

The importance of sexual communication for sexual satisfaction among adolescents and
young adults in The Netherlands

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Thesis (201800140)

Project group 08

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Due date: 07-06-2019

Word count: 4097

Abstract

Previous studies examined the relationship between more frequent sexual communication between partners and higher sexual satisfaction in non-Dutch populations. The current study contributes to the existing literature by focussing on Dutch youth and exploring whether maturity, more frequent sexual communication with friends and being in a romantic relationship are related to higher sexual satisfaction, and whether this can be explained by more frequent sexual communication with the sexual partner. To test the hypotheses, the dataset of the cross-sectional study 'Sex under the age of 25' (2012) including Dutch youth between 12 and 25 years old ($N=7841$) was used. Results show that more frequent sexual communication with friends is related to more frequent sexual communication with the sexual partner and higher sexual satisfaction. Furthermore, higher sexual satisfaction is associated with being in a romantic relationship. However, sexual communication with the sexual partner could not explain this. Overall, findings suggest that more frequent sexual communication with friends and the sexual partner are related to higher sexual satisfaction. This could be integrated within sexual education and research related to sexuality.

Key words: adolescents, sexual communication with friends and partner, romantic relationship, sexual satisfaction

Samenvatting

Eerdere studies onderzochten de relatie tussen meer frequente seksuele communicatie tussen partners en hogere seksuele tevredenheid bij niet-Nederlandse populaties.

De huidige studie draagt bij aan de bestaande literatuur door zich te focussen op de Nederlandse jeugd en te onderzoeken of volwassenheid, meer frequente seksuele communicatie met vrienden en het hebben van een romantische relatie gerelateerd is aan een hogere seksuele tevredenheid, en of dit kan worden verklaard door meer frequente seksuele communicatie met de seksuele partner. Om de hypothesen te testen, werd de dataset van het cross-sectionele onderzoek 'Seks onder je 25^{ste} (2012) met een steekproef van Nederlandse jongeren tussen 12 en 25 jaar (N = 7841) gebruikt. Uit de resultaten blijkt dat meer frequente seksuele communicatie met vrienden gerelateerd is aan meer frequente seksuele communicatie met de seksuele partner en hogere seksuele tevredenheid. Bovendien wordt een hogere seksuele tevredenheid geassocieerd met het hebben van een romantische relatie. Echter, kon dit niet verklaard worden door seksuele communicatie met de seksuele partner. Over het algemeen suggereren de bevindingen dat meer frequente seksuele communicatie met vrienden en met de seksuele partner gerelateerd is aan hogere seksuele tevredenheid. Dit kan worden geïntegreerd in seksuele voorlichting en onderzoek omtrent seksualiteit.

Kernwoorden: adolescenten, seksuele communicatie met vrienden en met de seksuele partner, romantische relatie, seksuele tevredenheid

Introduction

A satisfying sexual life has been positively associated with general well-being, overall life satisfaction, and happiness (Stephenson, Ahrold, & Meston, 2011). Sexual satisfaction refers to feeling contentedness with one's sexual interactions and moments of pleasure during sex, or experiencing 'good' sex more generally (Joannides, 2006). Why is it that some people are more satisfied with their sexual life than others? Recent research reveals that older adolescents, individuals who have a lot of sexual communication with their friends, and people within a romantic relationship report higher levels of sexual satisfaction, compared to younger people, individuals who have less sexual communication with their friends, and singles (Blunt-Vinti, Wheldon, McFarlane, Brogan, & Walsh-Buhi, 2016; Denes, Afifi, & Granger, 2017; Prinstein & Dodge, 2008). This can be explained by more sexual communication with the sexual partner (DeLuca et al., 2015). This is consistent with literature that states that sexual communication about desires and boundaries with the sexual partner is an important predictor for sexual satisfaction (DeLuca et al., 2015). Sexual communication is also fundamental to improve sexual satisfaction because it enhances sexual confidence and it improves individuals' sexual satisfaction because they do what they like and get understanding from others (Mastro & Zimmer-Gembeck, 2015). Furthermore, it is important to consider the differences between males and females in those associations with sexual communication. To illustrate this, males communicate more with friends about whom they have sex with (Frith, 2015) while women are more likely to communicate with friends about the emotional aspects of sex (DeLuca et al., 2015). Communication with friends about the emotional aspects of sex could be more strongly associated with sexual communication because it provides more skills and confidence to communicate about sex with the sexual partner (DeLuca et al., 2015). There are currently no Dutch statistics available on how communication about sexuality, either with friends or with the sexual partner - may contribute to sexual satisfaction among adolescents and young adults in the Netherlands. Therefore, the aim of this study is to examine whether the relationship between being an older adolescent, more frequent sexual communication with friends, and being in a romantic relationship is related to higher levels of sexual satisfaction and whether this could be explained by more frequent sexual communication with the sexual partner in Dutch youth.

Sexual Communication and Sexual Satisfaction

Sexual communication refers to communication about sexual desires and fantasies, and communicating about sexual likes and dislikes (Montesi, Fauber, Gordon, & Heimberg, 2010). A recent study of Blunt-Vinti and colleagues (2016) reveals that older adolescents reported more sexual satisfaction compared to younger adolescents. This might be explained by more sexual communication with the sexual partner, because sex becomes a more important topic when people become older (Flynn et al., 2016). As people grow older, they become more comfortable engaging in sexual communication with their sexual partner about their desires and therefore report more sexual satisfaction (Flynn et al., 2016). Therefore, this paper posits that there is a positive association between age, sexual communication, and sexual satisfaction (see Figure 1).

Sexual communication between friends is related to higher sexual satisfaction (DeLuca et al., 2015; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014). Current research suggests that more sexual communication with friends is associated with higher levels of sexual communication with the sexual partner (DeLuca et al., 2015), which leads to more sexual satisfaction (Mastro & Zimmer-Gembeck, 2015). It is possible that adolescents learn from sexual communication with friends and integrate this into sexual communication with their sexual partner (Prinstein & Dodge, 2008). This is supported by the findings of Mastro and Zimmer-Gembeck (2015), who state that when young adults engage in sexual communication with their friends, they feel more confident to talk with their sexual partner and therefore report higher sexual satisfaction.

Sex can take place in long-term contexts, such as romantic relationships, and short-term contexts, including one-night stands (having sex with a partner only once) (Landgraf, Von Treskow, & Osterheider, 2018). Many studies found that when individuals have a romantic partner, their sexual satisfaction will be higher (e.g. Denes, Afifi, & Granger, 2017; Mark & Jozkowski, 2013). This could be explained by better and more frequent sexual communication with their sexual partner by those within a romantic relationship (Mark & Jozkowski, 2013). This is further supported by Jones, Robinson, and Seedall (2017), who argue that it is impossible to improve sexual satisfaction when there is a lack of sexual communication in a relationship. In contrast to people within a romantic relationship, individuals who have sex out of the long-term context, are less likely to experience sexual satisfaction (Lehmiller, VanDerDrift, & Kelly, 2014). This could be because individuals within a romantic relationship are more likely to engage in sexual communication with a sexual partner than those without a romantic relationship (Lehmiller et al., 2014).

There could also be an association between whether the sexual partner is a romantic partner or not – i.e. being in a romantic relationship or not – sexual frequency and sexual satisfaction. Recent research reveals that individuals in a romantic relationship are more sexually satisfied than singles (Antičević, Britvić, & Jokić-Begić, 2017). The higher sexual frequency for individuals within a romantic relationship - is identified as a crucial factor in the difference between individuals within and without a romantic relationship (Antičević et al., 2017; Lehmann et al., 2014). Consequently, it is hypothesized that the higher sexual satisfaction in those within a romantic relationship can be explained by a higher sexual frequency.

Gender differences

Studies show that males, in general, are more sexually satisfied compared to females (e.g. Lehmiller et al., 2014; Owen & Fincham, 2011). However, are all the associations the same for males and females? Older people tend to communicate with their sexual partner more often, especially women (Widman et al., 2014). Older females are more likely than their male counterparts to recognise the importance of sexual communication with the sexual partner, because they do want control over their sexual life, so females get more benefit from it (Tetley, Lee, Nazroo, & Hinchliff, 2016). Therefore, this paper posits that the association between age and sexual communication with the sexual partner is stronger for women.

Research found that the association between sexual communication with friends and sexual communication with their sexual partner, is different for males and females, because the quality and content of the conversations could be different (DeLuca et al., 2015). To illustrate this, males talk more frequently with friends about whom they have had sex with and what acts they engaged in, while women more often discuss the emotional aspects of sex, such as their feelings (DeLuca et al., 2015). Sexual communication between friends about the emotional aspects provides women with more sexual confidence and skills to communicate about sex with their sexual partner (DeLuca et al., 2015; Flynn et al., 2016). Therefore, we expect that the association between sexual communication with friends and sexual communication with the sexual partner is stronger for females.

Furthermore, the relationship between being in a romantic relationship and sexual communication with a sexual partner could be stronger for females than for males (Mark, Garcia, & Fisher, 2015). Because males pursue sex that is physically satisfying, while women find the emotional aspect of sex more important and therefore have more need for sexual communication in a romantic relationship (Mark et al., 2015).

Consequently, it is hypothesized that the higher sexual communication with a sexual partner in those who are in a romantic relationship can be explained by gender (females).

Studies also indicate that the relationship between sexual communication with the sexual partner and sexual satisfaction appears to be stronger among females (e.g. Mastro & Zimmer-Gembeck, 2015). Because women communicate more about the emotional aspects which could be more strongly associated with sexual satisfaction, because it enhances more understanding from the other, compared to the communication about the physical aspects of sex, which are more common by males (Montemurro, Bartasavich, & Wintermute, 2015). Therefore, we expect that more sexual communication with a sexual partner is related to higher sexual satisfaction, especially among females.

Women and men have different motivations for having sex and those motivations are associated with sexual satisfaction (Gatzeva & Paik, 2009; Meston & Buss, 2007). Research found that men report incentives connected to physical elements, including ‘the person was too “hot” (sexy) to resist’ and ‘I wanted to achieve an orgasm’ (Meston & Buss, 2007). Conversely, women report more emotional reasons for having sex, with statements such as ‘I wanted to express my love for the person’ (Meston & Buss, 2007). These different motivations could explain gender differences in sexual satisfaction: males are more sexual satisfied, because they report more physical motivations for sex, which are more strongly associated with sexual satisfaction (Salisbury & Fisher, 2014). For example, most men (90%) indicate that they usually have an orgasm during sex, while this is less common for women (70%) (Salisbury & Fisher, 2014).

However, it can be assumed that when people are sexually satisfied, this leads to more motivations for having sex since previous named cross-sectional studies (e.g. Meston & Buss, 2007) only reveal associations. Surprisingly, Meston and Buss (2007) do not explicitly refer to the possibility that sexual satisfaction could lead to more motivations for sex. To illustrate that sexual satisfaction could be a predictor for motivations for sex, research found out that (within a romantic relationship) individuals who are satisfied with their relationship, are more motivated to stay satisfied and to keep working on their relationship, through communicating with each other (Hawrilenko, Eubanks Fleming, Goldstein, & Cordova, 2015). Unfortunately, there is no research conducted yet about sexual satisfaction as a predictor for more motivations for sex. Therefore, this paper posits that there is an association between being a male, physical motivations for sex and sexual satisfaction and being a female, emotional motivations for sex and sexual satisfaction but does not hypothesize causality in this relationship.

Current study

The current study investigates whether the relationship between being an older adolescent, more frequent sexual communication with friends, and being in a romantic relationship are related to higher levels of sexual satisfaction and whether this could be explained by more frequent sexual communication with the sexual partner in Dutch youth. Second, differences between males and females for those associations will be considered. Third, we investigate if being a male was related to higher levels of physical motives for sex and was associated with sexual satisfaction and if being a female was related to higher levels of emotional motives for sex and was associated with sexual satisfaction. This study also examines if being in a romantic relationship is related to higher levels of sexual satisfaction and if this can be explained by more sexual frequency. Since this study is cross-sectional, only associations can be tested, therefore all hypotheses are considered as associations. For example, it is also reasonable to assume that people who are satisfied with their sexual life are also more inclined to talk about their sexual experiences with friends (e.g. Widman et al., 2014).

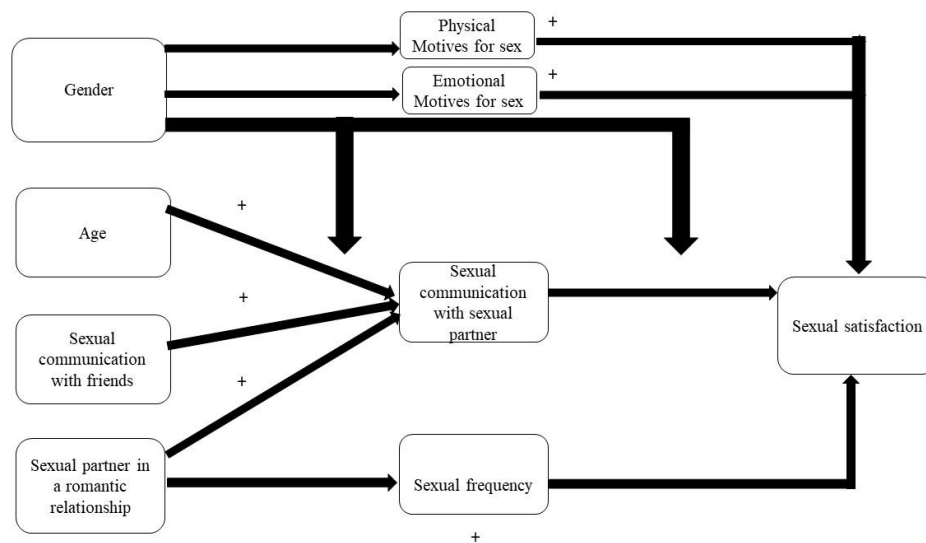


Figure 1. Explanatory model

Method

Procedure

The participants for the current study were collected for 'Sex under the age of 25' in 2012, a cross-sectional study conducted by Rutgers and Soa Aids Nederland in collaboration with GGD'en (municipal public health institute) on the sexual behaviors of Dutch adolescents and young adults from 12 to 25 years old. A total of 43 schools were randomly selected from a list of all secondary schools in the Netherlands and were willing to participate. The participant beyond secondary schools were randomly selected via a sample drawn by Statistics Netherlands (CBS) from the municipal population registers (BRP) with a response rate of 16.4%. Before the adolescents could participate, they needed to sign a passive informed consent. The data used in the current thesis is anonymous and confidential. No specifics about participants are published, only general findings of the sample. More specific details of the procedure can be found in the research file of 'Sex under the age of 25' on the Rutgers website. This study is approved by the ethical commission of the Universitair Medisch Centrum Utrecht (16-272/C).

Sample

The initial sample for the current study consisted of 7,841 participants (41.3% male; 58.7% female). Only participants who had had sex experiences were included, because sexual satisfaction is the topic being explored. After excluding 2,472 participants who had reported no sexual experiences (i.e. no oral sex, no mutual masturbation and/or no sexual intercourse), 5,369 participants (39.7%; 60.3% female) between the ages of 12 and 26 ($M_{age} = 20.38$, $SD = SD.273$) were included. This sample is not representative of the population of the Netherlands, because its gender distribution is different (48.8% girls and 51.20% boys in the general population) (CBS, 2018) and because the low response rate (16.4%) of young people who no longer attend school.

Measures

Sexual communication with friends. Sexual communication with friends was measured by item 131 'Do you often talk with your friends about the following topics?' The answer options consisted of six statements, whereby the participants were asked to indicate the frequency of communication on a five-point Likert scale, ranging from (1 = never to 5 = always). An example item includes: 'things you do not want to do in the area of sex'. The mean of the scores were used in the analysis. High scores represent more sexual communication with friends (Cronbach's $\alpha = 0.91$).

Sexual communication with a sexual partner. Sexual communication with a sexual partner was measured by item 106 'Discussion with current or last sexual partner about sex, STI, contraception, and condoms' The answer options consisted of four statements, whereby the participants were asked to indicate the frequency of sexual communication on a five-point Likert scale, ranging from (1 = never to 5 = always). An example item includes: 'about things I like about sex'. The mean of the scores were used in the analysis. High scores represent more sexual communication with the sexual partner (Cronbach's $\alpha = 0.81$).

Sexual partner (in or without a relationship). The sexual partner (in or without a relationship) was measured by item 16 'Do you currently have a regular friend or girlfriend?' The answer options consisted of 1: no, 2: yes I have a relationship, 3: yes, I am married. The scores are measured as a categorical variable with two categories, 0: not in a romantic relationship, 1: a relationship

Motivations for sex. Motivations for sex was measured by item 109 'Why do you have sex?'. Thereby 8 reasons were given which the respondents could tick, several answers were possible. For this variable, factor analysis was conducted revealing that there were two factors which correspond with physical motivations and emotional motivations for sex. Therefore, two scales are conducted with sum scores and the mean of the scores were used in the analysis. One scale is named emotional motives with 3 items, an example item include 'to be close to the other'. High scores represent more emotional motivations for sex (Cronbach's $\alpha = 0.61$). The second scale is named physical motives with 5 items, an example item include: 'to get an orgasm'. High scores represent more physical motivations for sex (Cronbach's $\alpha = 0.63$).

Sexual frequency. The sexual frequency was measured by item 89A 'How many times have you had sexual intercourse?' This was measured on a scale from 'one time' to 'three times a week or more often'. The mean scores were used for this analysis. High scores represent more sexual frequency.

Sexual satisfaction. Sexual satisfaction was measured by item 111 'How satisfied are you with the following things?' The answer options consisted of eight statements, whereby the participants were asked to indicate the sexual satisfaction on a five-point Likert scale, ranging from (1 = very dissatisfied to 5 = very satisfied). An example statement includes: 'Your sex life in general'. The mean of the scores were used in the analysis. High scores represent more sexual satisfaction (Cronbach's $\alpha = 0.89$).

Data analysis

The analysis uses SPSS 24. Missing values (due to participants skipping questions) were deleted with pairwise deletion. The total number of participants used for the analysis are represented in the tables in the results section, and a flowchart of the participants included in the linear regression analysis is presented in Figure 2. To test all the hypotheses, we used the four-step methods of Baron and Kenny (1986). This procedure was conducted for all the predictors, mediators, and outcomes. First, we tested if there was an association between the predictors and the outcome. When this revealed a significant correlation, we also determined if there was a connection between the predictor and the mediator. If a significant connection was found again, the third step consisted of testing the association between the mediators and between the mediator and the outcome. Fourth, we evaluated whether the associations of the first step disappeared (full mediation) or diminished (partial mediation) when the mediator was added to the analysis. Finally, we tested the hypothesised interaction effects between age and gender, sexual communication with friends and gender, and being in a romantic relationship and gender, with the mediator sexual communication with the sexual partner serving as the dependent variable to assess whether the associations varied by gender. When the interaction terms were not significant, the main results were interpreted from the model without interaction terms. Specifically, a significance level of <0.05 was used for the interpretation of the results.

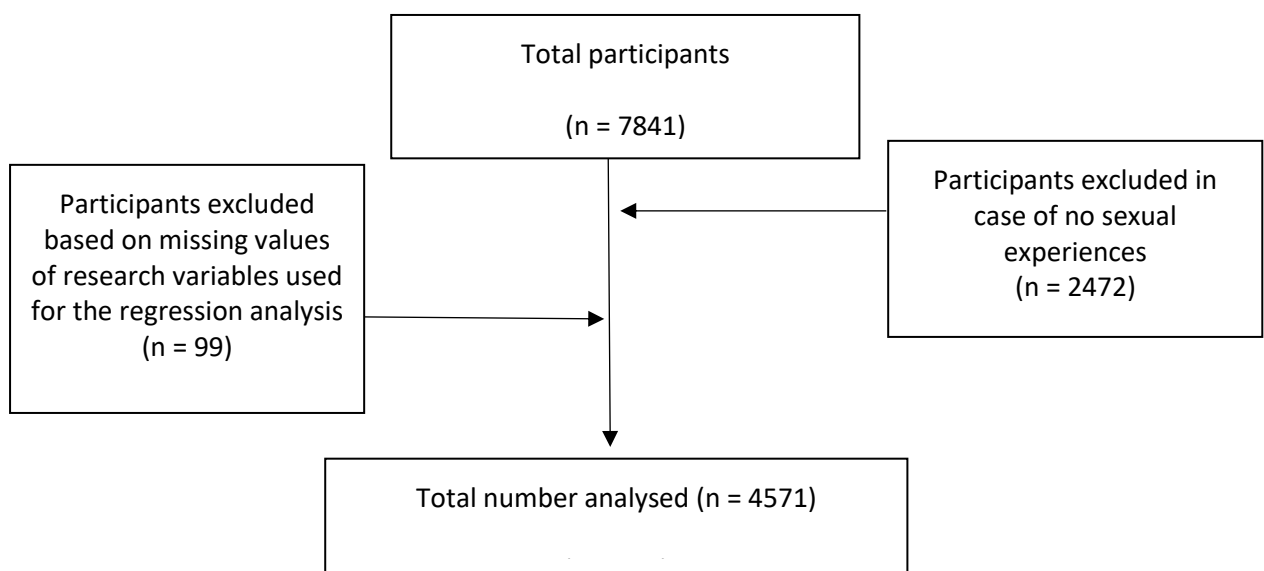


Figure 2. Flowchart analysed participants for regression analysis

Results

Descriptive analyses

A total of 5,369 participants were analysed in this study: 2,131 males ($M_{age} = 20.31$) and 3,238 females ($M_{age} = 20.42$). The descriptive data for the research variables and the total missing values (in %) is provided in Table 1. First, all the assumptions for linear regression analyses were checked, and all assumptions were found to have been met. As depicted in Table 1, the participants overall had high levels of sexual satisfaction ($M = 4.01$, $SD = 0.84$). Table 2 presents the correlations between all variables of interest. It indicates that there is a strong correlation between sexual communication with the partner and sexual satisfaction. Table 3 reveals the differences between the mean scores of participants who were in a romantic relationship and those who were not. Most participants were in a relationship at the time of the investigation (63.3%).

Table 1. Descriptive from the mean (M) and the standard deviation (SD) from the research variables and distributed by gender. $N = 5369$

	Total			Males		Females	
	M (SD)	Missings (%)	Range	M (SD)	Missings (%)	M (SD)	Missings (%)
Age	20.38 (2.73)	0%	12-26	20.31* (2.81)	0%	20.42* (2.68)	0%
SC with friends	2.47 (.98)	4.98%	1-5	2.25** (.92)	5.97%	2.62** (1.01)	4.29%
SC with a sexual partner	2.58 (0.96)	2.35%	1-5	2.43** (0.93)	2.72%	2.68** (0.97)	2.07%
Sexual frequency	4.99 (2.07)	11.84%	1-7	4.71** (2.24)	14.36%	5.16** (1.96)	10.35%
Emotional motives for sex	0.77 (0.31)	11.29%	0-1	0.72** (0.35)	11.78%	0.81** (0.28)	10.97%
Physical motives for sex	0.55 (0.29)	11.29%	0-1	0.65** (0.27)	11.78%	0.49** (0.28)	10.97%
Sexual satisfaction	4.01 (0.84)	3.39%	1-5	3.98** (0.87)	4.18%	4.03** (0.82)	2.87%

Note: SC = sexual communication

* $p < 0.05$. ** $p < 0.01$ for significant differences between males and females

Sexual satisfaction

The direct associations between the predictors and the outcome are reported in Model 1 of Table 4. A negative association was also discovered between age and sexual satisfaction ($\beta = -0.13$ $p < 0.01$): as age increases, the levels of sexual satisfaction decreases. Furthermore, sexual communication with friends positively and significantly affects sexual satisfaction ($\beta = 0.11$ $p < 0.01$). Being in a romantic relationship also predicted higher levels of sexual satisfaction ($\beta = 0.41$ $p < 0.05$). A negative significant regression equation was also found between gender and sexual satisfaction, when controlled for the predictors age, sexual communication with friends, and being in a romantic relationship ($F(4,4567) = 241.94$, $p < 0.01$), with an R^2 of 0.18, revealing that males generally reported higher levels of sexual satisfaction.

Indirect effects on sexual satisfaction of sexual communication with the sexual partner

Table 4 illustrates that there was no significant difference found when adding the mediator of sexual communication with the sexual partner to the association between age and sexual satisfaction ($\beta = 0.13$ $p < 0.01$). When the mediator sexual communication with the sexual partner is added to the analysis of the connection between the sexual communication with friends and sexual satisfaction, this link weakens but remains significant relationships ($\beta = 0.06$ $p < 0.01$) (partial mediation). After controlled for sexual communication with the sexual partner, it becomes apparent that this do not impact the relationship being in a romantic relationship and sexual satisfaction ($\beta = 0.38$ $p < 0.01$)

Indirect effect of being in a romantic relationship on sexual satisfaction due to sexual frequency.

Table 4 suggests that the significant association between being in a romantic relationship and sexual satisfaction weakens when the variable of sexual frequency is added, but it remains significant ($\beta = 0.28$ $p < 0.01$) (Model 3). Therefore, the mediator of sexual frequency explains part of the association between being in a romantic relationship and sexual satisfaction.

Indirect effect of gender on sexual satisfaction through physical and emotional motives

When controlled for all the predictors in Model 4, no significant association appears between physical motives and sexual satisfaction ($\beta = -0.01$ $p > 0.01$). Furthermore, a positive correlation was discovered between gender (female) and emotional motives for sex ($\beta = 0.15$ $p > .001$). After once again controlling for all the predictors in Model 5, it becomes apparent that emotional motives do not mediate the relationship between gender and sexual satisfaction ($\beta = -0.05$ $p < 0.05$).

Table 2. Pearson correlation matrix of research variables

	1.	2.	3.	4.	5.	6.	7.	8.
1. Age	-							
2. Gender (ref= male)	0.02	-						
3. Emotional motives	0.10**	0.15**	-					
4. Physical motives	0.14**	-0.27**	0.32**	.				
5. SC with friends	-0.13**	0.19**	0.01	0.03	.			
6. SC with the sexual partner	0.05**	0.12**	0.18**	0.10**	0.27**	.		
7. Sexual frequency	0.16**	0.11**	0.25**	0.14**	0.02	0.31**	-	
8. Sexual satisfaction	-0.05**	0.03*	0.17**	0.08**	0.08**	0.26**	0.39**	-

Note. SC = sexual communication

* $p < 0.05$. ** $p < 0.01$

Table 3. Overview mean (M) of research variables, whether or not they are in an Romantic Relationship. $N = 5369$

	No Romantic Relationship	Within a Romantic Relationship	
	M	M	Range
Males	46.94%**	53.06%**	0-1
Females	31.93%**	68.07%**	0-1
Age	19.80*	20.71*	12-26
SC friends	2.42**	2.57**	1-5
SC partner	2.30**	2.74**	1-5
Sexual frequency	3.78**	5.60**	1-7
Sexual satisfaction	3.57**	4.27**	1-5

Note. SC = sexual communication

* $p < 0.05$. ** $p < 0.01$ for significant differences between being in Romantic Relationship or not.

Table 4. Summary of linear regression analysis for variables predicting Sexual Satisfaction ($N = 4571$)

	Model 1			Model 2			Model 3			Model 4			Model 5		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Gender (ref= male)	-0.07	0.02	-0.04*	-0.08	0.02	-0.05**	-0.10	0.02	-0.06**	-0.09	0.02	-0.05**	-0.10	0.02	-0.06*
Age	-0.04	0.01	-0.13**	-0.04	0.01	-0.13**	-0.05	0.01	-0.16**	-0.05	0.01	-0.16**	-0.05	0.01	-0.16**
Sexual Communication with friends	0.09	0.01	0.11**	0.05	0.01	0.06**	-0.05	0.01	0.06**	0.05	0.01	0.06**	0.05	0.01	0.06**
Sexual partner (in a romantic relationship)	0.65	0.02	0.41*	0.71	0.02	0.38**	0.48	0.03	0.28**	0.48	0.03	0.28**	0.47	0.03	0.27**
Sexual communication with the sexual partner				0.14	0.01	0.16**	0.08	0.01	0.10**	0.08	0.01	0.10**	0.08	0.01	0.09**
Sexual frequency							0.11	0.01	0.28**	0.11	0.01	0.28**	0.11	0.01	0.27**
Physical motives										0.04	0.04	0.01	-0.01	0.04	-0.01
Emotional motives													0.10	0.04	0.04*
R ²	0.18			0.20			0.26			0.257			0.26		
F for change in R ²	241.94**			131.62**			363.80**			0.87			7.64*		

Note. *B*: unstandardized regression coefficients; β : standardised regression coefficients; *SE B*: standard deviation. The direct effect represent the direct effects between the variables and sexual satisfaction. The indirect effect represents the effects including the mediator, the first of which is sexual communication with the sexual partner, the second sexual frequency and the third emotional motives.

* $p < 0.05$. ** $p < 0.01$

Differences in Gender

To assess differences between males and females, interaction terms were created, and a linear regression was used for all expected moderation effects. The variables were the same as in the mediation model, but the moderator of gender was added. All variables and interaction terms were entered into the analysis at the same time. All the predictors were all significantly associated with sexual communication with the sexual partner ($p < 0.05$). However, no significant interaction terms were found for the associations between the predictors: sexual partner (in a romantic relationship – or not)*gender, sexual communication with friends*gender, and age*gender ($p > 0.05$). Finally, the interaction effects of sexual communication with friends and being male were tested separately. They were found not to be significant ($\beta = -.01$, $p > 0.05$).

Discussion

This study aims to investigate the importance of sexual communication for sexual satisfaction in Dutch youth. Previous research suggests that being an older adolescent, being open about sex with friends, and being in a romantic relationship entails greater sexual satisfaction (e.g. DeLuca et al., 2015; Meston & Buss, 2007; Salisbury & Fisher, 2014). The current thesis examines whether sexual communication with the sexual partner could explain this. The results indicate that the higher sexual satisfaction brought about by sexual communication with friends can be partly explained by the fact that these groups also communicate more with their partners about sex. Besides, a higher sexual frequency also impacts the association between being in a romantic relationship and higher levels of sexual satisfaction. Overall, this study reveals positive association between sexual communication with both the sexual partner and friends and sexual satisfaction, and being in a romantic relationship and sexual satisfaction. These results imply that sexual communication with friends and with the sexual partner play an important role in sexual satisfaction.

In line with previous research and our hypotheses, older adolescents reported higher levels of sexual communication with the sexual partner (Flynn et al., 2016; Widman et al., 2014). However, contrary to expectations, our findings indicated that an increase in age is related to a decrease in sexual satisfaction, instead of an increase. A reason might be that there could be an U-shaped association between age and sexual satisfaction, meaning that the youngest adolescents and the oldest adults are the most satisfied. Blanchflower and Oswald (2008) find this to be true for life satisfaction. Research reveals that sexual satisfaction is related to life satisfaction, and people have the most short-term relationships and the greatest sexual frequency in adolescence, which leads to more sexual satisfaction (Hooghe, 2012). It

then declines for a period before increasing again around the age of 25, because of an increase in relationships and sexual frequency. Further research exploring sexual satisfaction at various stages of adolescence and adulthood is crucial to understanding its relationship with age.

Confirming our expectations, higher levels of sexual communication with friends were related to higher levels of sexual satisfaction. This is partly explained by sexual communication with the sexual partner. Our findings mirror those of Prinstein and Dodge (2008) and Mastro and Zimmer-Gembeck (2015) who indicate that adolescents learn from sexual communication with their friends and integrate this into sexual communication with their sexual partners, causing more sexual satisfaction. The reason we can only partially explain the relationship between sexual communication with friends and sexual satisfaction might be because there could be other factors, such as sexual communication with parents that influence the relationship between more sexual communication with friends and higher levels of sexual satisfaction (Symons, Verhetsel, & Van Houtte, 2015).

Consistent with previous research (e.g. Denes et al., 2017; Lehmiller et al., 2014), being in a romantic relationship was related to higher levels of sexual satisfaction. However, this could not be explained by sexual communication with the sexual partner. A possible explanation might be that the current study did not take into account the quality of the sexual communication, while a higher quality of sexual communication is found to be related to higher sexual satisfaction (Montesi et al., 2012). So, it could be that the quality of sexual communication between sexual partners is more important than the frequency of communication. Future studies could investigate both the quality of the sexual communication as the frequency of sexual communication in order to comprehend sexual satisfaction in a romantic relationship.

In line with our expectations, sexual frequency partly explained the relationship between a romantic relationship and sexual satisfaction. An explanation for the finding that we can only partly explain this association might be that the study of Antičević and colleagues (2017) measure sexual frequency through the opinions of individuals (for example, 'I am satisfied with the intensity of my sexual frequency'), while the current study only takes into account the frequency of sexual intercourse. Satisfaction with sexual frequency could, in fact, be more important than the frequency itself. Stephenson and Meston (2013) suggest that relationship satisfaction might also be an important factor, their results reveal that individuals with higher levels of relationship satisfaction also report higher levels of sexual satisfaction.

Gender

Contrary to our expectations, the found relationships appear to be no different for men and women. There might, in fact, be too much emphasis placed on gender differences within research, because of publication bias: studies that do discover differences are published more quickly (Rosenthal, 1979). A recent meta-analysis of Petersen and Hyde (2010) reveals the ‘gender similarities hypothesis’ wherein differences between males and females in most factors related to sexuality, such as sexual frequency, were found to be small.

The differences between males and females with regard to sexual satisfaction are small and could not be explained by emotional and physical motives for sex. In line with our expectations, males reported more physical motives for sex. However, the physical motives for sex were found not to be related to sexual satisfaction when controlling for other influences. This could be because the presence of physical motives for sex does not automatically mean that these motives are satisfied (Muise, Impett, & Desmarais, 2013).

As predicted, females reported more emotional motives for sex than males. This is also in line with previous research in which females indicated more emotional motives for sex (Meston & Buss, 2007). The effects of these motives on sexual satisfaction are insignificant, possibly because the emotional motives for sex, such as a desire for closeness, overlap with being in a romantic relationship and sexual frequency. More sex leads to more opportunities for closeness, and being in a romantic relationship is in itself motivated by emotional desires (Birnbaum, 2010). The fact that both types of motives for sex had little to no effect on sexual satisfaction could be due to the fact that, although the scale for motives for sex was validated, the scale for physical and emotional motives for sex was merely constructed using factor analysis with categories created on the basis of high intercorrelation: the findings must therefore be interpreted with caution. Future researchers should make use of Cooper, Shapiro, and Powers’s (1998) extensively validated scale for emotional and physical reasons for sex to investigate the role of sexual desire.

Strengths and Limitations

As far as we know, this is the first study that investigates whether older adolescents, higher levels of sexual communication with friends and being in a romantic relationship were related to higher levels of sexual satisfaction and whether this could be explained by more sexual communication with the sexual partner in a large sample of Dutch adolescents and young adults. Another positive aspect of this research is the fact that it explores the positive aspects of sex, while many studies focus only on its risks. Despite these strengths, this research also faces several limitations. First, as a cross-sectional study, only correlations

between the tested variables can be revealed, and no inferences on causal relations can be drawn. A longitudinal or experimental study should be conducted to further test these findings. Furthermore, using Baron and Kenny for the statistical analyses meant that the relations could not be tested all at once. To prevent this issue, it would have been better to employ structural equation modeling. The current study is also limited due to the fact that the sample used is not representative of the Dutch population. We encourage future researchers to use a representative sample based on gender.

Conclusions and Implications

Our study confirms the need for an understanding of sexual communication with friends and with the sexual partner that could facilitate establishing sexual education among Dutch adolescents and young adults. Future research may examine the reason why sexual communication with friends and with the sexual partner are related to higher levels of sexual satisfaction. This is important because the positive aspects of sexuality are often left out of sexual education in schools, while the positive aspects could be a positive step towards improving sexual health (Helmer, Senior, Davidson, & Vodic, 2015). This study also reveals that being in a romantic relationship was related to higher levels of sexual satisfaction, in part because of higher sexual frequency. More research into the specific elements of a romantic relationship, such as commitment, in relation to sexual satisfaction could provide more insight into how a romantic relationship may increase satisfaction. At last, since this study found no differences between men and women with regarding to sexual satisfaction, it would be interesting to further investigate similarities instead of differences between males and females in their sexual satisfaction.

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Appendix A – Contract data use (TED)

This letter constitutes formal confirmation of the fact that the data from the Utrecht University ‘Seks onder je 25ste’ from 2012 have been made available to Chanel Tisseur of Utrecht University.

These data will not be made available to others, and the data may be used only for analysis and reporting on topics for the thesis, about which agreement has been reached with Wilma Vollebergh

Chanel Tisseur will receive access to the data from the dataset in order to answer the following research questions within the framework of the thesis:

Research question:

‘Which factors contribute to sexual satisfaction in adolescence and young adulthood?’

The following variables will be used:

Dependent variable: Sexual satisfaction (item 111)

Independent variables: Sexual communication with friends (item 131), sexual communication with a sexual partner (items 106 + 108), sexual partner (in or without a relationship) (item 101), motivations for sex (item 109)

Other variables: Gender (item 2), age (item 1), academic level (item 10 + 11)

No report based on the data from the project entitled Seks onder je 25ste may be made public, unless permission has been obtained in advance from the Project Coordinator for the Seks onder je 25ste.

After the expiration of this contract, dated, 30-06-2019, Chanel Tisseur shall delete the ‘Seks onder je 25ste’ data.

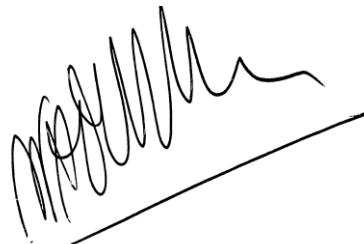
Dates and signature: 07-1-2019

Name of student:



Chanel Tisseur

Name of Project Coordinator:



Wilma Vollebergh