the current study that future research could address. A significant limitation is that a great part of the students who started the survey, did not complete the survey (29%).

Respondents may differ systematically from non-respondents. Moreover, the sample consisted of women willing to participate in a study about sexuality. This also limits the generalizability because previous research suggests that women who volunteer to participate in sex research tend to be more sexually experienced, hold less traditional sexual attitudes, and report higher sexual esteem and sexual sensation seeking (Trivedi & Sabini, 1998; Wiederman, 1999), which all could have an influence on the variables measured in this study. Therefore, the data of this study may not be representative for the entire population of Dutch female university students who are not involved in a romantic relationship. Besides this generalizability, the results may not be readily generalized to other samples of women who may differ in culture, age or relationship status, considering the influences of these characteristics on body image and sexuality (Agocha, Asencio, & Decena, 2014; Algars et al., 2009; Steer & Tiggemann, 2008). Being involved in a romantic relationship, for example, induces less objectification of the own body, which in turn affects state body image during sexual activity (Steer & Tiggemann, 2008). As a consequence, due care must be taken in generalizing the results to a more diverse population of women. Furthermore, these data were collected at a single point in time in winter, whereby momentary feelings and thoughts could have influenced the answers. In addition, the correlational nature of this research hinders statements of causality. Therefore, it is possible that the direction of the relationships is reversed; women who perform more sexual risk behavior, for example, may have lower body image self-consciousness during sexual intimacy. Future research should examine body image self-consciousness during sexual intimacy, sexual assertiveness and sexual risk behavior over time in order to understand the directionality of the effects and to examine the causal role of the variables. Also, all the variables were measured by self-report, so there could be a social desirability bias. Besides, participants who are not involved in a romantic relationship at the moment of this study, could have had a romantic relationship in the past. Therefore, it is possible that they had their ex-partner in mind while answering questions about sexual activity with a partner. This could have had influence on the results seeing that experiences of body image and sexuality depend on having a romantic partner (Steer & Tiggemann, 2008). Future studies, focused on women who are not involved in a romantic relationship, could address this problem by explicitly stating that when answering the query, the respondents should focus on moments in which they were not involved in a romantic relationship. Lastly, other variables that may impact relationships between body image self-consciousness during sexual intimacy, sexual assertiveness and sexual risk behavior were not included in this study. For example, depressive symptoms are not assessed, as well as the presence of a sexual dysfunction, which

are associated with problems when engaging in sexual activity with a partner (Frohlich & Meston, 2002). In this study, it is unclear how the presence of such characteristics affected the results. Also, a significant amount of variance in women's sexual risk behavior remained unaccounted. Future research may want to examine the influence of other predictors that may affect female sexual risk behavior.

In spite of these limitations, the findings of this study do provide further insights regarding the relationships between state body image during sexual activity, sexual assertiveness and sexual risk behavior. Moreover, the present study offers new evidence to support the relationships between state body image during sexual activity and sexual risk behavior and between state body image during sexual activity and sexual assertiveness. Though, the relationships between state body image during sexual activity, sexual assertiveness and sexual risk behavior warrant further study. Future studies should bear the above-mentioned limitations in mind in order to make final conclusions about the relationships. In addition, the findings of this study have implications for prevention or intervention programs for women concerning body image and sexuality. According to this study, if people want to improve women's sexual health, the focus, however, does not have to be on creating interventions to improve their state body image during sexual activity. Given the positive relationship between body image self-consciousness during sexual intimacy and sexual risk behavior, health educators may need to consider other safer sex promotion messages than proposed in previous studies; when designing programs, one has to be cautious for the reason that having a positive state body image during sexual activity may actually lead to more sexual risk behavior. Thus, addressing positive state body image during sexual activity as a key component in sexual risk behavior may lead to more effective interventions for women.

In conclusion, the findings provide some support for several previous studies, which have linked state body image during sexual activity, sexual assertiveness and sexual risk behavior. Body image self-consciousness during sexual intimacy, as a measure of state body image during sexual activity, was found to be associated with sexual assertiveness and sexual risk behavior among Dutch female university students who are not involved in a romantic relationship. Though, the expected relationship between body image self-consciousness during sexual intimacy and sexual risk behavior appeared to be reversed. In addition, the data did not confirm the hypothesis that sexual assertiveness would mediate the relationship between state body image during sexual activity and sexual risk behavior. Thus, these results suggest only direct links between body image self-consciousness during sexual intimacy and

sexual risk behavior, and between body image self-consciousness during sexual intimacy and sexual assertiveness. Although the current study offered some evidence for relationships between the variables, it can be concluded from the preliminary data that more studies are needed to investigate the influence of other factors on state body image during sexual activity, sexual assertiveness and sexual risk behavior.

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## **Appendix A: Informed consent**

Welkom bij dit online vragenlijstonderzoek naar seksualiteit, lichaamsbeeld en zelfbeeld.

Dit onderzoek wordt uitgevoerd door de Universiteit Utrecht in het kader van een masteronderzoek.

**Let op: voor deze studie zijn wij alleen op zoek naar vrouwelijke universitaire studenten van 18 jaar en ouder die in het verleden minimaal één seksuele partner hebben gehad.**

De vragen zullen gaan over bepaalde aspecten van seksualiteit, en gedachten en gevoelens die u heeft over uzelf en over uw lichaam. Er bestaan geen goede of foute antwoorden. Het invullen van de vragenlijsten zal ongeveer 45 minuten van uw tijd in beslag nemen. Psychologiestudenten aan de Universiteit Utrecht krijgen één proefpersoonuur toegekend wanneer zij aan het eind hun studentnummer en solis e-mailadres invullen.

Het meedoen aan dit onderzoek is op vrijwillige basis en deelname kan op ieder moment beëindigd worden. Wanneer deelname vervroegd wordt beëindigd, wordt er geen proefpersoonuur toegekend en zal de gegeven informatie direct worden verwijderd. De informatie die u verschaft blijft geheel anoniem en zal enkel en alleen gebruikt worden voor wetenschappelijke doeleinden.

Alvast bedankt voor uw deelname!

## Appendix B: Dutch version of the Body Image Self-Consciousness Scale

De volgende lijst bevat stellingen die gaan over hoe u denkt over uw lichaam tijdens de seks met een partner. Kies voor elke stelling het antwoord dat het meest bij u past.

De term 'partner' verwijst naar een persoon waarmee u romantisch of seksueel intiem bent of bent geweest.

	<b>Nooit</b>	<b>Zelden</b>	<b>Soms</b>	<b>Vaak</b>	<b>Meestal</b>	<b>Altijd</b>
Ik zou me heel zenuwachtig voelen als een partner mijn lichaam zou verkennen voor of na de seks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het idee van het hebben van seks zonder lakens over mijn lichaam geeft mij een angstig gevoel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik seks heb, dan maak ik mij zorgen dat mijn heupen en dijen groter lijken dan ze eigenlijk zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tijdens seksuele activiteiten maak ik mij zorgen over hoe mijn lichaam eruit ziet voor mijn partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het ergste aan seks is het naakt zijn in het bijzijn van een andere persoon.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als een partner een hand op mijn billen zou leggen dan zou ik denken: 'mijn partner kan voelen hoe dik ik ben'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tijdens seksuele activiteiten is het moeilijk om niet na te denken over hoe aantrekkelijk mijn lichaam is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tijdens de seks lig ik liever op mijn rug zodat mijn buik plat lijkt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel mij niet op mijn gemak als ik naakt door de kamer loop terwijl	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

mijn partner kijkt.

---

De eerste keer dat ik seks heb met een nieuwe partner maak ik mij zorgen dat mijn partner afknapt als hij/zij mijn lichaam ziet zonder kleren.

---

Als een partner een arm om mijn middel zou slaan, dan zou ik denken: 'mijn partner kan voelen hoe dik ik ben'.

---

Ik voel mij alleen op mijn gemak tijdens de seks als het zo donker is dat mijn partner mijn lichaam niet duidelijk kan zien.

---

Tijdens de seks heb ik liever dat mijn partner op mij ligt zodat mijn partner mijn lichaam minder goed ziet.

---

Ik vind het moeilijk om een douche of bad te nemen samen met mijn partner.

---

Ik voel mij angstig als ik een lichaamsmassage van mijn partner krijg.

## Appendix C: Translated version of the Hurlbert Index of Sexual Assertiveness

Onderstaande stellingen gaan over uw gedachten, gevoelens en meningen in seksuele situaties. Kies voor elke stelling het antwoord dat het meest bij u past.

De term ‘partner’ verwijst naar een persoon waarmee u romantisch of seksueel intiem bent of bent geweest.

	Altijd	Meestal	Soms	Zelden	Nooit
Ik vind het ongemakkelijk om tijdens de seks te praten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me verlegen wanneer het op seks aankomt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik benader mijn partner voor seks wanneer ik ernaar verlang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik denk dat ik naar mijn partner toe open ben over mijn seksuele behoeften.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik geniet van het delen van mijn seksuele fantasieën met mijn partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind het ongemakkelijk om met mijn vrienden over seks te praten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik communiceer mijn seksuele verlangens naar mijn partner toe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is moeilijk voor mij om mijzelf aan te raken tijdens seks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is moeilijk voor mij om nee te zeggen zelfs wanneer ik geen seks wil hebben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zou mijzelf niet beschrijven als een seksueel persoon.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind het ongemakkelijk om mijn partner te vertellen wat goed voelt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik kom op voor mijn seksuele gevoelens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ik ben terughoudend in het verzoeken van mijn partner om mij te bevredigen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb seks terwijl ik dat niet echt wil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wanneer een seksuele handeling niet goed voelt, dan vertel ik dat aan mijn partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel mij op mijn gemak wanneer ik seksuele lof geef aan mijn partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is gemakkelijk voor mij om seks met mijn partner te bespreken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel mij op mijn gemak wanneer ik seks initieer met mijn partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik doe seksuele handelingen met mijn partner die ik niet fijn vind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn partner tevreden stellen is belangrijker dan mijn eigen seksuele plezier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel mij op mijn gemak wanneer ik mijn partner vertel hoe hij/zij mij moet aanraken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik geniet ervan mijzelf tot een orgasme te masturberen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als iets goed voelt tijdens de seks dan geef ik aan het nog een keer te willen doen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is voor mij moeilijk om eerlijk te zijn over mijn seksuele gevoelens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik probeer het bespreken van het onderwerp 'seks' te vermijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix D: Items measuring sexual risk behavior

Heeft u ooit zonder condoom geslachtsgemeenschap gehad met een nieuwe/losse partner (iemand die u net had ontmoet)?

- Ja    Nee

Heeft u in het afgelopen jaar zonder condoom geslachtsgemeenschap gehad met een nieuwe/losse partner (iemand die u net had ontmoet)?

- Ja    Nee

Heeft u de laatste keer zonder condoom geslachtsgemeenschap gehad met een nieuwe/losse partner (iemand die u net had ontmoet)?

- Ja    Nee

Heeft u ooit anale seks gehad?

- Ja    Nee

Heeft u in het afgelopen jaar anale seks gehad?

- Ja    Nee

Heeft u de laatste keer anale seks gehad?

- Ja    Nee

Heeft u ooit wisselende seksuele contacten gehad?

- Ja    Nee

Heeft u in het afgelopen jaar wisselende seksuele contacten gehad?

- Ja    Nee

Bent u ooit getest op een SOA?

- Ja    Nee

Bent u in het afgelopen jaar getest op een SOA?

- Ja    Nee

Is er ooit een SOA bij u vastgesteld?

- Ja  Nee

Is er in het afgelopen jaar een SOA bij u vastgesteld?

- Ja  Nee

Heeft u ooit anticonceptie (anders dan condooms) gebruikt?

- Ja  Nee

Heeft u in het afgelopen jaar anticonceptie (anders dan condooms) gebruikt?

- Ja  Nee

Bent u ooit ongewenst zwanger geweest?

- Ja  Nee

Bent u in het afgelopen jaar ongewenst zwanger geweest?

- Ja  Nee

Was u ooit tijdens de geslachtsgemeenschap onder invloed van alcohol?

- Ja  Nee

Was u in het afgelopen jaar (één of meerdere keren) tijdens de geslachtsgemeenschap onder invloed van alcohol?

- Ja  Nee

Was u tijdens de laatste keer geslachtsgemeenschap onder invloed van alcohol?

- Ja  Nee

Was u ooit tijdens de geslachtsgemeenschap onder invloed van drugs?

- Ja  Nee

Was u in het afgelopen jaar (één of meerdere keren) tijdens de geslachtsgemeenschap onder invloed van drugs?



- Ja
- Nee

Was u tijdens de laatste keer geslachtsgemeenschap onder invloed van drugs?

- Ja
- Nee

Had u voor het eerst seks (geslachtsgemeenschap) toen u jonger dan 16 jaar was?

- Ja
- Nee