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**The Role of Media with Sexual  
Content on Adolescents' Sexual Risk Behavior and  
Pleasure & the Mediation of this Association by  
Adolescent SDS-Stereotypes**

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## **ABSTRACT**

Sex and sexual relationships are commonly portrayed in media and adolescents are frequently exposed to these kinds of content from various media types (i.e., social media accounts, reality television, online pornography, and music videos). Previous research suggested associations between exposure to sexual content and adolescent sexual behavior as well as adolescent sexual double standard (SDS) stereotypes. To gain deeper insight into how media with sexual content may be associated with adolescent sexual behavior, the current study investigated the relationship between the level of exposure to media with sexual content and adolescent sexual risk behavior and sexual pleasure, and whether adolescents' SDS stereotypes mediated these associations. Data were collected through an online survey at schools in the Netherlands (aged 16-20 years,  $N=257$ ). No significant associations were found between the level of exposure to media types with sexual content and adolescent sexual risk behavior and sexual pleasure. In addition, adolescents' SDS stereotypes did not mediate the associations between the level of exposure to media types with sexual content and adolescent sexual risk behavior and sexual pleasure. However, some individual significant associations were identified based on specific media types; (1) the level of exposure to reality TV was associated with higher levels of adolescent sexual risk behavior, and (2) the level of exposure to pornography was associated with higher levels of sexual pleasure. One of the important practical implications of this research include informing sexual education programs about factors that could be taken into account when creating the content to prevent sexual risk behavior and stimulate sexual pleasure in adolescents.

### **Keywords**

Sexual double standard stereotypes, sexuality, adolescence, media types with sexual content, sexual risk behavior, sexual pleasure.

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## **The Role of Media with Sexual Content on Adolescents' Sexual Risk Behavior and Pleasure & the Mediation of this Association by Adolescent SDS-Stereotypes**

Adolescence is a phase of transition during which major developments in sexuality take place (Munya, Lukman & Yani, 2020). During this period, sexual differences emerge and become more salient due to changes in physiology, psychology, and cognition (DeLamater & Friedrich, 2002; Hill & Lynch, 1983). Adolescents tend to be more open to receiving information regarding sex and sexuality from various sources such as peers, parents, and media types with sexual content (Endendijk et al., 2021). Even though peers and parents are important sources of information about sexual behavior, media types with sexual content are particularly thought to be the most critical source for adolescents to learn about sexuality (Endendijk et al., 2021; Ward, 2003). In the current study's context, the sexual content in media ranges from verbal and visual references to sexual relationships and acts.

As one of the most critical socializing agents for this age group, how media with sexual content conveys certain messages about sex and sexuality may influence adolescent sexual behavior, both positively and negatively (Bleakley et al., 2018; Endendijk et al., 2021). Negative effects might include sexual risk behavior (e.g., early sexual debut, no condom and contraception use) and positive effects might entail pleasure during sex (the extent to which adolescents enjoy any sexual activity such as caressing, fingering, and intercourse). In this regard, how adolescents perceive and approach sexual behavior based on media portrayal may shape the outcomes of sexual activities, with potential long-term impacts on adolescents' physical and mental health (Vasilenko, Lefkowitz & Welsh, 2014). Because of the consequences media with sexual content might have on the sexual behaviors of adolescents, and subsequently, on their physical and mental health, more research on these associations is required. For this purpose, the current study was conducted, and thus studied the associations between the level of exposure to media types with sexual content and adolescent sexual risk behavior

and sexual pleasure. Additionally, the potential mediation of these associations by adolescents' sexual double standard (SDS) stereotypes was explored.

### **Exposure to Media with Sexual Content and Sexual Behavior**

Mainstream media commonly portrays sex and sexual relationships. Previous research estimated the prevalence of sexual content in media as; 85% of all major motion pictures (Jamieson et al., 2008), 82% of all television programs (Fisher et al., 2004), and 59% of all music videos (Turner, 2011). Furthermore, a prior study showed that 70% of adolescents use multiple social media platforms where girls are more likely to present themselves in a sexual way (Lenhart et al., 2015). Similarly, it is estimated that 50% of teenage social media profiles include a sexualized image of themselves (Crescenzi, Araüna & Tortajada, 2013). Moreover, Bleakley, Hennessy, and Fishbein (2011) found that 63 % of boys and 40 % of girls actively seek sexual content in their media choices, such as movies, television, music, online pornography, and magazines. Considering the high prevalence of sexual content on media types as well as adolescents' high engagement with such content, previous sexual media research has sought to explore the potential association between the level of exposure to media content related to sexuality and one's attitudes, beliefs, and expectations about sexuality, and whether these effects would extend to one's sexual behaviors.

In terms of behavioral outcomes, it is proposed that watching more television content with sexual references may predict sexual activity to occur earlier in a relationship among women and expectations of engaging in a greater variety of sexual activities in a relationship among men (Aubrey et al., 2003). Moreover, Gottfried and colleagues (2013) showed in their longitudinal study that exposure to sexual content in television comedies positively correlated to adolescent intercourse initiation. In another longitudinal study, similar findings were suggested; exposure to sexual content from television

shows was a significant predictor of sexual intercourse initiation for the participants who were aged 12-17 and virgins at the beginning of the study (Collins et al., 2004). In the subsequent research based on the same data, it was found that higher exposure to sexual content in television series at the time of the initial questionnaire were more likely to experience unwanted pregnancies within the following 3 years (Chandra et al., 2008). Together, these studies indicate a potential association between exposure to sexual content in media and increased sexual risk behavior in adolescents. Similarly, there is also evidence suggesting the potential impacts of media exposure on sexual pleasure. Previous research has shown that higher pornography use was significantly associated with lower sexual pleasure for men during intercourse (Leonhardt & Willoughby, 2019). Additionally, exposure to lifestyle reality TV was found negatively associated with sexual affect, in turn leading to unpleasant sexual experiences in women aged 16-23 (Ward et al., 2018). This line of research suggests a potential influence of exposure to sexual content in media on lower levels of sexual pleasure in adolescents.

A number of theories are proposed to explain the ways media may affect adolescent sexual behavior (Bleakley et al., 2008). Most relevant for the current research is the social learning theory. According to the social learning theory (Bandura, 1977), environmental and cognitive factors in media may influence human behavior through viewer's observation. This theory considers the role of contextual elements in a way that observational learning of the social surroundings more likely translates into behavior when the role model and role model's experiences are similar to the observer's, the context and/or the behaviors are realistic, and the portrayed behaviors are positively reinforced (Bleakley et al., 2008; Eyal & Finnerty, 2009). In the case of sexual content in media, this would, for example, mean that adolescents are more likely to identify with the sexual scripts and adopt similar behaviors that are shown by same-gender models. Thus, adolescents seeing others enjoying certain sexual behaviors and engaging in sexual risky behavior with no negative consequences in media may lead

them to enact these behaviors in their experiences. This may in turn explain how the level of exposure to sexual content in media types possibly reinforces adolescents to form certain sexual behaviors during their sexual development (Eyal & Finnerty, 2009; Ward, 2003).

### **SDS-Stereotypes & Adolescent Sexual Risk Behavior and Sexual Pleasure**

The association between exposure to media with sexual content and adolescent sexual pleasure and sexual risk behavior might not only be direct but may also be mediated by adolescents' views about the sexual double standard (SDS). Previous research proposed that the process of observing and learning sexual behaviors through media might be happening by priming and/or acceptance of certain sexual stereotypes (Ward & Friedman, 2006).

The concept of SDS was first introduced by Reiss (1960) and describes a traditional norm for men to be more sexually active and dominant and women to be more sexually reactive and passive (Endendijk et al., 2021). Moreover, according to these traditional (hetero)sexual SDS stereotypes, men are often expected to actively pursue women, avoid emotional commitment, and have a lot of sexual partners. On the other hand, women are often expected to set sexual limits and prioritize emotional commitment over sexual fulfillment (Ward et al., 2016). These kinds of scripts involving traditional SDS stereotypes are highly prevalent in media types with sexual content. For instance, in reality television, every 3.6 times per hour there are references suggesting men always look for sex, and every 5.9 times per hour there are references suggesting women as sex objects (Ferris et al., 2007).

Current studies indicate that higher levels of media exposure can be associated with views about SDS stereotypes and a tendency to adhere to components of traditional heterosexual scripts (Endendijk et al., 2021; Ward et al., 2016). For instance, in one of the studies, watching reality television shows

about dating predicted an increased tendency to affirm sexual double standards (Zurbriggen & Morgan, 2006). Similarly, Zhang, Miller, and Harrison (2008) found an association between frequent exposure to music videos and endorsement of SDS stereotypes. Another research by van Oosten, Peter, and Valkenburg (2015) found that exposure to music videos with male artists predicts an increased acceptance of token resistance<sup>1</sup> in adolescent girls. This tendency can be explained in terms of SDS stereotypes in a way that adolescents learn to avoid expressing sexual desire and availability due to the ideas that they get familiar with through these video clips concerning societal expectations. Also, similar findings were found from another research on online pornography; the level of exposure to online pornography and the depicted gender roles were linked to the viewer's understanding of sexual roles that men and women should be adhering to, specifically that men are dominating sexual initiators and women are sexual objects (Peter & Valkenburg, 2007, 2009a).

The findings mentioned above thus far supports the idea that media types with sexual content might be associated with adolescent SDS stereotypes and that these stereotypes may subsequently be associated with adolescent sexual behavior. Indeed, Lefkowitz et al. (2014) also suggested an association between the traditional SDS and adolescents' sexual behavior in terms of sexual risk behavior, sexual coercion and violence, homophobia, and lower pleasure in sex. According to this study, traditional expectations were associated with more sexual partners in men and more reluctance to insist on condom use for women (Lefkowitz et al., 2014). Additionally, concepts involving SDS norms like gender role in intimate relationships and women's association with submission in sex are found to be related to women's lower sexual pleasure and greater difficulty reaching orgasms (Sanchez et al., 2012; Kiefer et al., 2006). Furthermore, increasing evidence suggests that women tend to have lower pleasure in their sexual encounters as they get more exposed to traditionally portrayed gendered scripts in media. For

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<sup>1</sup> Token resistance refers to the belief that women tend to say "no" to any kind of sexual activity even when they, in reality, want to say "yes".



instance, women who take on the submissive sexual role due to traditional sexual scripts reported to feel less freedom in their sexual relationships and greater engagement in unwanted sexual behavior (Kiefer & Sanchez, 2007). Thus, these findings propose that adhering to traditional SDS-norms and scripts may impact the sexual experiences of adolescents by making the sexual encounters less pleasurable and more risky.

Although associations between adolescents' SDS stereotypes and sexual behavior were found in previous research, there is still little evidence on the predictors and consequences of the SDS during adolescence. Because of the potential negative consequences of SDS stereotypes during adolescence, it is crucial to further explore the ways in which SDS stereotypes are conveyed to adolescents and how it in turn affects sexual behavior. Exploring these associations would help better defining sexual education content for teachers in schools, and thus help limit sexual risk behavior and stimulate pleasure in sex during adolescence. Hence, this current study aims to investigate how SDS stereotypes might be conveyed through media and in turn influence adolescents' sexual risk behavior and pleasure.

### **Current Study**

Overall, the current study focused on the association between various media types with sexual content and adolescent sexual risk behavior and pleasure in sex, and the potential mediating role of SDS stereotypes in this association. For this purpose, the current study identified its research question as: *“What is the relation between the level of exposure to various media types with sexual content (sexualized social media accounts, reality TV, online pornography, and sexualized music videos of artists) and adolescents' sexual risk behavior and experience of sexual pleasure? And to what extent is this relationship mediated by adolescents' stereotypes about the sexual double standard?”* Accordingly, four hypotheses were constructed:

1. Higher levels of exposure to media with sexual content are associated with higher levels of sexually risky behavior and lower levels of sexual pleasure both for boys and girls.
2. High levels of exposure to media with sexual content are associated with more traditional SDS stereotypes both for boys and girls.
3. Stronger traditional SDS stereotypes are associated with higher levels of sexually risky behavior and lower levels of sexual pleasure both for boys and girls.
4. The associations between exposure to media types with sexual content and sexual risk behavior and sexual pleasure are mediated by SDS stereotypes.

## Methodology

### Study Design and Participants

Bachelor and master's students from Clinical Child, Family, and Education studies recruited classes from high schools and vocational schools (which are called MBO in Dutch) by using their networks for participation in the survey. In total, 24 schools were recruited to participate in this study between November 2017 and June 2019 (22 schools with 1 class participating and 2 schools with 2 classes participating). The class selection for participation purposes took place based on whether the teachers allowed for the data collection to take place in their classes.

The current research used an earlier study's data (Endendijk et al., 2021). Due to the nature of the research question, the current study only focused on responses from the participants who have had indicated having any kind of sexual experience before the time of the survey (aged 16-20,  $M_{age} = 17$ ,  $SD = 1.00$ , 58% girls, 42% boys,  $N = 257$ ). All the participants (see Table 1 for sample characteristics) completed the questionnaire up until the end of the questions assessing their sexual risk behavior. However, 48 of the participants did not answer questions regarding their sexual pleasure. Thus, for the analysis regarding the sexual pleasure variable, these participants were excluded. In general, the ethnicity of the total participant group was diverse and similar to the ethnic diversity of the Dutch population. When it comes to the education levels of the participant group, 47% of them indicated being enrolled in lower secondary education, which is relatively similar to the percentage of adolescents in the overall Dutch population.

**Table 1***Sample Characteristics*

<b>Total Sample</b>	<i>n</i> (%)	257 (100)
	Age, <i>M</i> ( <i>SD</i> )	17 (1.00)
<b>Sex</b>	Girl, <i>n</i> (%)	150 (58.4)
	Boy, <i>n</i> (%)	107 (41.6)
<b>Education Level</b>	Lower secondary or vocational education, <i>n</i> (%)	120 (46.7)
	Higher secondary education, <i>n</i> (%)	87 (33.9)
	Pre-university education, <i>n</i> (%)	47 (18.3)
	Gymnasium/Grammar school, <i>n</i> (%)	3 (1.2)
<b>Ethnicity</b>	Dutch, <i>n</i> (%)	200 (77.8)
	Turkish, <i>n</i> (%)	4 (1.6)
	Surinam, <i>n</i> (%)	14 (5.4)
	Asian, <i>n</i> (%)	1 (0.4)
	Indonesian, <i>n</i> (%)	12 (4.7)
	Other, <i>n</i> (%)	26 (10.1)

<sup>a</sup>Educational levels are sorted from lowest to highest level.

**Procedure**

At the beginning of the survey, participants were asked to sign an informed consent form if they wanted to join the study. After signing the informed consent, the participants completed an online survey via the platform Limesurvey. The survey completion approximately lasted 45 minutes for each participant. They all received the questionnaires in the same order; background characteristics, gender typicality, exposure to sexualized music videos, reality TV, online pornography, and sexualized people on

social media, explicit SDS-stereotypes, experience with sexual intercourse, and sexual orientation. Additionally, the more sensitive topics were chosen to be put at the end of the order, such as sexual experience and sexual orientation. However, multiple items within one questionnaire were always presented randomly to the participants to prevent response bias. Overall, only previously validated questionnaires or adaptations from previously validated questionnaires for adolescents were used in this research. The completion of the questionnaire took place in the classrooms under the supervision of the student assistants from the bachelor and master Clinical Child, Family, and Education studies. Participants did not receive any compensation for their participation in the study. The research was approved by the Ethics Review Board of the Faculty of Social & Behavioral Sciences of Utrecht University.

## **Instruments**

### ***Adolescents' Personal SDS Stereotypes***

To measure the complete range of possible adolescent SDS stereotypes from reversed to traditional, the items from the adapted version of the Scale for the Assessment of Sexual Standards among Youth (SASSY) (Emmerink et al., 2017) were used. The original SASSY could not separate between people who have reversed and egalitarian sexual standards due to both groups (strongly) disagreeing with the items which are worded in the direction of a traditional SDS (e.g., "I think cheating is to be expected more from boys than girls"). Thus, the wording of the items was changed and rather asked in a way that participants could indicate which gender they would expect to show certain sexual behaviors more often (e.g., cheating). For this purpose, a 3-point scale (0= both genders equally often, or neither gender, 1= boys/men, and 2= girls/women) was used (Endendijk et al., 2021). Items were recoded and averaged in such a way that positive scores (+1) stood for traditional expectations about sexual behaviors regarding men and women (e.g., expecting cheating behavior in romantic relationships from men more than women). Neutral scores (0) stood for egalitarian expectations about the sexual behavior of men and

women (e.g., expecting cheating behavior in romantic relationships equally from men and women). Lastly, negative scores (-1) stood for reversed expectations about the sexual behavior of men and women (e.g., expecting cheating behavior in romantic relationships from women more than men). All items were checked for reliability and internal consistency (Cronbach's  $\alpha = .757$ ).

### ***Exposure to Various Media Types***

The exposure levels to various media types: (1) social media (e.g., Facebook, Instagram), (2) reality TV (i.e., MTV's "Ex on the beach"), (3) online pornography, and (4) sexualized music videos of artists were determined based on adolescents' response to how often they engaged with such media content.

**Exposure to Sexualized Men and Women in Social Media.** Exposure to sexual content on social media was measured by asking adolescents to report how often (in the past 6 months) they had looked at pictures on social network sites, such as Facebook and Instagram, of other women/girls and men/boys in which these accounts sexually represented themselves (e.g., with a sexy gaze, with a sexy appearance, scantily dressed, and in a sexy posture) (Van Oosten, Peter & Boot, 2015). The answer options ranged from 1 *never* to 7 *multiple times a day*. Items were averaged to create an exposure to sexualized social media accounts variable (Cronbach's  $\alpha = 0.907$ ).

**Exposure to Reality Television.** Exposure to sexual content on reality TV was assessed based on adolescents' responses to how often they watched 6 reality TV shows (in the 6 months before the survey) using a 7-point scale in which 1 indicated *never* to 7 indicated *every episode*. Examples of such reality TV shows were MTV's "Ex on the Beach", "Geordie Shore" and "Temptation Island" (Vandenbosch et al., 2015). These sexually oriented reality TV shows were chosen based on whether they were broadcasted before and/or during data collection. Items were averaged to create an exposure to a reality TV variable (Cronbach's  $\alpha = 0.699$ ).

**Exposure to Online Pornography.** Exposure to sexual content on online pornography was assessed based on adolescents' responses to the extent to which they had intentionally watched on the internet (a) pictures of clearly exposed genitals, (b) videos with clearly exposed genitals, (c) pictures in which people are having sex, and (d) videos in which people are having sex during the 6 months before the survey, using a 7-point scale in which 1 indicating *never* to 7 indicating *multiple times a day* (Vandenbosch et al., 2015). Items were averaged to create an exposure to an online porn variable (Cronbach's  $\alpha = 0.909$ ).

**Exposure to Sexualized Music Videos of Female and Male Artists.** Exposure to sexual content on sexualized music videos of female and male artists was assessed based on adolescents' responses to how often (in the last 6 months) they had watched music videos on the Internet or TV by 3 female artists (e.g., Rihanna, Nicki Minaj, and Ariana Grande) and 3 male artists (e.g., Drake, Ronnie Flex, and Justin Bieber) (Van Oosten, Peter & Valkenburg, 2015). The artists were chosen based on 3 criteria: First, the artists' music had to belong to rap, hip-hop, or R&B (these genres known to have the most sexualized content) (Turner, 2011) and artists had to be known for having at least some sexual content in their music videos. Second, the artists had to be popular among Dutch adolescents at the beginning of the study. Lastly, the artists needed to be sufficiently established in the Dutch music market in order to remain popular until the end of the study. In other words, no one-hit wonders were included in the study. The response options ranged from 1 indicating *never* to 7 indicating *multiple times a day*. Items were averaged to create an exposure to sexualized music videos of artists variable (Cronbach's  $\alpha = 0.776$ ).

### ***Adolescent's Sexual Experience***

To begin with, all the participants were asked to indicate whether they have ever had a sexual experience with another person, using a 2-point scale (0=*no* and 1=*yes*). In this study, sexual experiences

ranged from touching and caressing to intercourse. Additionally, if participants indicated ‘yes’ to the sexual experience, they received questions regarding their sexual experiences and behavior, namely sexual risk behavior and sexual pleasure.

**Sexual Risk Behavior Measures.** The sexual risk behavior of adolescents was measured with questions asking about the age they had their first sexual experience, the number of partners they had a sexual experience with, and the frequency of them using protection methods like condoms and birth control pills (Rodgers, 1999; Ybarra & Mitchell, 2014). In the case of age at first sexual experience, if the participants had sex when they were 14 or younger, this was identified as risk. In the case of the number of partners they had a sexual experience with, more than 1 partner was identified as a risk. For the frequency of using protection methods, participants indicated how often based on a 5-point scale (1=*always*, 2=*almost always*, 3=*sometimes*, 4=*almost never*, and 5=*never*) in which scores of 3,4, and 5 were identified as a risk. If the responses were identified as a risk, they were recoded as “1” and non-risk answers were recoded as “0” for each of these questions above. To be able to create an overall sexual risk behavior variable, a sum score was calculated.

**Sexual Pleasure Measures.** Sexual pleasure of adolescents was measured with questions asking the extent to which they like sex (intercourse) and other sexual activities such as caressing, fingering, and sucking on a scale from 1 to 7 (1 = *not at all nice* and 7 = *very nice*) (Sanchez, Crocker, & Boike, 2005). These scores for intercourse and other sexual activities as separate items were averaged into one adolescent sexual pleasure variable for the analysis.

## **Analyses**

First, several descriptive analyses were conducted to assess the associations between different study variables and check the assumptions for regression analyses (e.g., linearity checks with scatter



plots, Pearson correlation, Durbin-Watson, and P-P plots). After checking the assumptions, a simple linear regression was used to see the potential correlation between exposure to various media types with sexual content and adolescents' personal SDS stereotypes. As the last step, hierarchical multiple regression analysis was conducted in SPSS to explore the potential associations between exposure to various media types with sexual content and adolescents' sexual experiences, and whether these were mediated by SDS stereotypes. For this purpose, two hierarchical regression models were used; one for adolescent sexual risk behavior and one for adolescent sexual pleasure. The predictors in this regard were entered in the model in two steps: (1) exposure to media types with sexual content (i.e., sexualized social media accounts, reality TV, online pornography, and sexualized music videos of artists) and (2) adolescents' personal SDS-stereotypes.

## Results

### Data Inspection and Descriptive Statistics of the Study Variables

Before starting the hierarchical multiple regression analyses, preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Scatter plots and histograms revealed no violations of these assumptions. Additionally, the Durbin-Watson statistic showed that the independent values of residuals assumption had been met, as the obtained values were close to 2 when the hierarchical multiple regression analyses were conducted for adolescents' sexual risk behavior (Durbin-Watson value = 2.085) and sexual pleasure (Durbin-Watson value = 1.952). In both of the hierarchical multiple regression models for separate dependent variables (sexual risk behavior and sexual pleasure), the P-P plot for the respective model suggested that the assumption of normality of the residuals may have been slightly violated.

Moreover, the correlations amongst all study variables were examined by using Pearson correlation missing deleted pairwise analysis for all study variables (see Table 2). Most correlations were small to medium size in the expected direction. Specifically, a significant positive correlation was found between exposure to reality TV and adolescent sexual risk behavior. None of the correlations with adolescent SDS stereotypes or with sexual pleasure were significant.

**Table 2***Correlation matrix between study variables*

	1	2	3	4	5	6	7	<i>M (SD)</i>
1. Exposure to sexualized music videos	1.000							2.14 (.969)
2. Exposure to reality TV	.204**	1.000						1.77 (.936)
3. Exposure to porn	.071	-.200*	1.000					2.31 (1.40)
4. Exposure to sexualized social media accounts	.226**	-.051	.213**	1.000				3.89 (1.39)
5. Adolescent SDS stereotypes	.018	.027	-.049	.056	1.000			.458 (.235)
6. Adolescent sexual risk behavior	-.040	.126*	.032	-.012	-.048	1.000		.809 (.888)
7. Adolescent sexual pleasure	.042	.071	.128	.046	.060	.063	1.000	6.20 (1.10)

\* $p < .05$  and \*\* $p < .01$ **Predictors of SDS Stereotypes in Adolescents**

A simple multiple regression was conducted to identify the predictors of SDS stereotypes in adolescents. A non-significant regression model was found ( $F(4, 252) = .464, p = .762$ ). The model explained a non-significant 0.7% variance in adolescents' SDS stereotypes. None of the media exposure

variables were significant predictors of SDS stereotypes (see Table 3). There was no indication of problematic multicollinearity between the predictors (tolerance > 0.898, VIF < 1.114).

**Table 3**

*Simple multiple regression analysis predicting adolescents' sexual double standard stereotypes from exposure to various media types with sexual content.*

	<i>B</i>	<i>SE</i>	$\beta$	$\Delta R^2$
				.007
Exposure to sexualized music videos	.001	.016	.003	
Exposure to reality TV	.004	.016	.018	
Exposure to online pornography	-.010	.011	-.060	
Exposure to sexualized social media accounts	.012	.011	.069	

### **Predictors of Adolescent Sexual Behavior**

The results of the hierarchical multiple regression in which adolescents' sexual behavior (sexual risk behavior and sexual pleasure) were predicted from the various media types with sexual content and adolescents' SDS stereotypes are presented in Table 4 and Table 5. There was no indication of problematic multicollinearity between the predictors for sexual risk behavior (tolerance > 0.898, VIF < 1.114) and sexual pleasure (tolerance > 0.844, VIF < 1.185).

### ***Predictors of Adolescent Sexual Risk Behavior***

In step 1 of the hierarchical multiple regression (see Table 4), exposure to media types with sexual content did not significantly predict sexual risk behavior ( $R^2 = [0.025]$ ,  $F(4, 252) = 1.605$ ,  $p =$

0.174). Exposure to reality TV was however a significant predictor of sexual risk behavior in itself, with more exposure to reality tv being associated with more sexual risk behavior. When the adolescent SDS stereotypes variable was added to the model in step 2, the total variance explained by the model as a whole was 2.7% ( $F(5, 251) = 1.398; p = 0.225$ ). The introduction of SDS stereotypes explained the additional, but non-significant, 0.2% variance in adolescents' sexual risk behavior, after controlling for media types with sexual content (social media accounts, online pornography, reality TV, and music videos of artists). Also, SDS stereotypes were not a significant predictor of sexual risk behavior. Together these results show that SDS stereotypes did not mediate the association between exposure to media types with sexual content and sexual risk behavior.

### ***Predictors of Adolescent Sexual Pleasure***

In step 1 of the hierarchical multiple regression (see Table 5), exposure to media types with sexual content did not significantly predict sexual pleasure ( $R^2 = [0.027]$ ,  $F(4, 204) = 1.397, p = 0.236$ ). When the adolescent SDS stereotypes variable was added to the model in step 2, the total variance explained by the model as a whole was 3% ( $F(5, 203) = 1.254; p = 0.285$ ). The introduction of SDS stereotypes explained an additional, but non-significant, 0.3% variance in sexual pleasure, after controlling for media types with sexual content (social media accounts, online pornography, reality TV, and music videos of artists). Exposure to online pornography was however a significant predictor of sexual pleasure in itself, with more exposure to online pornography being associated with more sexual pleasure. SDS stereotypes were not a significant predictor of sexual pleasure. Together these results show that SDS stereotypes did not mediate the association between exposure to media types with sexual content and sexual pleasure.

**Table 4**

*Hierarchical multiple regression analysis predicting adolescents' sexual risk behavior from exposure to various media types with sexual content and mediation by adolescents' SDS stereotypes.*

	<i>B</i>	<i>SE</i>	$\beta$	$\Delta R^2$
Step 1				.025
Exposure to sexualized music videos	-.070	.060	-.077	
Exposure to reality TV	.147	.062	.155*	
Exposure to online pornography	.044	.041	.069	
Exposure to sexualized social media accounts	-.001	.042	-.001	
Step 2				.027
Exposure to sexualized music videos	-.070	.060	-.077	
Exposure to reality TV	.148	.062	.156*	
Exposure to porn	.042	.041	.066	
Exposure to sexualized social media accounts	.001	.042	.002	
Adolescent SDS stereotypes	-.180	.236	-.048	

\* $p < .05$

**Table 5**

*Hierarchical multiple regression analysis predicting adolescents' sexual pleasure from exposure to various media types with sexual content and mediation by adolescents' SDS stereotypes.*

	<i>B</i>	<i>SE</i>	$\beta$	$\Delta R^2$
Step 1				.027
Exposure to sexualized music videos	.005	.084	.005	
Exposure to reality TV	.118	.086	.100	
Exposure to online pornography	.110	.055	.142*	
Exposure to sexualized social media accounts	.018	.060	.023	
Step 2				.030
Exposure to sexualized music videos	.005	.084	.004	
Exposure to reality TV	.113	.086	.096	
Exposure to porn	.112	.056	.146*	
Exposure to sexualized social media accounts	.013	.060	.016	
Adolescent SDS stereotypes	.269	.323	.058	

\* $p < .05$

## Discussion

In the present study, the associations between level of exposure to various media types with sexual content (social media accounts, online pornography, reality TV, and music videos of artists) and adolescents' sexual behavior (i.e., sexual risk behavior and pleasure) were examined, and the role of adolescents' SDS stereotypes as a mediator in these associations was explored. Contrary to the proposed hypotheses, the results showed no significant associations between overall exposure to media with sexual content and adolescent sexual risk behavior and pleasure. However, some significant individual associations between specific media types and sexual behavior were found; (1) exposure to reality tv was associated with higher levels of engagement to sexual risk behavior and (2) exposure to porn was associated with higher levels of sexual pleasure. Moreover, no significant association between the level of exposure to media types with sexual content and adolescent SDS stereotypes was found. Also, SDS stereotypes were not significantly related to adolescent sexual behavior. As such, no mediation by SDS stereotypes was identified in the current study.

### **Associations Between Exposure to Media with Sexual Content and Sexual Behavior**

The current research based its hypothesis regarding the potential associations between exposure to various media types with sexual content and sexual risk behavior and pleasure on the social learning theory proposed by Albert Bandura (1977). This theory proposes that adolescents would learn certain sexual behaviors from what they see in media and enact these behaviors based on their relative applicability to their own sexual experiences. In the case of sexual risk behavior, it was expected that with increased exposure to media content portraying certain sexual risk behaviors as acceptable and rewarding, adolescents would tend to be more sexually risky in their own relationships. In the case of sexual pleasure, it was assumed that with increased exposure to media content portraying certain sexual behaviors as more pleasurable, adolescents would tend to enact these behaviors. When what is



portrayed and real-life experiences mismatch they would have less sexual pleasure. However, the insignificant findings regarding overall exposure to media suggest that not all media content with sexual references might be as important as a role model for adolescents to directly imitate in their own sexual behavior. The individual significant associations between reality TV and sexual risk behavior, and online pornography and sexual pleasure indicate that certain media types might be more influential than others on adolescent sexual behavior because of their more explicit portrayal of sexual relationships. Online pornography consists of solely explicit sexual content, and likewise, reality TV shows chosen in the current study also specifically were about dating relationships with explicit references to sex. Hence, it is demonstrated that the more explicit the portrayal of sexuality is, the more reenactment of these behaviors through social learning occurs. Future research is recommended on exploring the drivers behind what makes explicit sexual content potentially more influential for the positive and negative outcomes in adolescent sexual behavior. Nevertheless, it is noteworthy that these findings can encourage officials (i.e., school teachers and pediatricians) and parents to cultivate adolescents' media literacy (i.e., having the knowledge about the presented contents in the media). Having media literacy would help adolescents to identify and receive correct information from the media and in turn limit risky behavior and stimulate pleasure.

In the case of reality TV influence on sexual risk behavior, the social learning theory's relatability aspect may further explain found significance. Because reality TV uses real people and situations, the depicted sexual scripts may be experienced as more relatable, relevant, and worthy of emulation by adolescents. Similar results were reported in a cross-sectional study by Schooler, Lazaro & Weiss (2019) in which perceiving reality programs as realistic was directly associated with sexual risk behavior in terms of frequent participation in sexual behaviors while intoxicated and/or high. Although the current study indicates a significant association between exposure to reality TV and sexual risk behavior, no causal

conclusions can be made. It could be that participants who are themselves engaging in riskier sexual behavior might be more interested in watching reality TV with sexual content solely because these scripts more closely mirror what they experience. Hence, future investigation of this finding with a longitudinal design would help explain the mechanisms underlying this association.

Additionally, the significant association between the level of exposure to online pornography and sexual pleasure, in which having more exposure to online pornography was related to more, instead of less, pleasure in sex can be explained by the self-exploratory role of online pornography for adolescents. One interpretation of this finding could be that online pornography is a crucial source of information on sexuality for adolescents since watching pornography might help them learn about different sexual behaviors that adolescents are not yet familiar with. Watching online pornography would allow them to explore their own preferences and consequently have more pleasure in sex (Weber, Quiring & Daschmann, 2012). This idea is further supported by studies about the self-exploratory side of pornography (McKee et al., 2021; Olmsted et al., 2013). Nonetheless, some research contradicts this finding. For example, negative correlations between exposure to online pornography and sexual pleasure were identified due to a disconnect between viewers' preferences and their sexual experiences with others (Grubbs et al., 2019; Leonhardt & Willoughby, 2019; Morgan, 2011; Peter & Valkenburg, 2009b). Thus, more studies on the underlying mechanisms of the association between pornography and sexual pleasure are needed to shed light on pornography exposure's negative and positive effects on adolescent sexual behavior.

### **Associations Between the Exposure to Media with Sexual Content and Adolescent SDS Stereotypes**

Contradictory to the expectations, the findings of the current study did not yield a significant association between exposure to media types with sexual content and adolescents' SDS stereotypes. It

was initially expected that with certain sexual behaviors being approved of and rewarded differentially for men and women in media, adolescents who are exposed to such content would be more likely to internalize this differentiated approval of behaviors and tend to have stronger traditional SDS stereotypes. Similar to the current findings, some previous longitudinal studies were also unable to confirm such an association (Peter & Valkenburg, 2011; Vandenbosch & Eggermont, 2011). It could be that the endorsement of SDS stereotypes through media is not as robust and pervasive as was initially thought. Nevertheless, various studies also exist that do show evidence for the presence of such an association. For example, a meta-analysis by Ward (2003) found that frequent exposure to sexually oriented TV genres and music videos was associated with greater acceptance of stereotypical attitudes about sex. Another study found that a preference for music television predicted a stronger agreement about men being more sex-driven and women being seen as sex objects in adolescents (Ter Bogt et al., 2010). Due to the general incoherence among researchers about the potential relationship between media exposure to sexual content and adolescent SDS stereotypes, there still needs to be future research particularly looking into the mechanisms of how adolescents' SDS stereotypes may be predicted by media exposure. On the other hand, one other possible explanation for the lack of significance of the current research results about the relationship between media exposure and SDS stereotypes could be the cultural context in which the study was conducted. Since the shaping of gender-related sexual attitudes can be culture and context-dependent (Sagebin Bordini & Sperb, 2013), having a predominantly Dutch population in the study whose cultural values are relatively more open about sex and sexual education at early age might have influenced the yielded results. Thus investigating the association with a bigger sample with diverse cultural beliefs could be fruitful in the understanding of these underlying mechanisms.

### **Associations Between Adolescents' SDS Stereotypes and Sexual Behavior**

No significant association between adolescents' SDS stereotypes and sexual behavior was identified, although it was initially thought that if adolescents had stronger SDS stereotypes, they would also engage in more sexual risk behavior and have less pleasure in sex. This finding is in contrast to the hypothesis of the current research as well as previous research findings. A recent study reported that SDS stereotypes were related to several aspects of adolescents' sexuality and that certain adolescents were motivated to behave in accordance with their sexual double standards (Boahene, Reitz & Endendijk, 2022). Moreover, Kiefer and Sanchez (2007) indicated that sexual passivity associated with SDS endorsement could be a predictor of lower sexual satisfaction in girls. Similarly, it was found by Vanwesenbeeck (2011) that the stereotypes attached to masculinity may lead to restriction of emotional openness in boys in turn causing problems in their sexual relationships. One explanation for why there was a contradictory finding in the current research may come from the lack of analysis of gender differences. Most previous research about the influence of SDS stereotypes on adolescent sexual behavior emphasized the presence of gender differences in sexual behavior (Emmerink et al., 2016; Kiefer et al., 2006; Lefkowitz et al., 2014; Sanchez, Fetterolf & Rudman, 2012). Emmerink et al. (2016) indeed identified gender as one of the important factors in SDS research about sexuality. Despite the importance of potential gender differences in the SDS research and behavior, the current research was unable to explore the gender differences due to having a small sample size of adolescents who have had a sexual experience before the time of the survey. Because there was no analysis into gender differences in sexual behavior, the different directions of effects for boys and girls separately could not have been identified. Consequently, this might have affected the analysis and potentially caused the insignificance. As such, follow-up research on the gender differences when understanding how adolescent sexual behavior may be influenced by media is advised. Repeating this study with a bigger group and analyzing

the potential association separately for girls and boys would especially help with identifying different methods of prevention for sexual risk behavior and stimulating pleasure during sex for boys and girls.

### **Adolescents' SDS Stereotypes as a Mediator**

Overall, the analysis showed no mediation by adolescents' SDS stereotypes in the potential association between the level of exposure to media types with sexual content and adolescent sexual risk behavior and pleasure. A possible explanation for the lack of mediation might be the 'delayed effect' hypothesis. The delayed effect hypothesis suggests that media effects can manifest over time as a byproduct of information retrieval, storage, and processing (Jensen et al., 2011). Considering this, a recent longitudinal study found that high engagement with media types with sexually explicit content in early adolescence was associated with a higher chance of engaging in risky sexual behavior during emerging adulthood (Lin, Liu & Yi, 2020). The risky sexual behaviors in this study were very similar to the ones included in the current study, which were identified as an early sexual debut, unsafe sex, and multiple lifetime sexual partners. Hereby, these findings might explain why there was no significance in the current study's results regarding the association between exposure to media types with sexual content and sexual risk behavior during adolescence and its mediation by adolescent SDS stereotypes. This thus means that it would be beneficial if future research also includes different time points in data collection in which data about sexual risk behavior is collected from the same participants over the years.

Another explanation might be the presence of other factors that were not included in the methodology of this study. For instance, additionally to their SDS stereotypes, adolescents' physical self-esteem could be a potentially influential factor, especially in the case of adolescent sexual pleasure. Supporting this point, it is previously found that negative body perceptions were associated with low

physical self-esteem and thus dissatisfaction with one's sexual experiences (Aubrey, 2006). Additionally, one line of research found that sexually explicit internet material was associated with lower physical self-esteem both in boys and girls (Doornwaard et al., 2014). Therefore, examining adolescents' physical self-esteem in the current model to see if there is any moderation in this regard and whether physical self-esteem would be a better predictor of adolescent sexual pleasure would be beneficial.

### **Limitations and Future Aspects**

This study provided valuable contributions to the knowledge on the predictors of adolescent sexual risk behavior, sexual pleasure, and SDS stereotypes. However, it is important to address some overall limitations of this correlational and cross-sectional study. First, due to the study design being correlational, directions of the effect could not be determined regarding the relationship between various media types with sexual content and adolescent sexual behavior and the mediation of this relationship by SDS stereotypes. Additionally, due to having only cross-sectional data, no causal conclusions could have been made. To better understand the potential associations and better conclude the roles of the study variables, more long-term longitudinal studies focusing on bidirectional relationships need to be conducted. In addition, the current study only used self-report measures to assess sexual risk behavior and pleasure. This might have increased the risk of social desirability bias in participants' responses (King, 2022).

Moreover, most of the data came from binary or heterosexual individuals. Therefore, this current study provides little insight into the SDS-related sexual experiences of nonbinary and nonheterosexual adolescents. There are indications from previous research that nonheterosexual individuals may encounter negative evaluations of their sexual behavior more often when they violate the traditional SDS norms (Zaikman et al., 2016). Hence, it is suggested that future research does not only focus on the

gender binary and heterosexual individuals but also aims to increase knowledge of the experiences of LGBTIQ+ and nonbinary population.

Lastly, in the current study, the participants were all from a Dutch education where sex education is a mandatory course from early age on. To further build upon the findings of this study, repetition of this study in different education systems from different countries in which sex education is perhaps not mandatory or non-existing may yield different results. Such future research could then inform whether sex education programs or interventions need to focus on educating adolescents on the SDS stereotypes, sexual risk behavior, and sexual pleasure in the hopes of limiting some of the potential negative consequences of exposure to media types with sexual content on the sexual behaviors of adolescents.

### **Conclusion**

In conclusion, the current study offers an insight into the mechanisms behind the relationship between exposure to various media types with sexual content, adolescents' sexual behavior, and SDS stereotypes. Overall, exposure to media types with sexual content together did not significantly predict adolescent sexual risk behavior and pleasure, and no significant mediation by SDS stereotypes of this potential association was found. However, the findings of the current study indeed suggest that certain media types (i.e., reality TV and online pornography) may have associations with sexual risk behavior and sexual pleasure during adolescence. As such, the findings of this study can be useful for sexual educators to create strategies for preventing sexual risk behavior and stimulating sexual pleasure in adolescents. This can be done so by increasing adolescents' media literacy when understanding sexual scripts in certain media types. Nevertheless, important future steps would be the further exploration of the mediation of adolescent SDS stereotypes by using longitudinal designs and expanding the sample size,

thus including more diverse characteristics in the analysis. Exploring the potential gender differences may subsequently inform parents, teachers, and adolescents about potential risk factors for sexual behavior and suggest more beneficial use of media with sexual content for boys and girls.



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