

## MASTER THESIS

# **The Power of Positivity: Investigating the Influence of Body Image on Sexual Pleasure Through Sexual Agency, with a Focus on Pleasure-Inclusive Sex Education as a Moderator**



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*This thesis has been written as a study assignment under the supervision of an Utrecht University teacher. Ethical permission has been granted for this thesis project by the ethics board of the Faculty of Social and Behavioral Sciences, Utrecht University, and the thesis has been assessed by two university teachers. However, the thesis has not undergone a thorough peer-review process so conclusions and findings should be read as such.*

### Abstract

**Background:** The pervasive and gendered societal messages about young women's bodies often contribute to body image dissatisfaction which can negatively impact their ability to have pleasurable sexual experiences. This is problematic given the growing recognition of sexual pleasure's role in positive sexual health and wellbeing outcomes. This master thesis aims to deepen the understanding of how body image influences sexual pleasure among sexually active adolescent girls and young women in the Netherlands. It investigates the potential mediating role of sexual agency in the relationship, and if pleasure-inclusive sex education can further enhance young women's sexual agency in the pursuit of sexual pleasure.

**Research Question:** To what extent does sexual agency mediate the relationship between body image and sexual pleasure among sexually active adolescent girls and young women in the Netherlands, and is influenced by pleasure-inclusive sex education?

**Methods:** The analysis was done in SPSS utilizing existing data from Rutgers' large-scale study conducted in 2017 on the sexual health of young people aged 12-25 in the Netherlands (n = 7,959). It involved running a correlation matrix between the variables of interest and a moderated-mediation analysis using the "PROCESS" macro from Hayes (2022).

**Results:** The results indicated that a more positive body image is associated with increased sexual pleasure, partly explained by increased sexual agency. The study did not validate the expected moderation effect of pleasure-inclusive sex education on the relationship between sexual agency and sexual pleasure. Nonetheless, as previous research has linked pleasure-inclusive sex education to the ability to express sexual desires and boundaries and have more pleasurable sexual experiences, this study suggests future research investigates the moderating effect using other more comprehensive operationalizations.

**Conclusion:** Overall, this thesis contributes to furthering the understanding of the complex interplay between body image, sexual agency, and sexual pleasure. It provides compelling evidence for the prioritization of more targeted interventions that recognize body image as key to supporting young women to embrace their sexuality, negotiate their pleasure, and experience positive sexual health and wellbeing outcomes.

**Key words:** body image, body positivity, sexual agency, sexual pleasure, sexual health, sexual wellbeing, adolescent girls, young women, pleasure-inclusive sex education, sex-positive

## 1. Introduction

### 1.1 Problem description

Today's society forces young women to navigate complex and often harmful gendered messages around their bodies and sexuality (Tiggemann, 2012). It makes adolescent girls and young women particularly susceptible to body image dissatisfaction, which can negatively impact their sexual experiences in terms of safety, satisfaction, and pleasure (De Meyer, 2021; Reel et al., 2015; Træen et al., 2016). This is consistent with results from a 2017 national study in the Netherlands which found that sexually active young women tend to be less equipped to make sexual contact safe, desirable, and pleasurable as compared to their male peers (de Graaf et al., 2017). The study revealed that a significant number of young women struggle with body image insecurities during sex and rarely or never experience orgasm (de Graaf et al., 2017). This is concerning as adolescence and early adulthood is a developmental period when body consciousness is heightened and normative sexual behaviors and attitudes are formed (Kar et al., 2015; Vankerckhoven et al., 2022). Additionally, there's a growing recognition of the importance of pleasurable sexual experiences in positive sexual health outcomes and individuals' overall wellbeing (Ford et al., 2019). This study aims to contribute towards a more comprehensive understanding of

how body image influences sexual pleasure among sexually active adolescent girls and young women in the Netherlands. It investigates the extent to which sexual agency, or one's ability to assert sexual desires and boundaries may explain the relationship between body image and sexual pleasure. It also explores if pleasure-inclusive sex education can further enhance one's sexual agency in the pursuit of sexual pleasure.

## **1.2 Social & Scientific Relevance**

This investigation is grounded in the established link between a more positive body image and various aspects of pleasurable sexual experiences among young women, such as, comfort with sex, desire, arousal, orgasm, willingness to try new things, and the enjoyment and satisfaction derived from sexual interactions (Ackard et al., 2001; Carvalheira et al., 2016; Satinsky et al., 2012). It leverages the argument that sexual agency is rooted in one's relationship to the body (Chmielewski et al., 2022), where a positive perception of the body more easily facilitates an understanding of oneself as a sexual being with the ability to identify and act on one's sexual desires and boundaries (Grower & Ward, 2018). Evidence also shows that a more agentic sexual self plays an important role in achieving sexual pleasure (Grower & Ward, 2018; van den Brink & Vollmann, 2022). This indicates that sexual agency could partially explain the effect of body image on sexual pleasure. However, there is limited research into this specific mediation effect, especially among young women in the Netherlands. Understanding this mechanism could be an important starting point for future research into adolescent sexual wellbeing. If the study finds the anticipated mediation effect, it could help advance our understanding of how young women's perceptions of the body may influence their ability to express their needs and assert autonomy over their sexual experiences (Grower & Ward, 2018). This could highlight the potential for body image, through its impact on sexual agency, to act as a key target of interventions seeking to improve

young women's ability to achieve sexual pleasure and wellbeing (Vanwesenbeeck et al., 2021).

Existing evidence also shows that providing young people with accurate information on pleasure gives them the agency to consider what kind of sex they do or do not desire, and the tools to express these feelings, which can increase pleasurable sexual experiences and reduce harmful ones (Laan et al., 2021). Therefore, this study aims to provide insight into if pleasure-inclusive sex education can further enhance the sexual agency potentially gained, or counter any sexual agency lost, through one's body image and improve young women's ability to negotiate sexual pleasure. If the study shows the anticipated moderation effect, it could support policy efforts aimed at addressing the lack of education on the positive and enjoyable aspects of sex in Dutch sexual education (de Graaf et al., 2017). This is important in response to young women in the Netherlands often reporting only being taught about the risks and negative consequences of sexual behavior (de Graaf et al., 2017). Overall, the findings from this study could play an important role in responding to the individual and societal processes that often limit young women's power, possibility, or position to pursue their sexual pleasure and wellbeing (Cense, 2018).

### **1.3 Overview of existing research**

This study builds on existing research's findings about the complex relationship between women, their bodies, and sexual pleasure. Evidence suggests that body image plays an important role in shaping the cognitions and behaviors of women during sex that either facilitate or hinder the experience of pleasure (Woertman & van den Brink, 2012). Sexual pleasure involves the physical and/or psychological satisfaction obtained from sexual experiences (Gruskin et al., 2019). It does not rely solely on reaching orgasm but also on the context and feelings involved around sexual interactions and activities (Rye & Meaney, 2007). A hierarchical multiple regression analysis using cross-sectional data from 247

women, ages 18 to 58, found that higher body appreciation positively predicted the arousal, orgasm, and satisfaction aspects of sexual functioning (Satinsky et al., 2012). The study suggested that women who resist body image negativity often have different perceptions and preoccupations regarding their bodily appearance and experience a more satisfying sexual self (Satinsky et al., 2012). Van den Brink & Vollmann (2022) also suggest that the ability to reject or not internalize culturally dominant body ideals, specifically thin-ideals, reduces appearance-related self-consciousness and self-objectification during sex. Through a path analysis with cross-sectional data from 250 young adult Dutch women (age:  $M=22.98$ ,  $SD=2.98$ ), the authors showed that this reduction in self-consciousness and self-objectification was significantly related to greater sexual satisfaction. This study builds upon previous research by proposing that body image may not only influence levels of self-consciousness and pre-occupation during sex but may also influence one's ability to successfully identify and express sexual desires and boundaries leading to more pleasurable sexual experiences.

Supporting this argument, previous studies have shown that there is a consistent relationship between body image and higher levels of sexual agency (Chmielewski et al., 2020). A multiple linear regression analysis ( $n=687$ ) by Pinquart (2010) found that adolescent women in Germany with a less positive body image often expressed reduced feelings of sexual control and assertiveness and increased ambivalence toward sexual decisions. In contrast, a study by Grower & Ward (2018) demonstrated that women who reported greater body appreciation also reported better outcomes across various measures of sexual agency, such as condom use self-efficacy, sexual satisfaction, sexual assertiveness, feelings of entitlement to sexual pleasure, and lower levels of body self-consciousness during intimacy.

Research also suggests that sexual agency plays a significant role in achieving sexual pleasure. A path-analysis study found that sexual agency functions in service of both protection from harm (i.e., condom use and refusing unwanted sex) and enabling sexual pleasure (i.e., asking for what one wants from a sexual partner) (Chmielewski et al., 2020). However, more research is needed into how sexual agency develops during adolescence, especially among young women who are often subject to societal norms that inhibit sexually agentic behavior (Klein et al., 2018). By examining if body image may impact sexual pleasure through sexual agency, the results could unveil more about the individual and socio-cultural factors that may impact the development of sexual agency during adolescence.

Lastly, biological, neurological, and cognitive studies show that pleasure-inclusive messages attract more attention, are more easily remembered, and consistently produce improved attitudes and knowledge about sexual health, partner communication, condom use, and safer sex behaviors (Ford et al., 2019). It's argued that when an individual knows what is pleasurable and views themselves as positively sexual, they have more agency to make informed decisions about whether a sexual activity is wanted and negotiate sexual interactions (Lamb et al., 2013). This study contributes to this evidence by exploring if pleasure-inclusive sex education may enhance young women's sexual agency specifically in the pursuit of more positive and pleasurable sexual experience. This knowledge could inform interventions, educational programs, and policies aimed at promoting healthier and more fulfilling sexual experiences for young people.

#### **1.4 Theoretical approach**

In addition to leveraging previous research, this study takes an interdisciplinary theoretical approach. The approach builds on Bronfenbrenner's (1979) conceptualization of human development as situated within complex environmental layers that shape processes within the individual as well as between the individual and their context (Ettetal & Mahoney,

2017). It integrates theories which emerged from various fields of study, such as psychology, sociology, and cognitive sciences to understand the relationship between body image, sexual agency, and pleasure through the individual mental processes and behaviors and social and structural norms that shape them.

At an individual-relational level, the impact of body image on sexual pleasure through sexual agency is supported by the theory of embodiment first posited by Merleau-Ponty (1945). The theory suggests that a positive body image can play a key role in the process of embodiment, where a positive body image facilitates feeling more at one with the body, connected to its needs and desires, and feeling free to act and express oneself through the body (Burychka et al., 2021). Chmielewski et al. (2020) suggests that if a person is more physically connected and appreciative of their body, they may become more connected to their sexual feelings and more attuned to what feels good, bad, desirable, and undesirable. This heightened awareness may support young women to express what sexual activity is and is not wanted and promote seeking out and communicating around activities that satisfy desires (Chmielewski et al., 2020; Grower & Ward, 2018). This is reinforced by Cense's (2018) model of sexual agency which suggests a key component of sexual agency is developed through being in control of one's body and becoming a subject through the body.

At the structural and societal level, research into women's body image and sexuality draws heavily on Fredrickson's (1997) objectification theory. Objectification theory states that society teaches women from an early age that their appearance is a key aspect in how others perceive and evaluate them (Hill & Fischer, 2008). It places how women view their bodies and behave in response to a sociocultural context that treats women's bodies as objects valued for their usefulness to others (Fredrickson & Roberts, 1997). This objectification can lead women and girls to surveil their bodies and become preoccupied and dissatisfied with their appearance (Hill & Fischer, 2008). In the sexual context, this can lead to self-



consciousness and spectating during sex, or focusing on how others are viewing them rather than feeling and acting on their own sensations and desires (Woertman & van den Brink, 2012). This is again supported by Cense's (2018) model which emphasizes that sexual agency is not a trait freely acquired but shaped by a context that favors those who conform to societal ideals. This, in combination with objectification theory, suggests that young women with a negative body image may face more obstacles in building their sexual agency, while those with a positive body image who are more likely to reject societal body ideals and self-objectification can more easily assert themselves as active participants in their pleasure (Cense, 2018; Carvalheira et al., 2016; Lamb et al., 2013; Van den Brink & Vollmann, 2022).

Lastly, previous research also suggests that pleasure-inclusive sex education can promote embodiment by emphasizing the importance of connecting with one's body and sexual desires, and challenging societal constructions that objectify and devalue women's bodies (Chmielewski et al., 2020; Cense, 2018, Lamb et al., 2013, Zaneva et al., 2022; Laan et al., 2021). This may enhance young women's understanding of their sexual preferences and boundaries and support the negotiation of their pleasure (Lamb et al., 2013).

### **1.5 Research question(s)**

Building on previous research and this theoretical approach, the main research question is: To what extent does sexual agency mediate the relationship between body image and sexual pleasure among sexually active adolescent girls and young women in the Netherlands, and whether it is influenced by pleasure-inclusive sex education?

The study hypothesizes that there is a positive association between body image and sexual pleasure, between body image and sexual agency, and between sexual agency and sexual pleasure. The study also hypothesizes that the relationship between body image and sexual pleasure flows through and can be explained by sexual agency, where a more positive body image leads to greater sexual agency and then improved sexual pleasure. The study

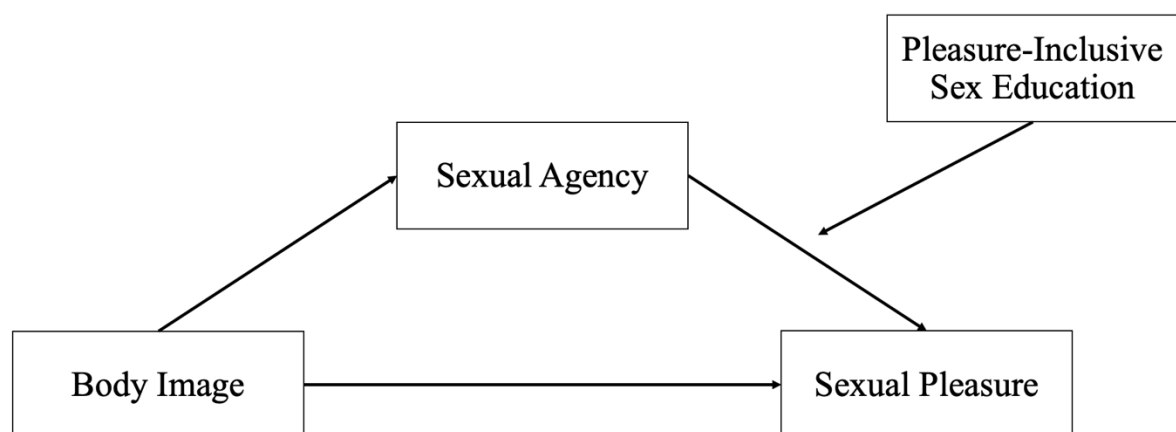
predicts that the relationship between sexual agency and sexual pleasure is also moderated by pleasure-inclusive sex education. It is hypothesized that the effect of sexual agency on sexual pleasure will be stronger for individuals who have received pleasure-inclusive sex education as compared to those who have not.

- *H1: Body image is positively associated with sexual pleasure.*
- *H2: Body image is positively associated with sexual agency.*
- *H3: Sexual agency is positively associated with sexual pleasure.*
- *H4: Sexual agency mediates the relationship between body image and sexual pleasure.*
- *H5: The relationship between sexual agency and sexual pleasure is strengthened by pleasure-inclusive sex education.*

The model is depicted in Figure 1.

### Figure 1

*Moderated-Mediation Model Between Body Image, Sexual Agency, Pleasure-Inclusive Sex Education, And Sexual Pleasure*



## **2. Research Methods**

### **2.1 Design and procedures**

This research uses Rutgers' 'Sex under the age of 25' data set, a large-scale representative study of sexual health among young people aged 12-25 in the Netherlands. The study was conducted in 2017 by Rutgers and Soa Aids Nederland in partnership with regional public health services, Statistics Netherlands (CBS), I&O Research, the Dutch National Institute for Public Health and the Environment (RIVM), and funded by the Ministry of Health, Welfare, and Sport. The data was collected through digital questionnaires addressing a wide range of sexuality-related topics and leveraged a Participatory Action Research approach (de Graaf et al., 2017). The data set was selected for this research as it includes a unique and broad cross-sectional view of adolescent sexual health in the Netherlands.

### **2.2 Participants and recruitment**

Inclusion criteria included age (12-25), the ability to speak Dutch, and completion of at least 90% of the questionnaire (de Graaf et al., 2018). The current study only included sexually active female-identifying respondents and 'sexually active' was purposefully broadly defined as oral, vaginal, or anal sex. Between two women, sex with fingers or sex toys was also included. In the original study, those aged 12-16 were recruited via randomly selected secondary schools spread throughout the Netherlands. Selected schools and students were able to choose to participate in the survey. Those aged 17-25 years old were randomly selected via a sample from Statistics Netherlands (CBS) drawn from the municipal population registers (GBA) (de Graaf et al., 2018). GBA participants received a letter in which they were invited to participate. In 2017, the final study sample consisted of nearly 20,500 young people. The original researchers considered the normal distribution of the

population in the process, and the final sample was weighted to be representative of the population of young people aged 12-25 in the Netherlands (de Graaf et al., 2018).

### **2.3 Ethical aspects**

In the original study, all survey participants provided informed consent (de Graaf et al., 2018). Teachers informed students of the study and presented a letter to parents about the nature of study and their right to refuse their child's participation. The study did not force any schools or participants to complete the survey and participants could stop completing the survey at any time. Teachers were given complete instructions for how to administer the survey and ensure that participants were comfortable. The confidentiality of participants' responses and private information was done through anonymous survey completion and presentation of results. Additionally, there was no tracking of unique participants over time. The current study also required a contract of data confidentiality and conduct with Rutgers. It was agreed that data could only be accessed at the Rutgers' office. All raw data files were deleted after analysis and did not leave the Rutgers' office. For the original study, the RIVM provided a letter of exemption from formal medical ethical approval, however, the most recent version of the 'Sex under the age of 25' study did receive medical ethical approval from the ethical review board of Utrecht University Faculty of Social Sciences in 2022. The current study received FERB clearance by the University of Utrecht's Ethical Review Board.

### **2.4 Variables of interest and operationalization**

Utilizing the original 'Sex under the age of 15' questionnaire items, the following variables were constructed:

#### ***'Body Image' (independent variable)***

'Body image' was operationalized by constructing a variable based on the mean of summed scores of 6 items: "How do you feel about your body: (1) face; (2) buttocks; (3) belly; (4) genitals; (5) figure; and (6) appearance in general" (de Graaf et al., 2017). Each

item consisted of a 5-point Likert scale with answers ranging from ‘very satisfied’= 1; ‘satisfied’ = 2; ‘satisfied/not-satisfied’ = 3; ‘dissatisfied’ = 4; ‘very dissatisfied’ = 5. The items were recoded to ensure that for all items in the scale a higher score equaled more positive body image. The scale was reliable ( $\alpha = 0.81$ ).

***‘Sexual Pleasure’ (dependent variable)***

Sexual pleasure is operationalized by assessing individuals' perception of pleasure, and capturing important aspects of pleasure, including an individual's knowledge of what they find pleasurable, the importance they place on sexual activities, and their openness to exploring new sexual experiences (de Graaf et al., 2017). As such, ‘sexual pleasure’ was operationalized by constructing a variable based on the mean of summed scores of 4 items: “What do you think of the following statements: (1) I find sex pleasurable; (2) I know what I like; (3) I want to try all kinds of sex; (4) Sex is important to me” (De Graaf et al., 2017). Each question consists of a 5-point Likert scale with answers ranging from ‘completely disagree’ = 1; ‘disagree’ = 2; ‘agree-disagree’ = 3; ‘agree’ = 4; ‘completely agree’ = 5. The scale was reliable ( $\alpha = 0.81$ ).

***‘Sexual Agency’ (mediating variable)***

In line with previous operationalizations, interaction competence was used as a proxy for sexual agency. Drawing on the Sexual Interaction Behavior Scale (Vanwesenbeeck et al., 1998), ‘sexual agency’ was operationalized through combining relevant constructs of control, determination, orchestration, and boundary setting in sexual interactions. ‘Sexual agency’ was constructed by calculating the mean of the summed scores to 12 items. The first 6 items indicated levels of sexual communication while the following 6 items indicated actions and experiences during sex: “What did you talk about with your last sex partner: (1) The things I like to do during sex; (2) The things I *don't* like to do during sex; (3) Pregnancy prevention (4) Condom use (5) Their previous sexual experiences (6) My previous sexual experiences,”

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and “How often did the following happen with your sexual partner (7) I felt at ease (8) I let them know what I liked (9) I had little to say about what happened (10) I did things I didn’t want to do (11) I asked the other person what he/she liked (12) I felt insecure about how I looked” (de Graaf et al., 2017). Each question consists of a 5-point Likert scale with answers ranging from ‘never’ = 1; ‘once’ = 2; ‘regularly’ = 3; ‘often’ = 4; ‘always’ = 5. Items were recoded to ensure that for all items a higher score equaled more sexual agency. The scale was reliable ( $\alpha = 0.82$ ).

### ***‘Pleasure-Inclusive Sex Education’ (moderating variable)***

Indication of if participants received pleasure-inclusive sex education was measured through the question: “How much information did you receive at school on the following: (1) the fun (pleasurable) sides of sex” (De Graaf et al., 2017). This was one item in a question around the comprehensiveness of participants’ school-based sex education. Participants indicated the amount of information provided on various topics, including pleasure. The item was made into a dichotomous variable indicating if pleasure was included or not (0 = “none”, 1 = combined responses for “very little, enough, a lot”).

### ***Control Variables***

Several control variables were included. Based on previous research, the potential confounding variables included age, ethnicity, religious affiliation (and level of religiosity), schooling level, frequency of sex, and if you’ve had sex with your most recent sexual partner more than once (Woertman & van den Brink, 2012).

## **2.5 Data analysis**

Before analysis, descriptive statistics were run to gain insight into the research sample composition. Missing values were replaced by variable means and multivariable outliers were removed. The assumptions of linearity, normality, multicollinearity, and homoscedasticity were checked, and a correlation analysis was conducted to ensure relationships existed

between the main variables of the study. A moderated-mediation analysis was then performed with the widely-used “PROCESS” macro v4.3 for SPSS to estimate the direct effects (the relationship between body image and sexual pleasure that is not explained by sexual agency), indirect effects (the relationship between body image and sexual pleasure that is transmitted through sexual agency), the conditional indirect effects (how the strength of this indirect effect varies as a function of pleasure-inclusive sex education), and the total effect (the effect of body image on sexual pleasure, regardless of whether or not it is mediated by sexual agency) (Igartua & Hayes, 2021). “PROCESS” generates 95% ‘bias-corrected’ bootstrap confidence intervals which were used to test the significance of these effects (Abu-Bader & Jones, 2021).

### 3. Results

#### 3.1 Descriptive Statistics

After filtering for sexually active female-identifying participants, a total sample of 8,018 participants was available for analysis. Among this sample, the majority were of Dutch or ‘Western’ background (91.4%), were not religious (76.8%), and had completed some form of mid to higher-level education (63.5% had completed havo, vwo, mbo, hbo, or wo). Table 1 displays the study participants’ sociodemographic characteristics.

**Table 1**

*Sociodemographic Characteristics Of Female-Identifying ‘Sex Under The Age Of 25’ Study Participants (n=8,018)*

<b>Demographics</b>		
<b>Age (m, SD)</b>	20.48	2.48
<b>Educational Attainment (n, %)</b>		
	Lower 2,833	35.5
	Higher 5,157	63.5
<b>Ethnicity (n, %)</b>		
	Dutch 7,331	91.4
	Turkish 57	0.7
	Moroccan 34	0.4

	Surinamese	177	2.2
	Antillean	106	1.3
	Other	313	3.9
<b>Religion (n, %)</b>			
	Not religious	6,158	76.8
	Christian (a bit religious)	1,267	15.8
	Christian (very religious)	375	4.7
	Islamic	125	1.6
	Other	91	1.1

Table 2 displays the descriptive statistics for the main variables of interest. Prior to analysis, 59 multivariable outliers were identified using Mahalanobis distances and removed from the sample (remaining valid  $n = 7,959$ ) (Field, 2012). Sexual agency was mean centered to prevent multicollinearity due to the interaction term in the model, after which, no multicollinearity was detected (Field, 2012). All VIF-values remained well below the threshold of 10 (Field, 2012). All variables appeared to be linear and normally distributed after visual inspection of Q-Q plots and histograms respectively. Measures of skewedness and kurtosis were also within limit for each variable, and given the large sample size, the small departures from normality did not prevent employing the parametric statistical methods. This is based on the Central Limit Theorem which states that a regression analysis is robust against violations of normality if the sample size is high ( $N > 30$ ) (Field, 2012). Normality of the residuals was also checked and confirmed through visual inspection of the P-P plot. Homoskedasticity was not a concern as bootstrapping (5000 samples) was used to perform the analysis, which results in heteroscedasticity consistent standard error (Abu-Bader & Jones, 2021).

## **Table 2**

*Descriptive Statistics Of Sexual Pleasure, Body Positivity, Sexual Agency, And Pleasure-Inclusive Sex Education Among Sexually Active Female-Identifying 'Sex Under The Age Of 25' Study Participants (n=7,959)*



Variables of Interest		
<b>Sexual Pleasure (m, SD)</b>	3.98	0.62
<b>Body Positivity (m, SD)</b>	3.48	0.66
<b>Sexual Agency (m, SD)</b>	3.42	0.68
<b>Pleasure-inclusive Sex Education (n, %)</b>		
Pleasure Included	3,000	38%
Pleasure Not Included	4,959	62%

*Note.* The range for all scale variables was 1-5.

Table 3 presents the correlations between the main variables. As hypothesized, significant positive correlations were found between body image and sexual pleasure ( $r = .19$ ,  $p < .001$ ), between body image and sexual agency ( $r = .19$ ,  $p < .001$ ), and sexual agency and sexual pleasure ( $r = .39$ ,  $p < .001$ ). However, no significant association was found between pleasure-inclusive sex education and sexual pleasure. This suggested that sex education may not be a moderator between sexual agency and sexual pleasure as hypothesized.

### Table 3

*Pearson's Correlations Between Sexual Pleasure, Body Positivity, Sexual Agency, And Pleasure-Inclusive Sex Education Among Sexually Active Female-Identifying 'Sex Under The Age Of 25' Study Participants (n=7,959)*

Variables	1	2	3	4
<b>Sexual Pleasure</b>	--			
<b>Body Positivity</b>	.19**	--		
<b>Sexual Agency</b>	.39**	.19**	--	
<b>Pleasure-inclusive Sex Education</b>	.01	.04**	.06**	--

\*\* Correlation is significant at the 0.01 level (2-tailed).

### 3.2 Main Analysis

The moderated-mediation model was significant and explained 20% of the variance in experienced pleasure ( $R^2 = 0.20$ ,  $p < .001$ ) and confirmed H1-H4. However, as suspected, H5 was not supported as there was no significant interaction effect between sexual agency and pleasure-inclusive sex education on sexual pleasure ( $\beta = -0.01$ ,  $p = .73$ ). To ease

interpretation of results, sex education was removed as a moderator. To test the hypothesis that sexual agency mediates the effect of body image on sexual pleasure, a new mediation analysis was conducted using the “PROCESS” macro model 4 in SPSS. Pleasure-inclusive sex education was added as a control variable instead. The results are shown in Table 4.

The total effect of body image on sexual pleasure (path c) was significant and positive ( $\beta = .15, p < .001$ ), indicating that body image had a significant positive overall effect on sexual pleasure. The direct effect of body image on sexual pleasure (path c') was also significant and positive ( $\beta = .10, p < .001$ ), indicating that body image had a significant positive effect on sexual pleasure even after accounting for the effect of sexual agency. The indirect effect of body image on sexual pleasure through sexual agency was also significant and positive ( $\beta = .05, 95\% \text{ CI } [.04, .06]$ ). This suggests that sexual agency partially mediated the effect of body image on sexual pleasure. The results also revealed that experiences of sexual pleasure increased with age ( $\beta = .02, p < .001$ ) as well as with the frequency one is having sex ( $\beta = .08, p < .001$ ). However, the more religious someone is, the less sexual pleasure they experienced ( $\beta = -.07, p < .001$ ), and in contrast to the expected result, pleasure-inclusive sex education had a borderline significant negative effect on sexual pleasure ( $\beta = -.03, p = .05$ ). Overall, the mediation model had a good fit, with the R-squared value indicating that body image and sexual agency accounted for 20% of the variance in sexual pleasure. The model results are also shown in Figure 2.

#### **Table 4**

*Detailed Regression Results For A Mediation Model Including Body Image (X), Sexual Agency (M), And Sexual Pleasure (Y) Among Sexually Active Female-Identifying ‘Sex Under The Age Of 25’ Study Participants (n =7,928)*

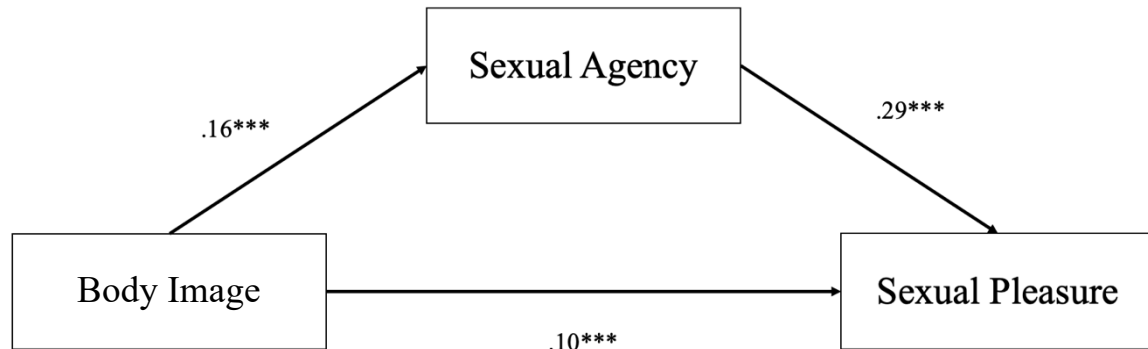
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Variable	Model 1 X > M			Model 2 X > Y			Model 3 X > M > Y		
	$\beta$ (SE)	t	p	$\beta$ (SE)	t	p	$\beta$ (SE)	t	p
Constant	2.47*** (.08)	31.15	.00	2.88*** (.07)	39.03	.00	2.15*** (.07)	28.70	.00
Body Positivity (X)	.16*** (.01)	14.08	.00	.15*** (.01)	14.07	.00	.10*** (.01)	10.04	.00
Sexual Agency (M)	--	--	--	--	--	--	.29*** (.01)	27.99	.00
Age	-.02 *** (.00)	-5.67	.00	.01*** (.00)	4.90	.00	.02*** (.00)	6.99	.00
# Sexual Encounters with Last Sex Partner	.39*** (.02)	15.99	.00	.10*** (.20)	4.45	.00	-.01 (.02)	-.59	.55
Freq. of Sex	.12*** (.01)	18.73	.00	.12*** (.01)	18.61	.00	.08*** (.01)	13.38	.00
Ethnicity	.01 (.03)	.21	.83	.01 (.03)	.37	.71	.01 (.02)	.02 (.31)	.75
Religion	-.02 (.01)	-1.45	.15	-.07*** (.01)	-7.20	.00	-.07*** (.01)	-7.00	.00
Education Level	.01 (.02)	.96	.34	-.01 (.01)	-.36	.72	-.01 (.01)	-.69	.49
Pleasure-Inclusive Sex Education	.08*** (.01)	5.15	.00	.00 (.01)	-.29	.77	-.03 (.01)	-1.99	.05
<i>F</i>	167.00***			111.78***			204.96***		
<i>R</i> <sup>2</sup>	.16			.11			.20		
<i>p</i> -value	.00			.00			.00		

\*\*\**p* < .001

**Figure 2**

*Mediation Model Including Results: Body Image (X), Sexual Agency (M), and Sexual Pleasure (Y)*



*Note.* Path a = .16\*\*\*, path b = .29\*\*\*, path c = .15\*\*\*, path c' = .10\*\*\* controlling for age, # sexual encounters with last sex partner, freq. of sex, ethnicity, religion, education level, pleasure-inclusive sex education.

\*\*\*  $p < .001$

## 4. DISCUSSION

### 4.1 Interpretations & Implications

The study's findings have important implications for researchers, practitioners, and policy makers in the field of sexual health. The study's results partially support the hypothesis that sexual agency mediates the relationship between body image and sexual pleasure among sexually active young women in the Netherlands. The results suggest that the more positive body image one has, the more sexual pleasure one experiences which can be partially explained by an increase in one's sexual agency. This evidence lends support to practitioners and policymakers to consider how more body-image aware programs and interventions may better equip young women to have agency over their sexual wellbeing. It highlights the importance of including sexual agency as a fundamental mechanism in the relationship between body image and sexual pleasure in future research. The significant findings also provide a base for future studies to explore similar models but that investigate body image as two distinct constructs, either body negativity or body positivity (Kusina &

Exline, 2019). Research has shown positive and negative body image involve different perceptions, evaluations, and emotional responses towards one's body (Tylkla, 2018). Thus, future research should investigate how the mediating role of sexual agency may differ if body image is operationalized as either body negativity or body positivity. This could provide interesting insights for policy makers and practitioners to understand the most effective way to target body image to increase young women's sexual agency and promote sexual pleasure.

The findings may also provide empirical evidence for the study's theoretical arguments. It could imply that women with a positive body image may in fact more easily embrace their embodied sexuality, reject objectification, and play more active roles in pursuing and enjoying sexual pleasure. However, given objectification theory's and Cense's (2018) conceptualization of sexual agency as a product of societal influences, the use of this study's findings should not place the responsibility of developing an improved body image and cultivating a stronger sense of sexual agency solely on the individual, but also on the broader environmental context (Kusina & Exline, 2019). Policy efforts should address body image in a way that both supports young women's embodiment and ability to view their bodies as sources of agency, as well as address the societal factors that perpetuate self-objectification and negatively influence young women's body image and healthy sexual development (Kusina & Exline, 2019). For example, initiatives could emphasize the need for media, advertising, and entertainment industries to promote diverse and inclusive representations of body image that showcases a wide range of body types.

The study also underscores the importance of sociocultural and demographic factors in shaping body image and sexual experiences. For example, age and sexual frequency had significant positive effects on sexual pleasure. This is consistent with theory and evidence that suggests that one's sexual agency and subjectivity increases with age and more sexual experience (Horne & Zimmer-Gembeck, 2005). It's also been shown that younger adolescent

women in the Netherlands report less positive views of sex, and enjoy sex less as compared to older adolescent women (de Graaf et al., 2017). These findings suggest that it could be important to tackle body image and embodiment from a young age as younger adolescents may be less equipped to make their early and formative sexual experiences positive and pleasurable (Kusina & Exline, 2019). This study's findings may also have important implications for sex education programs that target adolescents and young women from more religious backgrounds, as it suggests that these individuals may need additional support and education to fully enjoy their sexual experiences.

The effect of body image on sexual pleasure, however, remained significant in the presence of sexual agency. This means there's still an opportunity for future research to add other mechanisms to the model that may provide a more comprehensive understanding of the pathways from body image to sexual pleasure. For example, incorporating other mechanisms that have shown to play a key role in previous research and theory, such as pre-occupation and self-objectification (Satinsky et al., 2012; Van den Brink & Vollmann, 2022) or other dimensions of embodiment, such as, awareness of one's physical feelings of desire, pleasure, and/or sexual responses (Chmielewski et al., 2020; Horne & Zimmer-Gembeck, 2005). Adding these mechanisms to the model may help explain the relationship between body image and sexual pleasure more holistically.

Lastly, the study did not show a significant interaction effect between pleasure-inclusive sex education and sexual agency on sexual pleasure. This indicates that pleasure-inclusive sex education may not enhance the relationship between sexual agency and pleasure as hypothesized. Interestingly, in the mediation model, pleasure-inclusive sex education also presented a significant negative effect on sexual pleasure. Both results may not show the anticipated effect due to the operationalization of pleasure-inclusive sex education. It relied solely on whether participants received information on the 'fun' sides of sex. Future research

should explore operationalizations beyond inclusion of pleasure as a separate topic but also as a measure of the positive pedagogical approach used to introduce all topics of sexual education (Kantor & Lindberg, 2020). Additionally, the Netherlands may have presented a difficult landscape to investigate the effects of pleasure-inclusive sex education. Research has shown that very few adolescents receive information on sexual pleasure through sex education at schools. For example, teachers and school directors report that only 22 to 33% of Dutch sexual education programs in schools address sexual pleasure at all (van Ditzhuijzen & Reitzema, 2020; Beek & Reitzema, 2022), and only 38% of young women in this study's sample reported the presence of information on pleasure in sex-education at school. The limited inclusion of pleasure in sex education at schools and the discrepancies in its reporting highlights the need for future research to improve its operationalization and investigate its effects further.

#### **4.2 Methodological strengths & limitations**

The strength of this research is that it used data from a large representative sample and provided a comprehensive picture of adolescent sexual health in the Netherlands. However, it is difficult to say the findings of this research are generalizable to other cultures and contexts. The study also relied on self-reported data, which may be subject to bias and may not accurately reflect participants' experiences (Schmier & Halpern, 2004). It should also be acknowledged that the causal direction between body image and sexual pleasure cannot be inferred from the mediation found in this study. Even though body image tends to precede sexual experiences in time (Sanchez & Kiefer, 2007), it is also possible that the associations in this model flow bi-directionally. For example, improved body image may increase sexual agency and pleasure, but it could be equally that experiencing more pleasure during sex increases one's sexual agency and appreciation for one's body.

### **4.3 Conclusion**

The study's findings suggest that a more positive body image may contribute to increased sexual agency and sexual pleasure among young women in the Netherlands. These findings highlight the importance of targeting body image and sexual agency, in the form of communication and interactions with one's sexual partners, as key predictors of sexual pleasure. The study also highlights the importance of addressing these topics in early adolescents and the role of sociocultural factors, such as religious beliefs, in sexual health and well-being. Despite the study's limitations, the significant findings present a compelling case for policy makers and researchers to delve further into the intricate relationship between body image, sexual agency, and sexual pleasure. It also provides the foundation for developing evidence-based policies and interventions focused on targeting body image as a way to enable young women to achieve pleasure and improve sexual wellbeing outcomes.



## 5. References

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