

Body image and sexual satisfaction of adolescents: The role of lifetime number of sex partners and gender



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Master program: Youth Studies

Month and year: June, 2019

Number of words: 4997

Abstract (English)

Body image and sexual satisfaction are important aspects of adolescence, since sexual satisfaction is important to become a sexually healthy adult, and body image dissatisfaction is a common and rising problem among adolescents. However, only a few studies assessed the direct link between body image and sexual satisfaction. The current study examined the role of number of lifetime sex partners and gender on the association between body image and sexual satisfaction among adolescents. Data from a digital survey of the cross-sectional study 'Seks onder je 25ste, 2012' were used, where 1,442 participants were selected if they were single, heterosexual, sexually active and 15 to 25 years old. Linear regression analyses revealed a positive association between body image and sexual satisfaction, which was partially mediated by number of lifetime sex partners. There was a positive association between body image and number of lifetime sex partners, which was moderated by gender. There was a positive association between number of lifetime sex partners and sexual satisfaction, which was not moderated by gender. In conclusion, it seems that men have more sex partners when they score high on body image, and men and women are more sexually satisfied when they had more sex partners.

Abstract (Dutch)

Body image en seksuele tevredenheid zijn belangrijke aspecten van de adolescentie, omdat seksuele tevredenheid belangrijk is om een seksueel gezonde volwassene te worden, en ontevredenheid over *body image* een veel voorkomend en toenemend probleem bij adolescenten is. Echter, onderzochten slechts enkele studies het directe verband tussen *body image* en seksuele tevredenheid. De huidige studie onderzocht de rol van het aantal sekspartners en geslacht op de associatie tussen *body image* en seksuele tevredenheid bij adolescenten. Gegevens uit een digitale enquête van de cross-sectionele studie 'Seks onder je 25ste, 2012' werden gebruikt, waarbij 1,442 deelnemers werden geselecteerd als ze vrijgezel, heteroseksueel, seksueel actief en 15 tot 25 jaar oud waren. Lineaire regressieanalyses brachten aan het licht dat er een positieve associatie was tussen *body image* en seksuele tevredenheid, die gedeeltelijk werd gemedieerd door het aantal sekspartners. Er was een positieve associatie tussen *body image* en het aantal sekspartners, die werd gemodereerd door geslacht. Er was een positieve associatie tussen het aantal sekspartners en seksuele tevredenheid, die niet werd gemodereerd door geslacht. Concluderend lijkt het erop dat mannen meer sekspartners hebben wanneer ze hoog scoren op *body image*, en mannen en vrouwen meer seksueel tevreden zijn als ze meer sekspartners hebben.

Introduction

Recently, sexual health has gained increased attention and it has been acknowledged that sexual health and sexual satisfaction are important to overall wellbeing and good health (Blanco, Izquierdo, Pérez, & García, 2017; Mulhall, King, Glina, & Hvidsten, 2008). It is important to assess sexual satisfaction in adolescents, because sexual satisfaction is an essential aspect of how adolescents achieve the developmental task of becoming sexually healthy adults (Auslander et al., 2007; Higgins, Mullinax, Trussell, Davidson, & Moore, 2011). However, most research on sexual health only addresses the negative aspects of sexuality, like sexually transmitted infections and unwanted pregnancies (Higgins et al., 2011; Impett & Tolman, 2006). Moreover, most research only focusses on people with medical conditions like breast cancer and sexual disorders (Blanco et al., 2017; Pujols, Meston, & Seal, 2010) or on adults or people in relationships (Auslander et al., 2007; Blanco et al., 2017; Higgins et al., 2011). Practically, no public health research has studied sexual wellbeing in adolescents, in terms of their sexual satisfaction (Higgins et al., 2011). Therefore, more research on sexual satisfaction of adolescents is needed.

Besides the importance of studying sexual satisfaction, body image, often defined as how one perceives one's own body (Woertman & Van den Brink, 2012), is an important feature of self-esteem for adolescents and is often linked to sexual satisfaction (Holt & Lyness, 2007; Hoyt & Kogan, 2001; Træen, Markovic, & Kvalem, 2016). More importantly, body image dissatisfaction is a common problem among adolescent females and a rising problem among adolescent males (Forrest & Stuhldreher, 2007; Holt & Lyness, 2007). This trend for men could be due to the increased perceptibility of male bodies in the media, possibly resulting in vulnerability to societal pressure regarding muscularity (Holt & Lyness, 2007). Moreover, this trend indicates that men and women suffer from body image concerns, which affect sexual satisfaction (Holt & Lyness, 2007). Because of all the aforementioned aspects, the current study examines the association between body image and sexual satisfaction among adolescents.

As far as known, only a few studies assessed the direct link between body image and sexual satisfaction (Pujols et al., 2010). This probably suggests that other factors could play a role in the association between body image and sexual satisfaction. To examine these possible factors, lifetime number of sex partners will be examined as a possible mediator and gender as a moderator. This study therefore addresses the following research question: What is the association between body image and sexual satisfaction in adolescents, and to what extent is this association mediated by the number of lifetime sex partners and moderated by gender? In

the following paragraphs, the possible mediating role of number of lifetime sex partners and moderating role of gender will be further elaborated.

Body image and sexual satisfaction

It is plausible that adolescent men and women with a positive body image, experience more sexual satisfaction (Holt & Lyness, 2007; Træen et al., 2016), because men and women with a positive body image are more focused on sexual pleasure. Those with a negative body image are expected to focus more on other things during sex, such as thoughts and concerns about their physical appearance, and will probably focus less on sexual pleasure and therefore are less sexually satisfied (Meana & Nunnink, 2006; Purdon & Holdaway, 2006).

However, several studies reported gender differences in the association between body image and sexual satisfaction. For instance, women were more concerned about their body appearance during sex than men and therefore experienced less sexual satisfaction (Meana & Nunnink, 2006; Purdon & Holdaway, 2006). Moreover, men were more dissatisfied with their sex lives than women (Hoyt & Kogan, 2001) and men had a more positive body image than women (Hoyt & Kogan, 2001; Træen et al., 2016), which increased their probability of being sexually satisfied (Træen et al., 2016). On the contrary, other studies reported no gender difference in sexual satisfaction (Træen et al., 2016) and no gender differences in the association between body image and sexual satisfaction (Holt & Lyness, 2007).

Although the literature on gender differences is less clear, in line with the foregoing studies, it is expected that the association between body image and sexual satisfaction will be positive. In line with the study of Holt and Lyness (2007), it is expected that there will be no difference between men and women. (*Hypothesis 1*). This is illustrated in Figure 1.

The mediating role of number of lifetime sex partners

It might be possible that number of lifetime sex partners plays a role in the association between body image and sexual satisfaction. For instance, a positive association between body image and number of lifetime sex partners was found. Adolescents with a negative body image, have less sexual experience (Faith & Schare, 1993). This might be explained by the fact that adolescents with a negative body image, may avoid sexual activities, because they would feel embarrassed or feel discomfort (Gillen, Lefkowitz, & Shearer, 2006). Therefore, adolescents could have less sexual partners. Whereas adolescents with a positive body image, have more sexual experience. When adolescents believe they are attractive, they also believe that they can influence others through flirting, which could relate to more sexual opportunities

(Trapnell, Meston, & Gorzalka, 1997) and therefore, could relate to more confidence and more sexual partners.

Also, a positive association between number of lifetime sex partners and sexual satisfaction was found. Sexual experience with multiple partners, could relate to increased skills and a better sexual competence (Pedersen & Blekesaune, 2003). These increased skills and better sexual competence could relate to more sexual satisfaction.

In line with the aforementioned studies, it is expected that the number of lifetime sex partners mediates the association between body image and sexual satisfaction. Consequently, a positive association between body image and number of lifetime sex partners, and between number of lifetime sex partners and sexual satisfaction is expected (*Hypothesis 2*). This is illustrated in Figure 1.

The moderating role of gender

The literature suggests that there may be gender differences in the association between body image and number of lifetime sex partners. To explain these gender differences, the Sexual Double Standard (SDS) could be used. SDS is a pattern of gendered expectations, whereby men are expected to take more sexual initiative, be dominant and be sexually active, whereas women are expected to be sexually passive, submissive and reactive (Sanchez, Fetterolf, & Rudman, 2012). SDS can be seen as a cultural pressure for men and women to act in a certain way (Emmerink, Vanwesenbeeck, Van den Eijnden, & Ter Bogt, 2016). This cultural pressure can, for example, be found in the media of Western societies, where women are encouraged to be sexy, but sexually reserved, while men are encouraged to be sexually assertive, but noncoercive (Kim et al., 2007).

The SDS is also in line with the Sexual Strategies theory (Buss & Schmitt, 1993), which emphasizes that the most successful in passing their genetic material, were women who took care of their limited offspring to survive and reproduce, and men who reproduced a lot of offspring who survived and reproduced. These sex differences could be explained by the parental investment theory (Trivers, 1972), stating that men are low investors with low investments in reproduction and are unlimited in passing on their genetic material. And women are heavy parental investors with high investments in reproduction, like pregnancy, and are limited in passing on their genetic material. Therefore, women are more reserved in short-term mating than men, since they have to be selective in choosing a partner, for example, based on good genes or whether partners are ready to have high investments in reproduction. Furthermore, this evolutionary perspective suggests that attractiveness indicates

good, healthy genes for reproduction (Buss & Schmitt, 1993). Indicating that men who are perceived as attractive men by others, may perceive themselves as more attractive and gain more confidence. Therefore, attractive men will have more opportunities for sexuality than less attractive men. This, in combination with their evolved desire for more sexual partners, can be expected to predict a particularly strong association between body image and number of lifetime sex partners in men.

In conclusion, according to the SDS men are encouraged to be more sexually assertive and active than women. Therefore, men can be expected to seek multiple sex partners more often than women. Additionally, according to the parental investment theory (Trivers, 1972), most women are likely to use long-term mating strategies because they are heavy parental investors and are more selective in choosing a partner to pass on their genetic material. While, men are more likely to use short-term mating because their reproductive success can still be high, even if they are low parental investors.

Furthermore, Gillen, Lefkowitz and Shearer (2006) found that adolescents who positively evaluated their appearance, had more lifetime sex partners. But, when appearance evaluation was tested separately for males and females, it was only significant for males, indicating that men had more lifetime sex partners when they positively evaluated their appearance whereas women did not. However, it should be noted that some other studies did not report significant correlations between body image and number of lifetime sex partners for men (Dolphin, Fitzgerald, & Dooley, 2018; Merianos, King, & Vidourek, 2013).

Because of the strong theoretical underpinning of the gender differences and the mixed results, it is interesting to investigate the role of gender as a possible moderator on the association between body image and number of lifetime sex partners. Thus, in line with the aforementioned theories and study (Gillen et al., 2006), a stronger positive association between body image and number of lifetime sex partners is expected for men than for women (*Hypothesis 3*). This is illustrated in Figure 1.

Next, there may also be gender differences in the association between number of lifetime sex partners and sexual satisfaction. It seems plausible that adolescents who have multiple sex partners, are more sexually satisfied, because sexual experience with multiple partners could relate to increased skills and a better sexual competence (Pedersen and Blekesaune, 2003). Moreover, this can be mostly expected for men, because according to the SDS, men in Western societies are encouraged to be more sexually assertive than women (Kim et al., 2007). Therefore, men might be more encouraged to seek for multiple sex partners.

A longitudinal study of Pedersen and Blekesaune (2003) found a positive significant effect of a high number of lifetime sex partners (6+) on sexual satisfaction for young adult males and to a lesser extent for females. This indicates that having more sexual partners leads to more sexual satisfaction. However, it should be noted that it is not known if this effect was found for single adolescents or adolescents in a relationship. On the other hand, in their cross-sectional study, Heiman et al. (2011) found a negative association between number of lifetime sex partners and sexual satisfaction. This means more sexual partners relates to less sexual satisfaction. Number of lifetime sex partners only predicted sexual satisfaction for men and not for women. It should be noted, however, this study targets couples and adults.

Due to the mixed results, it is interesting to investigate the role of gender as a possible moderator on the association between number of lifetime sex partners and sexual satisfaction. In line with the study of Pedersen and Blekesaune (2003), a stronger positive association between number of lifetime sex partners and sexual satisfaction is expected for men than for women (*Hypothesis 4*). This is illustrated in Figure 1.

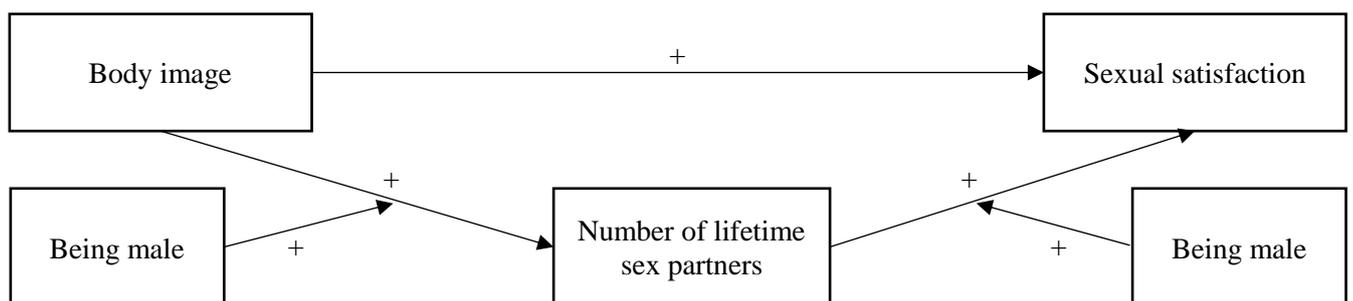


Figure 1. Research Model of Current Study.

Methods

Data collection and procedure

The current study, used data from ‘Seks onder je 25ste, 2012’. This is a representative and large-scale cross-sectional study on the sexual health of adolescents (12 to 25 years) in the Netherlands (De Graaf, Kruijer, Van Acker, & Meijer, 2012). The study was carried out by Rutgers WPF and Soa Aids Nederland. 7,841 adolescents completed a digital survey with questions about sexuality-related themes. These adolescents were partly recruited via 43

schools of secondary education and partly via random samples of the municipal basic administration of 55 municipalities.

Demographics

The final sample consisted of 1,442 adolescents, because the current study focused on hetero and single adolescents, who have had sex at least once in their life and with ages ranging from 15 to 25 years old ($M = 20.32$, $SD = 2.50$). Of these adolescents 51.1% were females ($n = 737$) and 48.9% were males ($n = 705$) and most adolescents had a Dutch ethnic background (74.8%). Moreover, 31% of the adolescents were in or finished lower level education (VMBO and MBO), 25.8% were in or finished middle level education (HAVO and HBO), and 15.9% were in or finished higher level education (VWO and University).

Measurements

Body image was measured at ordinal level based on four items on a five-point Likert scale (from 1= 'totally agree' to 5= 'totally disagree'). This scale was newly developed by De Graaf et al. (2012). To measure body image, participants were asked: 'What do you think of the following statements?' The following four statements were asked: 'I think I'm pretty attractive', 'I'm satisfied with my genitals', 'I find myself too fat or too thin' and 'I would like to be more muscular'. The last two items were negatively phrased and therefore recoded. Factor and reliability analyses were performed. Because the item 'I would like to be more muscular' applies more to men than women, this item was excluded. For the remaining three items the factor analysis revealed one factor and the reliability analyses a Cronbach's Alpha of .61, which is a low reliability. However, due to theoretical reasons the three items were put together to form a scale.

Number of lifetime sex partners was measured at ratio level based on three items. The scale was developed by Brugman et al. (1995). To measure the number of sex partners participants had in their lifetime, participants needed to have had vaginal sex and/or anal sex in order to answer the questions. Then three questions were asked and participants could only choose one question to answer. If participants only had vaginal sex, they needed to answer the question: 'With how many people did you have vaginal sex until now?', if participants only had anal sex they needed to answer the question: 'With how many people did you have anal sex until now?' and if participants had both vaginal sex and anal sex they needed to answer the question: 'With how many people did you have vaginal sex and/or anal sex until now?'. To answer the questions, participants needed to fill in the following sentence: 'with ... different

people'. Because of the skewness of this variable, scores higher than two standard deviations were categorized to '23 or more' sex partners.

Sexual satisfaction was measured at ordinal level based on four items on a five-point scale (from 1= 'very satisfied' to 5= 'very dissatisfied'). This scale was newly developed by De Graaf et al. (2012). To measure whether participants were satisfied with the frequency, intimacy, physical satisfaction and sex life during the last twelve months, participants needed to have had sexual intercourse and/or anal sex in order to answer the questions. The following question was asked: 'How satisfied are you with the following things?' The following four categories were asked: 'How often you have sex', 'Contact with the other person during sex', 'How nice is the sex' and 'Your sex life in general'. All items are negatively phrased and therefore recoded. For the four items the factor analysis revealed one factor and the reliability analysis a Cronbach's Alpha of .86, which is a high reliability. So, the four items were put together to form a scale.

Gender was measured at nominal level. To measure gender, participants were asked 'Are you a boy or a girl?' when they were born after April 1991 and 'Are you a man or a woman?' when they were born before April 1991. The answers were 'a boy/man' and 'a girl/woman'.

Data-analysis

Statistical analyses were performed using IBM SPSS Statistics 25. First, a smaller sample with only hetero and single adolescents between 15 and 25 years old who have had sex at least once in their life, was selected by using a filter in SPSS. All participants who did not meet these requirements were filtered out of the sample. Then the descriptive statistics were requested. To test for a significant difference between two independent sample means, men and women, an Independent Samples *t* Test was conducted for body image, number of lifetime sex partners and sexual satisfaction. No outliers were taken out of the sample.

Then, a factor analysis was carried out for body image and sexual satisfaction to investigate whether there were underlying patterns and correlations between the items. In addition, a reliability analysis was carried out with Cronbach's Alpha to find out whether the items of body image and sexual satisfaction could form a reliable scale. After these analyzes, scales were created by calculating mean scores.

Then, the correlations between these scales were measured and interpreted in a correlation matrix by using both Pearson and Spearman correlations. Also, demographic variables were included in the correlation matrix to test for a possible role of demographic

variables as confounders. Variables that correlated with all three research variables, were added as control variables in the analyses.

Lastly, six linear regression analyses were conducted, to test for the main effect of body image on sexual satisfaction, for mediation by number of lifetime sex partners and for moderation by gender. First, a linear regression analyses was performed to test whether there is a main effect of body image on sexual satisfaction. Then, the same analysis was performed by using the Baron and Kenny steps, to find out whether number of lifetime sex partners had a mediating effect on the relationship between body image and sexual satisfaction. Lastly, a linear regression analysis was performed to find out whether gender had a moderating effect on the relationship between body image and number of lifetime sex partners and between number of lifetime sex partners and sexual satisfaction.

Results

Descriptive statistics

Table 1 shows the descriptive statistics of the main research variables. The mean for number of lifetime sex partners is 4.89 ($SD = 5.22$), with a maximum of 23. Respondents score relatively high on body image ($M = 3.45$, $SD = .81$) and sexual satisfaction ($M = 3.61$, $SD = .88$), which means that the respondents are generally satisfied with their body image and sex lives.

Table 1. *Descriptive Statistics of Body Image, Number of Lifetime Sex Partners and Sexual Satisfaction*

	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>
Body image	1394	1	5	3.45	0.81
Number of lifetime sex partners	1442	1	23	4.89	5.22
Sexual satisfaction	1394	1	5	3.61	0.88

Group differences

Table 2 shows the group differences for the main research variables and shows a significant difference between men and women for body image and for number of lifetime sex partners. Men have a higher score on body image, meaning that men have a more positive body image than women. Also, men score higher on number of lifetime sex partners, meaning that men have had more lifetime sex partners than women. Table 2 shows no difference between men and women in sexual satisfaction.

Table 2. *Group Differences of Gender for Body Image, Number of Lifetime Sex Partners and Sexual Satisfaction*

	Men			Women			<i>t</i>	<i>df</i>	<i>d</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
Body image	682	3.66	.75	712	3.24	.81	10.03***	1392	.54
Number of lifetime sex partners	705	5.40	5.90	737	4.40	4.43	3.61***	1304.92	.19
Sexual satisfaction	682	3.60	.87	712	3.63	.90	-.48	1392	-.03

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Correlations

Table 3 shows the correlations between the demographic and main research variables. Only age is significantly related to all main research variables. Gender is regarded as a moderating variable, therefore both age and gender will be controlled for in the regression analyses. Table 3 also shows the correlations between the main research variables. The moderate positive correlation between body image and sexual satisfaction is significant, which means that a more positive body image is associated with more sexual satisfaction. Also, the small positive correlation between body image and number of lifetime sex partners is significant, meaning that a more positive body image is associated with more sex partners in a lifetime. Lastly, Table 3 shows a small to moderate positive correlation between number of lifetime sex partners and sexual satisfaction, which is significant, meaning that more sex partners in a lifetime is associated with more sexual satisfaction.

Table 3. *Spearman and Pearson Correlation Matrix of Demographic and Main Research Variables*

	1	2	3	4	5	6	7
1. Age	1.00						
2. Gender	.03	1.00					
3. Ethnicity	-.03	-.09**	1.00				
4. Educational level	.72***	.11**	-.08*	1.00			
5. Body image	.08**	-.25***	.05*	.04	1.00		
6. Number of lifetime sex partners	.19***	-.06*	.08**	.07*	.18***	1.00	
7. Sexual satisfaction	-.15***	.03	.05	-.24***	.25***	.25***	1.00

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. For the correlation between Age and Number of lifetime sex partners, Pearson correlation was used. For all other correlations Spearman was used.

Regression analyses

Body image and sexual satisfaction

To investigate whether body image relates to sexual satisfaction, a multivariate linear regression analyses was conducted. Table 4 shows that only age was a significant predictor of sexual satisfaction. Table 4 also shows a positive significant association between body image and sexual satisfaction, both before and after controlling for confounders, indicating that a more positive body image relates to more sexual satisfaction.

Table 4. *Linear Regression Analysis for Body Image and Sexual Satisfaction*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Regression without control variables					
Body image	.27	.03	.25	9.45	.00***
Step 1: Control variables					
Age	-.06	.01	-.16	-5.88	.00***
Gender	.03	.05	.02	.68	.50
Step 2: Research variable					
Body image	.31	.03	.28	10.67	.00***

Note. Dependent variable is Sexual satisfaction. * $p < .05$. ** $p < .01$. *** $p < .001$.

The mediating role of number of lifetime sex partners and the moderating role of gender

In order to investigate whether number of lifetime sex partners mediates the relationship between body image and sexual satisfaction, and whether gender moderates the association between body image and number of lifetime sex partners, and between number of lifetime sex partners and sexual satisfaction, multivariate linear regression analyses were conducted (see Table 5, 6 and 7). Age was a significant predictor of sexual satisfaction and number of lifetime sex partners, gender was only a significant predictor of number of lifetime sex partners.

Table 5 shows a positive significant association between body image and number of lifetime sex partners, both before and after controlling for confounders, meaning that a more positive body image relates to more sex partners in a lifetime. Table 5 also shows a negative and significant interaction effect of body image and gender on number of lifetime sex partners, meaning that gender significantly moderates the association between body image and number of lifetime sex partners. This interaction effect is presented in Figure 2 and illustrates that both men and women who score high on body image, meaning that they have a more positive body image, have had more sex partners during a lifetime. However, this effect is stronger for men than for women. In other words, men have more sex partners than women, when they score high on body image.

Table 5. *Linear Regression Analysis for Body Image and Number of Lifetime Sex Partners, moderated by Gender*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Regression without control variables					
Body image	1.16	.17	.18	6.96	.00***
Step 1: Control variables					
Age	.41	.05	.20	7.68	.00***
Gender	-1.03	.27	-.10	-3.84	.00***
Step 2: Research variable					
Body image	.98	.17	.15	5.74	.00***
Step 3: Interaction variable					
Body image*Gender	-1.15	.34	-.09	-3.38	.00**

Note. Dependent variable is Number of lifetime sex partners. * $p < .05$. ** $p < .01$. *** $p < .001$.

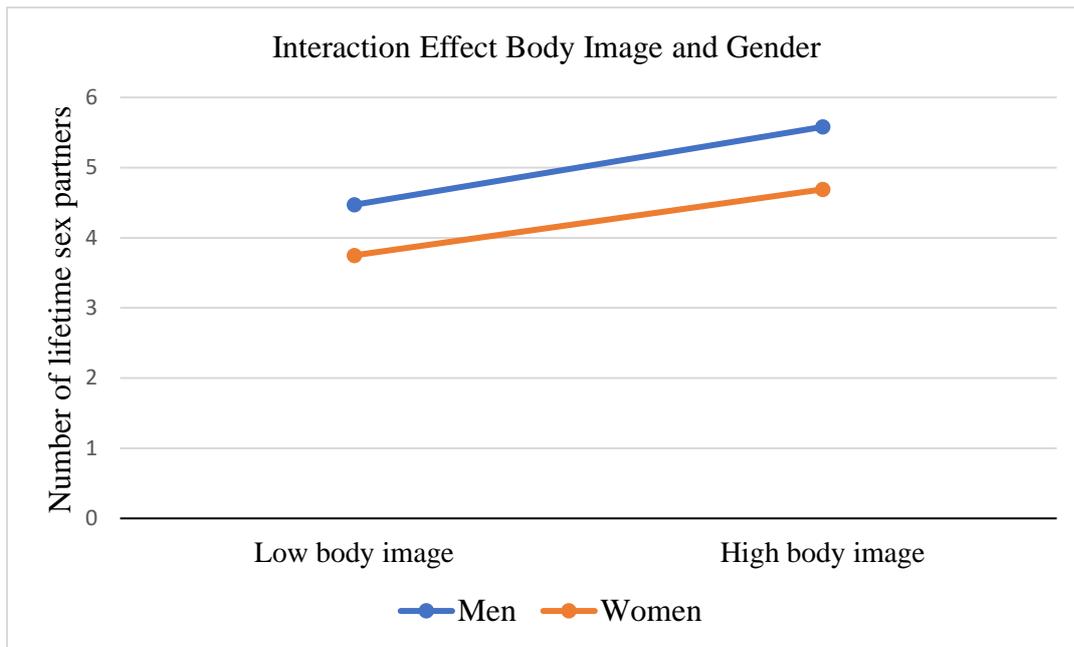


Figure 2. Interaction Effect of Body Image and Gender on Number of Lifetime Sex Partners.

Table 6 shows a positive significant association between number of lifetime sex partners and sexual satisfaction, both before and after controlling for confounders, indicating that more sex partners in a lifetime relates to more sexual satisfaction. Table 6 also shows no significant interaction effect of number of lifetime sex partners and gender on sexual satisfaction, meaning that gender does not moderate the association between number of lifetime sex partners and sexual satisfaction. So, the previously described positive relationship between number of lifetime sex partners and sexual satisfaction is similar for men and women.

Table 6. *Linear Regression Analysis for Number of Lifetime Sex Partners and Sexual Satisfaction, moderated by Gender*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Regression without control variables					
Number of lifetime sex partners	.04	.00	.22	8.41	.00***
Step 1: Control variables					
Age	-.06	.01	-.16	-5.88	.00***
Gender	.03	.05	.02	.68	.50
Step 2: Research variable					
Number of lifetime sex partners	.05	.01	.27	10.12	.00***
Step 3: Interaction variable					
Number of lifetime sex partners*Gender	-.01	.01	-.02	-.82	.41

Note. Dependent variable is Sexual satisfaction. * $p < .05$. ** $p < .01$. *** $p < .001$.

Lastly, Table 7 shows that after controlling for number of lifetime sex partners, a more positive body image still relates to more sexual satisfaction, both before and after controlling for confounders. No complete mediation effect was found. However, before controlling for number of lifetime sex partners, the association between body image and sexual satisfaction had a β of .28 and after controlling a β of .25. The absolute value becomes smaller after controlling for number of lifetime sex partners, which may indicate a partial mediation effect. To determine whether the partial mediation effect is significant, the Sobel test was used. The reduction in the effect of the independent variable on the dependent variable, after including the mediator in the model, showed to be significant ($Z = 5.76$, $SE = .01$, $p < .001$). Therefore, the partial mediation effect is significant, meaning that number of lifetime sex partners partially mediates the relationship between body image and sexual satisfaction.

Table 7. *Linear Regression Analysis for Body Image and Sexual Satisfaction, controlled for Number of Lifetime Sex Partners*

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Regression without control variables					
Body image	.23	.03	.21	8.17	.00***
Number of lifetime sex partners	.03	.00	.18	6.96	.00***
Step 1: Control variables					
Age	-.06	.01	-.16	-5.88	.00***
Gender	.03	.05	.02	.68	.50
Step 2: Research variable					
Body image	.27	.03	.25	9.49	.00***
Number of lifetime sex partners	.04	.00	.23	8.88	.00***

Note. Dependent variable is Sexual satisfaction. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The aim of this study was to investigate the association between body image and sexual satisfaction among adolescents and whether number of lifetime sex partners mediated and gender moderated this association. It was found that adolescents with a more positive body image are more sexually satisfied. Also, this association can to some extent be explained by number of lifetime sex partners. Lastly, it was found that men have more sex partners than women, when they score high on body image, but no gender differences were found in the association between number of lifetime sex partners and sexual satisfaction.

Body image and sexual satisfaction

In line with hypothesis 1, the findings show that adolescents with a more positive body image, are more sexually satisfied. This finding corresponds with the empirical literature (Holt & Lyness, 2007; Træen et al., 2016), and is in line with the idea that adolescents with a positive body image are more focused on sexual pleasure, while adolescents with a negative body image focus more on other things during sex and will probably focus less on sexual pleasure and therefore are less sexually satisfied (Meana & Nunnink, 2006; Purdon & Holdaway, 2006).

The mediating role of number of lifetime sex partners

The results are partly in line with hypothesis 2, showing that number of lifetime sex partners partially mediates the association between body image and sexual satisfaction. Meaning that number of lifetime sex partners, to some extent, explains the association between body image and sexual satisfaction. These findings correspond with the empirical literature, stating that adolescents with a positive body image, have more sexual experience and believe they are more attractive. Therefore, they flirt (Trapnell et al., 1997), become more confident and have more sex partners. These sexual experiences with multiple partners, increase the skills and sexual competence (Pedersen & Blekesaune, 2003), so they are more sexually satisfied. Whereas adolescents with a negative body image, have less sexual experience (Faith & Schare, 1993) and therefore less sexual partners, because they avoid sexual activities out of embarrassment or discomfort (Gillen et al., 2006).

For future research, other variables should be taken into account when testing possible explanations for the association between body image and sexual satisfaction, since this study only found a partial mediation effect. Other variables that could possibly explain the association between body image and sexual satisfaction could be self-esteem or confidence, because adolescents with a more positive body image, will probably believe they are more attractive, which could lead to a higher self-esteem or more confidence and therefore have more sexual partners. Also, the degree of self-objectivation could be an underlying mechanism, because adolescents who pay too much attention to what their body looks like during sex, could be less sexually satisfied than adolescents who focus on their sexual pleasure.

The moderating role of gender

The findings of this study are in line with hypothesis 3, revealing that gender moderates the association between body image and number of lifetime sex partners. Indicating that men have more sex partners than women, when they score high on body image. This finding partly corresponds with the empirical literature (Gillen et al., 2006) stating that adolescents who positively evaluated their appearance, had more lifetime sex partners. However, this association was only significant for men after they tested appearance evaluation separately for men and women. Furthermore, the findings of this study can be explained by the SDS (Sanchez et al., 2012), which states that men are encouraged to be more sexually assertive and active than women, therefore men seek multiple sex partners more often than women. Moreover, the evolutionary perspective (Buss & Schmitt, 1993) states that men who are

perceived attractive by others, perceive themselves as more attractive, gain more confidence and because of their evolved desire for more sexual partners to achieve a greater reproductive success, men have more sex partners than women.

The findings of this study are partly in line with hypothesis 4, meaning that adolescents with more sex partners, are more sexually satisfied. However, no moderation effect of gender was found. This partly corresponds with the empirical literature (Pedersen & Blekesaune, 2003).

For future research, it should be taken into account that this study only focused on single adolescents. A possible explanation for not finding a moderating effect of gender, could be that single women only have access to sex when having sex with multiple sex partners, since they don't have a permanent partner to have sex with. These sexual experiences with multiple partners, could relate to increased skills and a better sexual competence, which could relate to more sexual satisfaction. Another possible explanation for not finding a moderating effect of gender could be that women might feel more empowered and comfortable these days to have more sex partners.

Strengths and limitations

The current study has several strengths and limitations. The first strength, is that the sample of this study was large and representative including many adolescents from different schools. Second, the scale for sexual satisfaction had a high Cronbach's Alpha, indicating that this scale is very reliable. Another strength, is that this research model has not been studied before, especially among single adolescents, which means this study is innovative.

There are also some limitations. First of all, only cross-sectional data were used, therefore no causal interpretations can be made. This means that a mediation effect can actually not be tested. For future research, it would be useful to look at the current research model with longitudinal data in order to determine the cause and effect of the mediation. A second limitation, is that a self-reporting survey was used, which could lead to social desirable answers. Another limitation, is that the scales for body image and sexual satisfaction are newly developed and are therefore not validated. Furthermore, the Cronbach's Alpha of the body image scale is very low, which means that this scale is not very reliable, this may have affected the results.

Conclusion and implications

The current study is one of the few studies that have assessed the direct link between body image and sexual satisfaction. It was found that a more positive body image related to more sexual satisfaction. This association could be partially explained by number of lifetime sex partners, Furthermore, men had more sex partners than women, when they scored high on body image. Gender differences did not play a role in the association between number of lifetime sex partners and sexual satisfaction. The findings of the current study have several implications for research. First, the findings contribute to existing knowledge regarding the association between body image and sexual satisfaction and what factors could play a role in this association. Second, the current study provides new insight into the role of number of lifetime sex partners, since almost no research has investigated number of lifetime sex partners in a central role.

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