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The Risk- and Protective Factors Associated with Unpleasant Sexual Experiences of Adolescents, and the Possible Mediating Role of Sexual Resilience on these Associations

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Abstract

Many adolescents have to deal with unpleasant sexual experiences and this cross-sectional study focusses on the risk- and protective factors associated with these experiences. In addition, it is explored whether the association between these factors and unpleasant sexual experiences could be (partly) explained by sexual resilience and whether alcohol use weakens the association between sexual resilience and unpleasant sexual experiences. Almost 8000 adolescents from 12 to 25 years old, filled in a digital questionnaire about sexual related themes. A subsample was derived (N=4860), including only participants who had experience with sexual intercourse. Results show that lower sexual self-esteem, more casual sex, drinking alcohol during sex and being a girl were associated with more unwanted- and regretted sex. Although these predictors were related to sexual resilience and sexual resilience was negatively related to unwanted- and regretted sex, sexual resilience was not explaining explaining these associations. Alcohol use did not weaken the negative association between sexual resilience and both outcomes. Concluded, sexual resilience contributes to unpleasant sexual experiences as a negative predictor, but not as mediating factor on the investigated associations. The possible mediating role of sexual resilience needs to be investigated again through more accurate measurements within a longitudinal study.

Keywords: adolescents, unpleasant sexual experiences, unwanted sex, regretted sex, sexual resilience

Samenvatting

Veel adolescenten maken onplezierige seksuele ervaringen mee. In deze cross-sectionele studie worden risico- en beschermende factoren geassocieerd met deze ervaringen onderzocht. Er wordt onderzocht of de associatie tussen deze factoren en onplezierige seksuele ervaringen (gedeeltelijk) wordt verklaard door seksuele weerbaarheid en of alcohol gebruik de relatie tussen seksuele weerbaarheid en onplezierige seksuele ervaringen verzwakt. In deze studie hebben bijna 8000 adolescenten van 12 tot 25 jaar oud een digitale vragenlijst ingevuld over seksueel gerelateerde thema's. Er is een deelsteekproef genomen (N=4860) waarin enkel participanten zijn geïnccludeerd die ervaring hebben met geslachtsgemeenschap. Resultaten laten zien dat een laag seksueel zelfbeeld, casual seks, alcoholgebruik tijdens seks en het vrouwelijk geslacht geassocieerd zijn met meer ongewilde seks en meer spijt van seks. Ondanks dat deze predictoren gerelateerd waren aan seksuele weerbaarheid en seksuele weerbaarheid gerelateerd was aan ongewilde seks en spijt van seks, was seksuele weerbaarheid geen mediator in deze associatie. Daarnaast verzwakte alcohol de associatie tussen seksuele weerbaarheid en beide uitkomsten niet. In conclusie draagt seksuele weerbaarheid bij als negatieve voorspeller aan onplezierige seksuele ervaringen, maar niet als mediator op de onderzochte associaties. Seksuele weerbaarheid als mediator dient opnieuw onderzocht te worden, middels meer accurate metingen in een longitudinale studie.

Kernwoorden: adolescenten, onplezierige seksuele ervaringen, ongewilde seks, spijt van seks, seksuele weerbaarheid.

Introduction

Having sex should be enjoyable but unfortunately this is not the case for everyone. A considerably high percentage of adolescents has to deal with unpleasant sexual experiences (De Graaf, Van den Borne, Nikkelen, Twisk & Meijer, 2017). In this study, unpleasant sexual experiences are defined as unwanted sex (sex against one's will) and regretted sex (feelings of regret after sex). In the Netherlands, 14% of women, compared to 3% of men, reported at least one incident of unwanted sexual intercourse in their lives (De Graaf et al., 2017). Surprisingly, for regretted sex there are no representative Dutch statistics available. Only in the study of Harreveld (2009) more than half of the sample (55%) had experience with regret after sexual encounters. Unfortunately this result is not representative, since participants were not randomly selected and this study was entirely focused on girls during nightlife. However, as can be seen in the Canadian study of Fisher, Worth, Garcia and Meredith (2012), the numbers of regretted sex are concerning as well. The majority of women (78%) and men (72%) reported ever experiencing regret after sexual encounters. These unpleasant sexual experiences may bring several negative emotions such as self-blame (Fisher et al., 2012), psychological stress, depressive symptoms and feelings of loneliness (Owen & Fincham, 2011). This study focusses on how unpleasant sexual experiences arise and which factors, both in the individual and social context, may contribute to these experiences.

Previous studies trying to explain unpleasant sex, primarily focus on alcohol use (e.g. Agius, Taft, Hemphill, Toumbourou, & McMorris, 2013; Hone, Bartholow, Piasecki & Sher, 2017). Although alcohol use is a strong predictor for unpleasant sexual experiences, the role of other individual and social factors (e.g. support from parents and friends and self-esteem) seems important as well. However, the specific relationship between these individual and social factors with unpleasant sexual experiences needs to be further explained (Garcia, Reiber, Massey, & Merriwether, 2012). Therefore, the purpose of this study is to investigate the risk- and protective factors associated with unpleasant sexual experiences, both in the individual and social context of the adolescent.

In addition, the researchers are interested in sexual resilience, and if the association between previously mentioned individual and social factors and unpleasant sexual experiences is mediated by sexual resilience. Previous research demonstrated that sexual resilience may be crucial in preventing adolescents from unpleasant sexual experiences (e.g. Darden, Ehman, Lair, & Gross, 2018; Kennett, Humphreys & Patchell, 2009). Sexual resilience refers to specific self-control skills that can be applied when confronted by stressful sexual situations (Quinn-Nilas & Kennett, 2018). According to the self-control model of

Rosembaum (2000), adolescents with a broad repertoire of resiliency skills (e.g. problem-solving strategies and positive self-instructions) are better protected against unpleasant sexual experiences (Kennett et al., 2009). For example, adolescents with higher levels of sexual resilience skills are more able to express their level of sexual desire, say no to unwanted sexual advances, and are less misinterpreted by their partners (Darden, et al., 2018; Quinn-Nilas et al., 2018). Therefore, hypothesized in this study is that higher levels of sexual resilience reduce the risk to get involved in unpleasant sexual experiences.

Furthermore, factors both in the social context as well on the more individual level are contributing to unpleasant sexual experiences. Support from parents and friends (e.g. Van de Bongardt, De Graaf, Reitz, & Dekovi, 2013), self-esteem (e.g. Paul, McManus, & Hayes, 2000), sex differences (e.g. De Graaf et al., 2017), alcohol use (e.g. Coleman & Cater, 2005) and being in a relationship (e.g. Flack et al., 2007) are factors for which a direct relationship with unpleasant sexual experiences already has been found. However, expected is that these individual and social factors are also associated with sexual resilience. The main hypothesis of this study is that sexual resilience (partly) mediates the association between these individual and social factors, and unpleasant sexual experiences. Factors related to sexual resilience (and unpleasant sexual experiences) are explained in the following paragraphs.

First of all, parents and friends have been identified as important support figures in the adolescents' sexual development, who can prevent adolescents against unpleasant sexual experiences (Van de Bongardt et al., 2013). Besides, multiple studies suggest that adolescents with high family-support, show higher levels of resilience (e.g. Lee, Cheung, & Kwong, 2012; Schaefer, Howell, Schwartz, Bottomley, & Crossnine, 2018). The same relationship is found for sexual risk behavior. Kaye and colleagues (2009) found that parents may influence adolescents' sexual risk behavior either directly, wherein parents provide a positive role model, or indirectly, by providing a source of resiliency for their children. Furthermore, adolescents frequently discuss sexual experiences with friends. These conversations include social feedback that can support individuals' decision-making about sexual activities, through discussing sexual uncertainties and negotiations of consent (Morgan & Korobov, 2012). Since there is evidence for a positive association between communication with friends and resilience in general (Lee et al., 2012; Zhang & Feng, 2018), expected is that this association also exists for sexual resilience. Thus, hypothesized is that the negative association between communication with parents and friend, and unpleasant sexual experiences could be explained by higher levels of sexual resilience.

Another contributing factor is sexual self-esteem. Adolescents who ever experienced

unpleasant uncommitted sexual encounters, had lower self-esteem than individuals who had not (Paul et al., 2000). Kennet and colleagues (2009) found that adolescents high on self-esteem endorse fewer reasons for consenting to unwanted sexual activity. They are less likely to voluntarily give in to unwanted sexual advances and hypothesized is that this could be explained by their higher level of sexual resilience.

Although both boys and girls, reported unpleasant sex at some point in their lives (Fisher et al., 2012; Oswalt, Kenzie, Cameron, & Koob, 2005), boys reported less unpleasant sex than girls (De Graaf et al., 2017; Flack et al., 2007). However, Fisher and colleagues (2012) argue that for regretted sex, there is growing evidence of convergence of men's and women's sexual behavior in most countries. Possible sex differences might be explained by the fact that girls' sexual resilience is lower due to more additional emotional problems (Zhang et al., 2018), and because girls are physically less able to avoid risk situations than boys (Santos-Iglesias, Sierra, & Vallejo-Medina, 2013). Expected is that these sex differences towards unpleasant sexual experiences could be explained by girls' lower sexual resilience.

Focused on the context, Flack and colleagues (2007) suggest that unpleasant sexual experiences mostly occur during uncommitted sexual encounters (casual sex), but they do occur within the context of romantic or intimate dating as well (Hill, Garcia & Geher, 2012). However, adolescents in a relationship are expected to have less unwanted- and regretted sex since they perceive more support from their romantic partners, compared to adolescents who only have casual sex (Connolly & Johnson, 1996). Support from a romantic partner may provide adolescents with better ways of coping with adversity and this makes them more resilient (Szwedo, Hessel, & Allen, 2017). Therefore, hypothesized is that the positive association between casual sex and unpleasant sexual experiences could be explained by lower levels of sexual resilience.

As stated earlier, the relationship between alcohol use and sexual consequences has been well documented. An underlying mechanism found in the literature is losing self-control as a result from drinking alcohol. Lack of self-control makes adolescents less able to refuse unwanted sexual encounters (Simons, Simons, Maisto, Hahn, & Walters, 2018). Thus expected is that the positive association between alcohol use during sex and unpleasant sexual experiences could be explained by sexual resilience. Besides, when adolescents are intoxicated by alcohol sober abilities to refuse unwanted sexual advances may not be effective anymore. The use of too many alcohol often means that adolescents no longer properly assess sexual risks and this results in doing things they would not have done when they were sober

(Harreveld, 2009). In other words, hypothesized is that with more alcohol use the negative association between sexual resilience and unpleasant sexual experiences fades.

Current Study

In this study expected is that sexual resilience (partly) explains the associations between communication with parents and friends about sex, sexual self-esteem, being a girl, casual sex and alcohol use during sex with unpleasant sexual experiences (defined as unwanted- and regretted sex in this study). It is surprising that this mediation via resilience, is never investigated before within one study, to our knowledge. This study therefore contributes to a more complete picture of underlying mechanisms that possibly influence unpleasant sexual experiences, through the following research-questions: (1) Which factors contribute to the risk of unpleasant sexual experiences? (2) Are these factors (partly) mediated by sexual resilience? (3) Does alcohol use during sex weaken the association between sexual resilience and unpleasant sexual experiences? (Figure 1.) Additionally, reversed causality have to be taken into account since cross-sectional data is used. For example, expected is that alcohol use predicts lower sexual resilience, however it cannot be ruled out that adolescents develop adverse drinking behaviors to cope with their low sexual resilience (Coleman & Cater, 2005). We expect reversed causality for the other factors as well and therefore we only investigate associations in this study.

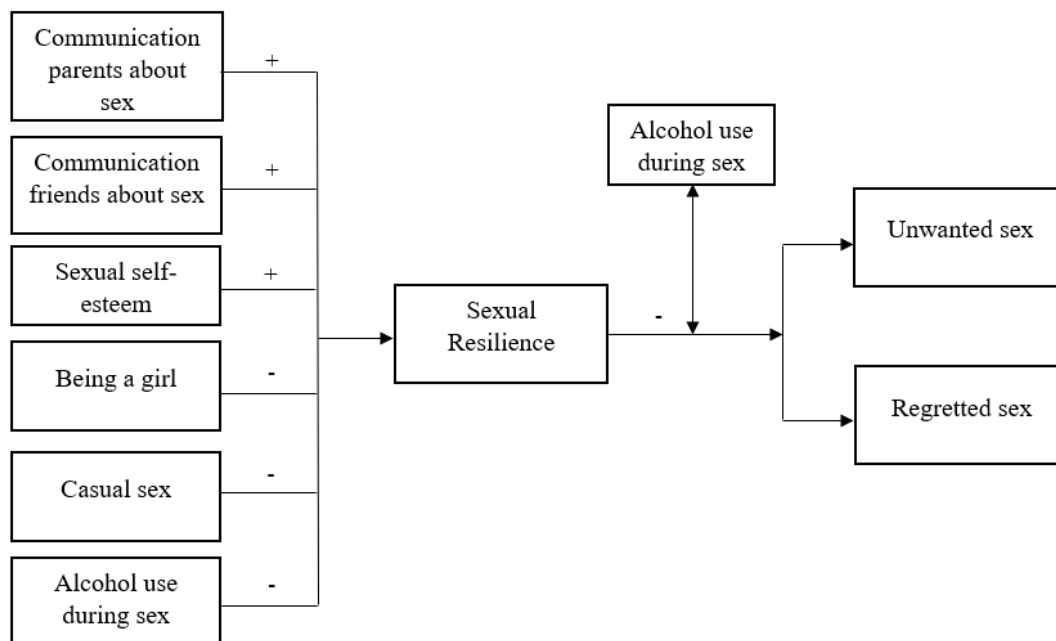


Figure 1. Explanatory model

Methods

Procedure and Participants

'Sex under 25' is a large-scale research about sexual health among Dutch youth (12-25 years old) conducted by Rutgers WPF and Soa Aids Nederland. Almost 8000 adolescents completed a digital self-report questionnaire about sexual related themes. The sex under 25 study has several measuring moments in 2005, 2011 and 2017. However, the current study is cross-sectional since only data from 2011 is used. Participants were partly recruited via 43 secondary schools with a response rate of 78.2%. For each province, a number of schools were randomly selected to get the most representative sample of schools across the country as possible. The other part of the participants, who did not follow secondary education, were randomly approached via the Municipal Basic Administration of 55 municipalities. This extracurricular sample had a response rate of 16.4% (De Graaf et al., 2017). The sex under 25 questionnaire was approved by the Medical Ethics Advisory Committee (FETC16-272/C).

The intended research population consists of 7841 adolescents. However, in the current study we analyzed a subsample (N = 4860) including only participants who had experience with sexual intercourse. Unreliable participants were already eliminated from the dataset by the Rutgers institute when they filled in two or more inconsistent answers. Unfortunately it is not clear how many participants were eliminated for this reason (De Graaf et al., 2017).

Measures

Unpleasant sexual experiences were measured through the outcome variables regretted sex and unwanted sex. *Regretted sex* (Harreveld, 2009) was measured with Q156 'Have you ever regretted the following things afterwards?'. This scale consists of six items, for example 'regret after anal sex'. The reliability of the regretted sex scale is sufficient ($\alpha = .78$). *Unwanted sex* (Van Fulpen et al., 2003) was measured with Q159 'Have you ever been forced to do sexual things you didn't want?'. This scale consists of six items, such as 'kissing without consent'. The reliability of the unwanted sex scale is sufficient ($\alpha = .76$). To attain an overall score on the regretted sex scale and the unwanted sex scale, mean scores on the six items were calculated for each participant. Both scales consist of three categories, 1 = never, 2 = once and 3 = more than once.

Communication with parents about sex was measured with Q125 'Do you talk with your parents about the following subjects?' (Van Fulpen et al., 2003). There are seven items included in this scale, such as 'What you have to do to avoid unwanted sexual experiences'. To attain an overall score on communication with parents, a mean score on the seven items

was calculated. Answers were given on a 5-point Likert scale, 1 = never to 5 = very often. The reliability of this scale is high ($\alpha = .90$).

Communication with friends about sex was measured with Q131 'Do you talk with your friends about the following subjects?' (Van Fulpen et al., 2003). Six subjects are included in this scale, examples are 'Sexual things you want to do' and 'Sexual things you not want to do'. To attain an overall score on communication with friends, a mean score on the six items was calculated. Answers were given on a 5-point Likert scale, 1 = never to 5 = very often. The reliability of this scale is high ($\alpha = .91$).

Sexual self-esteem was measured with Q108 'What did you feel and did you do if you have/had sex with each other?' (Brugman et al., 1995, Van Fulpen et al., 2003, Vanwesenbeeck, 2001). This scale consists of eight items, examples are 'I felt calm during sex' and 'I let him know what I like'. To attain an overall score on sexual self-esteem, a mean score on the eight items was calculated. Answers were given on a 5-point Likert scale, 1 = never to 5 = always. Although the reliability of this scale is low ($\alpha = .65$), this scale was still used since it was an already existing scale.

Sexual resilience was measured with Q155 'Are you capable to refuse sexual encounters in the following situations?'. This question consists of eight situations, for example 'Refuse unwanted sex if the other person tries to persuade you'. To attain an overall score on sexual resilience, a mean score on the eight items was calculated. Answers were given on a 5-point Likert scale, 1 = sure to 5 = certainly not. The reliability of this scale is high ($\alpha = .93$).

Casual sex was measured through asking 'with whom the participants had sexual intercourse so far' (Brugman et al., 1995). This continuous scale is a combination of three questions: if participants only have experience with vaginal sex they answered Q80A, if participants have only experience with anal sex they have an answer on Q80B, if participants have experience with both anal/vaginal sex they answered Q80C. Answers on these three questions were given on a 4-point Likert scale, 1 = only sex in a committed relationship to 4 = mostly sex in a uncommitted relationship.

Alcohol use during sex was measured with Q122 'Have you ever had sex under the influence of alcohol?' Answers were divided into three categories, 1 = never, 2 = sometimes and 3 = often.

Sex differences were measured with the question ‘are you a boy or a girl?’ (Q2), girls were used as reference group.

Age and Academic level were included as control variables. Age was measured with Q1 ‘In which month and year are you born?’ Academic level consists of a combination of Q10 ‘What do you study?’ and Q11 ‘What is the highest level of education you have completed?’. If participants were still on school the current education level was used. If participants completed their education, the level of completed education was used. This combined academic level scale consists of three categories, 1 = low education (Primary school/VMBO), 2 = moderate education (HAVO/HBO) and 3 = high education (VWO/WO).

Data Analysis

IBM SPSS Statistics Program version 25 is used to analyze the data. Multiple linear regression is used to test our hypotheses. The first step to assume a possible mediation effect is to test the direct link between the predictors (communication with parents and friends about sex, sexual self-esteem, being a girl, alcohol-use and casual sex) and the outcomes unwanted- and regretted sex in Model 1. In Model 2 the confounders age and educational level are included. Furthermore there was investigated if adding the variable sexual resilience weakens the direct association between the predictors and the outcomes (partly mediation) or if the direct association between the predictors and outcomes disappears completely (full mediation) in Model 3. In addition, a separate multiple linear regression analysis was conducted to test the associations between the predictors and sexual resilience. Lastly, the moderation effect of alcohol use during sex was tested by including the interaction of alcohol use during sex with sexual resilience as predictor for unwanted- and regretted sex in Model 4.

Results

Descriptives

The sample used in the analyses consists of 4860 Dutch adolescents, 12 to 26 years old ($M = 20.635$, $SD = 2.588$), including 2947 girls (60.6%). Regarding to the academic level 48.0% of the participants are low educated, 34.7% is moderate educated and 16.2% is high educated. Other descriptives are presented in Table 1 and correlations between the research variables are presented in Table 2. Before analyzing, assumptions for a multiple linear regression analysis were checked. The outcome variables were both significantly non-normal distributed (unwanted sex: $D(4860) = 0.273$, $p < 0.05$, regretted sex: $D(4860) = 0.252$, $p < 0.05$). However, due to the big sample size it is expected that this will have minimal influence on the results.

Table 1.

Descriptives of the research variables. Mean and Standard Deviation for the continuous variables, percentages for the categorical variables.

	N	M	SD	Range
Age	4860	20.635	2.588	12 – 26
Communication with parents	4860	2.022	.854	1 – 5
Communication with friends	4860	2.486	.989	1 – 5
Sexual resilience	4860	2.185	.967	1 – 5
Casual sex	3164*	1.967	.810	1 – 4
Sexual self-esteem	4860	2.332	.420	1 – 5
<hr/>				
N = 4860	N (%)			
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Alcohol use during sex				
Never	1267 (27.1%)			
Sometimes	2821 (60.4%)			
Often	584 (12.5%)			
Regretted sex				
Never	3794 (84.2%)			
Once	592 (13.2%)			
More than once	119 (2.2%)			
Unwanted sex				
Never	4047 (90.0%)			
Once	395 (8.7%)			
More than once	57 (1.3%)			
Academic level				
Low	2334 (48.0%)			
Moderate	1688 (34.7%)			
High	788 (16.2%)			
Gender				
Female	2947 (60.6%)			
Male	1913 (39.4%)			

* = Because the number of participants who had data on the variable ‘casual sex’ was considerably lower, the analyses were done separately with this variable.

Table 2.

Correlations between the research variables (Pearson's r)

	1	2	3	4	5	6	7	8	9	10	11
1. Age	1.00										
2. Gender (ref=female)	-.017	1.00									
3. Academic level	.027	-.040**	1.00								
4. Communication with parents	-.120**	-.183**	-.038**	1.00							
5. Communication with friends	-.152**	-.182**	.008	.369**	1.00						
6. Sexual self-esteem	.127**	.048**	.033*	.107**	.068**	1.00					
7. Sexual resilience	.067**	-.225**	.023	.143**	.037*	.161**	1.00				
8. Alcohol use during sex	.071**	.057**	.040**	.020	.126**	.039**	-.079**	1.00			
9. Regretted sex	.002	-.148**	-.007	.001	.038**	-.182**	-.069**	.091**	1.00		
10. Unwanted sex	-.011	-.231**	-.091**	.037*	.117**	-.198**	-.075**	.049**	.443**	1.00	
11. Casual sex (N=3164)	.005	.136**	.032	-.146**	.051**	-.141**	-.151**	.209**	.144**	.063**	1.00

Note. N = 4860 * $p \leq .05$. ** $p \leq .01$

Associations between predictors and outcomes

Multiple linear regression was used to test the mediation and moderation effects in this study. First, the direct links between the predictors and unwanted sex were tested (Table 4). All the predictors, except for communication with parents about sex, had a significant effect on the outcome unwanted sex. Communication with parents about sex was therefore excluded for the mediation analysis. Being a girl was strongest associated with more unwanted sex ($\beta = -.215, p < .001$). More communication with friends about sex and more alcohol use during sex were also associated with more unwanted sex, whereas higher sexual self-esteem was associated with less unwanted sex. When adding the control variables, age and academic level, the significance of the other predictors remains unchanged.

Second, in Table 5 the direct links between the predictors and regretted sex are presented. For communication with friends and parents about sex no significant association with regretted sex was found, which means that these variables were excluded for the mediation analysis. Higher sexual self-esteem was strongest associated with less experiences with regretted sex ($\beta = -.179, p < .001$). Furthermore, females and participants who often use alcohol during sex were more likely to experience regretted sex. When controlling for age and academic level, the significance of the other predictors remains unchanged.

Mediation and moderation analyses

This study is interested in whether sexual resilience mediates the association between the predictors with unwanted sex (Table 4) and regretted sex (Table 5). To begin with, as can be seen in Table 3, we found significant associations for all the predictors with sexual resilience. Participants who communicate more with their parents about sex, have higher sexual self-esteem, drink less alcohol during sex and have less casual sex, were significantly

higher on sexual resilience. Male participants and participants who often talk with their friends about sex were lower on sexual resilience. In addition, sexual resilience was a significant negative predictor for both unwanted sex ($\beta = -.096, p < .001$) and regretted sex ($\beta = -.074, p < .001$), as can be seen in Model 3 in Table 4 and 5. Although the predictors were significantly related to sexual resilience and sexual resilience was significantly related to both outcomes, no significant mediation effect was found when adding sexual resilience to our model.

The results of the moderation analyses are presented in Table 4 for unwanted sex and in Table 5 for regretted sex. The moderation effect of alcohol use during sex on the association between sexual resilience and both outcome variables was not significant.

Separate analysis for casual sex

Due to the high number of missing values on the variable casual sex, we did exactly the same analysis as described above, but with casual sex as extra predictor for a smaller sample ($N=3164$). Casual sex was a positive significant predictor for both outcomes unwanted sex ($F(3,2958) = 5.818, p < .001, R^2 = .101$) and regretted sex ($F(3,2958) = 20.492, p < .001, R^2 = .088$). When controlling for age and academic level, casual sex remains significant. No significant differences were found when adding sexual resilience as possible mediator or adding the interaction term of alcohol use during sex with sexual resilience.

Table 3.

Linear Regression analysis with dependent variable sexual resilience

	B	SE B	β
Communication with parents about sex	.114	.018	.100***
Communication with friends about sex	-.039	.015	-.040**
Sexual self-esteem	.311	.027	.164***
Gender (ref=female)	-.423	.029	-.214***
Alcohol use during sex	-.062	.046	-.035***
Casual sex	-.112	.023	-.071**

Note. $N=4860$, except for casual sex ($N=3164$). * $p \leq .05$. ** $p \leq .01$ *** $p \leq .001$

Table 4.

Multiple regression analysis with the dependent variable unwanted sex, predictors, control variables academic level and age, mediator sexual resilience and moderator alcohol use.

Predictor	Model 1			Model 2			Model 3			Model 4		
	B ^a	SE B ^b	β ^c	B	SE B	β	B	SE B	β	B	SE B	β
Communication with parents	-.006	.006	-.016	-.007	.006	-.019	-.004	.006	-.010	-.004	.006	-.010
Communication with friends	.028	.005	.086***	.029	.005	.090***	.029	.005	.089***	.029	.005	.089***
Sexual self-esteem	-.120	.009	-.192***	-.120	.009	-.191***	-.111	.009	-.178***	-.111	.009	-.178***
Gender (ref=female)	-.140	.009	-.215***	-.141	.010	-.217***	-.154	.010	-.236***	-.155	.010	-.237***
Alcohol use	.030	.007	.058***	.030	.007	.058***	.026	.008	.050***	.026	.008	.050***
Academic level				-.041	.006	-.096***	-.040	.006	-.094***	-.040	.006	-.094***
Age				.003	.002	.022	.003	.002	.027	.003	.002	.028
Sexual resilience							-.032	.005	-.096***	-.033	.015	-.101*
Sexual resilience*alcohol use										.001	.007	.006
R2	.315			.329			.341			.341		

Note. ^aUnstandardized coefficients (B), ^bstandard deviation (SE B) and ^cstandardized (β) regression coefficients are presented for the predictors, control variables and the mediator- and moderator variables. * $p \leq .05$. ** $p \leq .01$ *** $p \leq .001$

Table 5.

Multiple regression analysis with the dependent variable regretted sex, predictors, control variables academic level and age, mediator sexual resilience and moderator alcohol use.

Predictor	Model 1			Model 2			Model 3			Model 4		
	B ^a	SE B ^b	β ^c	B	SE B	β	B	SE B	β	B	SE B	β
Communication with parents	-.007	.007	-.015	-.007	.007	-.014	-.002	.007	-.005	-.002	.007	-.005
Communication with friends	.007	.006	.017	.008	.006	.020	.007	.006	.019	.007	.006	.018
Sexual self-esteem	-.138	.011	-.179***	-.139	.011	-.181***	-.131	.012	-.169***	-.131	.012	-.169***
Gender (ref=female)	-.114	.012	-.142***	-.114	.012	-.142***	-.127	.012	-.158***	-.127	.012	-.158***
Alcohol use	.065	.009	.102***	.065	.009	.101***	.062	.010	.097***	.062	.010	.097***
Academic level				-.007	.008	-.013	-.005	.008	-.010	-.005	.008	-.010
Age				.002	.002	.015	.003	.002	.020	.003	.002	.020
Sexual resilience							-.030	.006	-.074***	-.020	.018	.049
Sexual resilience*alcohol use										-.006	.009	-.027
R2	.252			.252			.262			.262		

Note. ^aUnstandardized coefficients (B), ^bstandard deviation (SE B) and ^cstandardized (β) regression coefficients are presented for the predictors, control variables and the mediator- and moderator variables. * $p \leq .05$. ** $p \leq .01$ *** $p \leq .0$

Discussion

The goal of this study was to investigate the risk- and protective factors, both in the social and individual context, associated with unpleasant sexual experiences. In addition, explored is whether the association between these factors and unpleasant sexual experiences is mediated by sexual resilience and whether alcohol use weakens the association between sexual resilience and unpleasant sexual experiences.

To investigate the mediation via sexual resilience, the direct associations between the individual and social factors and unpleasant sexual experiences were tested first. In line with our expectations, alcohol use during sex, being a girl and casual sex are positive predictors for unwanted- and regretted sex, whereas sexual self-esteem is negatively associated with both outcomes. Contrary to our expectations, we did not find an association for communication with friends about sex with the outcome regretted sex and for communication with parents about sex with both unwanted- and regretted sex. An explanation for not finding the expected associations might be the measurement of these variables. In this study 'communication' with friends and parents is measured, whereas most studies measure 'support' (e.g. Lee et al., 2012; Schaefer et al., 2018). This could lead to different results since expected is that communication with friends can be both supportive and provoking (Morgan & Korobov, 2012). As regards communication with friends, there are other studies who did not find associations between communication with friends and adolescents' sexual activity either (e.g. Kaye et al., 2009). An explanation for not finding these association given by Korobov and Thorne (2007) is that sexual problems- and experiences were not fully discussed with friends and were probably softened or mitigated. These conversations with friends about sex might remain too superficial to contribute enough to preventing regretted sex (Van de Bongardt et al., 2013).

Additionally, confirmed is that adolescents high on sexual resilience are less likely to experience unwanted- and regretted sex, this result is consistent with previous research (Darden, et al., 2018; Quinn-Nilas et al., 2018). As expected, we found the individual and social factors are associated with sexual resilience. Adolescents who talk more with their parents about sex and have higher sexual self-esteem, reported higher levels of sexual resilience. Negative predictors for sexual resilience are drinking alcohol during sex and having more casual sex, also these results are aligned with our hypotheses and previous studies (Simons et al., 2018; Szvedo et al., 2017). Contrary to our hypothesis, it has been found that more communication with friends about sex is associated with lower sexual resilience. This result could be explained by the occurrence of peer pressure within

conversations with friends about sex (Teunissen, Spijkerman, Prinstein, Cohen, Engels, & Scholte, 2012). Peer pressure makes it harder to refuse sexual intercourse, because adolescents are sensitive to approval and want to be perceived as popular by their friends. This could cause adolescents to do sexual things which are not aligned with their own preferences (Morgan & Korobov, 2012; Van de Bongardt et al., 2013). Another surprising result is boys reported lower levels of sexual resilience than girls. This could be the result of the specific measure of resilience in this study: sexual resilience in this study is measured as refusing certain sexual experiences. This might be a very narrow operationalization as this is only one part of the broader concept of sexual resilience. Sexual resilience consists as well of assertiveness, being able to respect limits and the self-assurance about appearance and performance (De Graaf et al., 2017). When focusing on refusing sex in this study, the result we found seems more logically and could be explained by the sexual double standard (England & Bearak, 2014). According to this theory, boys receive praise and positive attributions from their peers when they have a high number of sexual partners. Girls on the other hand, often receive negative judgments when it comes to sexual intercourse (Kreager & Staff, 2009). These positive judgements towards boys and negative judgements towards girls, might be the reason for boys being less likely and -wanting to refuse sex than girls.

Although the individual and social factors were associated with sexual resilience and sexual resilience was associated with both outcomes, no evidence was found for sexual resilience explaining the association between the individual and social factors and both outcomes. This seems logically, since the beta-coefficient for sexual resilience is very weak compared with for example sexual self-esteem and being a girl. For the hypothesis that alcohol use weakens the association between sexual resilience and unwanted sexual experiences, we found no evidence either. However, when interpreting these results the defective measure of sexual resilience should have to be taken into account again.

The strength of this study is the big research sample (N=4860), including adolescents within a wide range of age. Despite the quality of this sample, this study has some limitations to discuss. Firstly, the researchers used an already existing questionnaire from the Rutgers institute. Certain variables used in this study, such as alcohol use and sexual self-esteem, were only asked to participants who had experience with sexual intercourse. For this reason it was not possible to include all participants in the analyses. This is regrettable since participants who did not have sexual intercourse yet, can also have unpleasant sexual experiences, e.g. kissing or oral sex against one's will.

Secondly, the outcomes unwanted- and regretted sex are a little right skewed,

especially for regretted sex this may have affected the results. In this study there are few participants (15.4%) who reported at least one experience with regretted sex, compared to 78% in the study of Fisher and colleagues (2012). A possible explanation for these low amounts of regretted sex could be that data is collected through self-report which makes the results less reliable. There is a chance that not all participants answered the questions honestly, since sex is a sensitive subject which can evoke shame among adolescents (De Graaf et al., 2017). Besides, men are more likely to brag about their sexual experiences, compared to women who are more private about their sexual history (Marks, Young and Zaikman, 2018). Another explanation is that most literature concerning regretted sex was derived from foreign countries such as the United States and Canada, due to lack of reliable Dutch literature. These research results might be not generalizable to our population because the amount of unpleasant sexual experiences might be lower in the Netherlands (De Graaf et al., 2017; Smith et al., 2017). To illustrate, it has been found that Dutch adolescents are postponing their first sexual experiences (Cense, 2018), this might be contributing to less regretted sex.

Thirdly, the use of cross-sectional data in this study makes it difficult to interpret the mediation effect because no conclusions can be drawn about causality and which variables follow each other over time. We could only draw conclusions about the associations between the research variables, not about the direction of these associations. Therefore, longitudinal research in the future is necessary. The last limitation is the low representativeness of this study. The used dataset includes a high number of missing values which cannot be explained by the researchers. Furthermore the research sample contains more females (60.63%) compared to the general Dutch population (50.43%, CBS, 2016) and the response rate for participants who already finished school was very low. Future research with a more representative sample of Dutch society is desirable.

In order to find more reliable results in subsequent research, not only a longitudinal design is important, but also accurate measurements of the research constructs. As mentioned earlier, the measurement of certain variables is an important limitation of this study. Future research should measure support from friends and parents instead of only communication about sex, and measure alcohol use in general instead of only alcohol use during sex. The sexual resilience scale should be renamed into 'being able to refuse sexual intercourse', or even better, expanded into a more broader scale which measures more aspects of sexual resilience such as assertiveness and self-assurance. The already existing scale 'sexual interaction competence' could be used (Rutgers et al., 2017).

Despite these limitations, results of this study are of useful value. To our knowledge, this is the first study investigating the possible mediation effect of sexual resilience on the association between the individual and social factors with unpleasant sexual experiences. Furthermore, since this study was focused on both unwanted- and regretted sex, we were able to compare the results between these outcomes. The number of participants who never had experienced unwanted sex is slightly lower than for regretted sex. Besides, unwanted- and regretted sex are highly correlated which implies that experience with unwanted sex goes together with experiencing regretted sex. Further research into this positive association would be interesting. Nevertheless, it remains important to keep investigating these two constructs separately. Although regretted sex occurs more often, expected is that the consequences of unwanted sex are more severe and long-lasting (Fisher et al., 2012; Owen & Fincham, 2011).

In conclusion, confirmed is that adolescents who have casual sex, drinking alcohol during sex and have lower sexual self-esteem are more likely to experience unpleasant sex and have lower levels of sexual resilience. Furthermore, communication with parents about sex is associated with higher sexual resilience, whereas communication with friends is associated with lower sexual resilience. Despite the fact that boys report lower levels of sexual resilience, girls are still more likely to experience unwanted sexual experiences which implicates that not only sexual resilience prevents adolescents against unpleasant sexual experiences. Other factors highlighted in previous research which might also contribute to unpleasant sexual experiences are sexual attitudes towards sex (Fisher et al., 2012) and the opinion of other people within the adolescents' environment (De Graaf et al., 2017). Recommended is to include these factors in future research. In addition, attention should be paid to sexual self-esteem and sex differences, since these are the strongest contributors to unpleasant sexual experiences in the current study. Although no evidence for sexual resilience as mediator and alcohol use as moderator was found, based on the measurements in the current study it cannot be concluded that these effects do not exist at all. Our research shows that sexual resilience and alcohol use are contributing factors to unpleasant sexual experiences. Further research into the specific role of these factors within a longitudinal design with more accurate measurements is needed, to draw more resolute conclusions.

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