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Do Extraversion and Impulsivity Moderate the Effect of Sexual Media Exposure on Adolescents' Sexual Stereotypes?

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Abstract

Although previous research has documented a relationship between sexual media exposure and sexual stereotyping, it is not known whether and how personality factors moderate this relationship. In this experimental study ($N = 90$) I examined 1) whether there is a difference in sexual stereotypes of adolescents who watched neutral versus sexual clips and 2) whether extraversion and impulsivity have a moderating effect on this relationship. Results from Repeated Measures ANOVA's show no causal effect of exposure to sexual video clips on sexual stereotypes of adolescents. Furthermore, extraversion and impulsivity do not moderate this relationship. For future research I recommend to measure whether certain personality types (undercontrol, overcontrol and ego-resilience), instead of individual personality traits, have a moderating effect on the relationship between exposure to sexual media and sexual stereotypes.

Keywords: extraversion, impulsivity, sexual media exposure, sexual stereotypes, adolescents.

Currently, adolescents spend two hours a day watching television and listening to music. This is longer than the time they spend with their friends and family (Central Bureau of Statistics, 2003). When looking at all forms of media, young people report to spend six to seven hours each day with some form of media (Brown & Keller, 2000). Adolescents use media for different reasons. For example, media is used for entertainment purposes, to contribute to a developing identity, to help cope with problems and for information purposes (Huston, Wartella & Donnerstein, 1998). It is important to note that nowadays all forms of media are full of sexual information (Huston et al., 1998; Brown, Halpern, & L'Engle, 2005). According to Brown and colleagues (2005) Sexual content has grown frequently and explicitly in different forms of media. For instance, messages about sexuality on television have increased in the two last decades (Ward, 2003).

According to Huston and colleagues (1998) sexual content can be defined as verbal references to sexual activity, innuendo (an indirect intimation about a person or thing), implied sexual activity and visual presentation of sexual activity. The question is whether sexual content in mass media is realistic. According to Ward (2002), this is not the case. Sexual messages in the media are distorted, stereotypical and potentially harmful. For instance, television programs with sexual content often show sexual actions between people who do not have a relationship or who are not married. Furthermore, only one in eleven television programs mention possible risks or responsibilities surrounding sex (Brown & Keller, 2000). This distorted picture about sex has raised concern and questions about whether frequent use of popular media may lead to stereotypical attitudes about men, women and sexual relationships. In order to answer this question, my aim is to examine whether exposure to sexual media leads to more sexual stereotypes of adolescents.

Sexual Media Use and Sexual Stereotypes of Adolescents

In understanding the role of media on the development of sexual stereotypes, it is interesting to look at several theoretical perspectives about this subject. For example Ward (2003) describes that although everyone is exposed to the same media content, individuals may develop different subsequent beliefs and behaviors about sexuality. This is because viewers integrate media content with their existing world views, schemas and personal experiences. Therefore, the same media content has a different meaning for different people. Furthermore, Ward (2003) states that connections between media exposure and viewers are bi-directional in nature. While media content affects the viewer, the viewer may actively select specific media content.

The most prominent theoretical perspective about the influence of media on attitudes and stereotypes people form about relationships and sex is the social learning theory (Bandura, 1977). According to that theory people learn which behaviors are appropriate and inappropriate because they see another person – a media model– behave in a certain way and see whether the model’s behavior is punished or rewarded. So, when adolescents see media models behaving sexually and see that they are rewarded for that, there is an increased likelihood that they will also behave in that way. Anderson and colleagues (2003) found that adolescents who watched a lot of violent television, themselves also showed more aggressive behavior. In line with Bandura’s social learning theory (1977) and these violence related findings, I believe that adolescents model their sexual stereotypes after the modeled behavior in popular media content.

This is confirmed by several cross-sectional and longitudinal studies. A cross-sectional relationship between adolescents’ exposure to sexual media content and a variety of gender stereotypes and sexual beliefs was found by several authors (e.g., Escobar-Chaves et al., 2005; Peter & Valkenburg, 2007). For example, Ward (2003) found that exposure to sexually oriented genres such as soaps and music videos is associated with greater

acceptance of stereotypical and casual attitudes about sex, with higher expectations about the prevalence of sexual activity and of certain sexual outcomes. Adolescents also form more specific attitudes about men, women and sexual relationships on what they see and hear in the media. Huston and colleagues (1998) for example indicate that sexual content influences and changes attitudes and knowledge about men, woman and relationships. This is confirmed by Peter and Valkenburg (2007) who found that exposure to sexualized media environment is related to beliefs that women are sex objects.

Until now only one exceptional longitudinal study has been conducted on the link between sexual media exposure and sexual stereotypes in adolescents. Baams, Overbeek, Dubas, Doornwaard, Rommes and Van Aken (submitted) found in their longitudinal study that a higher level of sexualized media consumption is associated with a higher level of permissive sexual attitudes.

What do we know about causality?

Although the studies above suggest an association between sexual media use and distorted stereotypes about men, women and sexual relationships, a limitation is that they are cross-sectional or longitudinal in nature. In these kinds of studies it is hard to draw causal conclusions because there could be other, unmeasured factors that influence the results. In order to draw causal conclusions about the influence of sexual media use on sexual stereotypes, experimental studies are necessary. A few previous experiments have been conducted, and these have generally confirmed the association between sexual media use and sexual stereotypes. In one of the first experimental studies about this subject, Greeson and Williams (1986) found that adolescents who were exposed to music videos that contained sexual references were more likely to confirm with sex before marriage than adolescent who were exposed to music videos without sexual content. Nowadays, adolescents have much more access to different forms of sexual media content, so the conclusions of this study are not up to date.

Kalof (1999) also did an experimental study on the influence of media on sexual attitudes. She found that exposure to gender stereotyped music video imagery had a significant main effect on attitudes about adversarial sexual relationships (exploitative male-female relationships). This was confirmed in the experimental study of Ward (2002); female students who were exposed to sexual clips, later offered stronger endorsement of these themes than did women who were exposed to non-sexual clips. Moreover, Ward and Friedman (2006) found that young adolescents who viewed brief clips featuring women as sex objects were more likely to endorse this and to express more stereotypical attitudes about gender roles than adolescents who were exposed to nonsexual content. The same effect was found for young African American adolescents (Ward, Hansbrough & Walker, 2005). The beliefs of the adolescents about gender roles and relationships were shaped by the stereotypical portrayals showed in the video clips. Another interesting thing Ward (2002) investigated was whether there were factors that had a moderating effect on this relationship. She found that the factors viewing amount and viewer involvement moderated the relationship between exposure to sexual media and stereotypical attitudes.

Do Impulsivity and Extraversion Moderate the Effect of Exposure to Sexual?

One may conclude that there is a relationship between exposure to sexual media and the acceptance of sexual stereotypes. However, numerous factors may moderate this relationship (Ward, 2003). Which means that for some individuals sexual media might have an effect on sexual stereotypes and for other individuals sexual media might not have such an effect. These factors include characteristics of the media content but also personality factors of the person who is exposed to this media content. In this study, I will investigate whether impulsivity and extraversion moderate the relationship between exposure to sexual media and sexual stereotypes. Impulsivity can be defined as ‘acting without thinking’; adolescents may blurt out answers rather than taking time to think a problem through, they may interrupt or intrude on others by butting into conversations and games, or they may

have difficulty waiting for their turn (Wenar & Kerig, 2009). Zietsch, Verweij, Bailey, Wright and Martin (2010) found that impulsivity is positively correlated with risky sexual behavior. Which means that someone who has higher scores on impulsivity also has a greater chance to show risky sexual behavior. This is confirmed in the review study of Hoyle, Feifar and Miller (2000). The question is whether impulsivity also has an effect on sexual attitudes and stereotypical thinking. Because attitudes can contribute to behavioral effects (Huston et al., 1998), it is plausible that impulsive people who show risky sexual behavior have different sexual attitudes/stereotypes than people who are not impulsive. Another thing that has not been investigated yet is whether impulsivity moderates the relationship between sexual media exposure and sexual stereotypes of adolescents. This is also the case for the personality trait extraversion.

According to Eysenck, who developed the Five-factor model of personality, extraversion contains of a large number of narrow traits such as being sociable, active, assertive, lively, adventurous, open and dominant. Extraverts typically like parties, have many friends, and seem to require having people around them to talk to. They also tend to have a high activity level (in Larsen & Buss, 2008). Eysenck (1972) found that extraverts were more likely to experiment with sexual activities, have relatively many partners and engage in sex more frequently than less extraverted peers. In accordance, Heaven, Fitzpatrick, Craig, Kelly and Sebar (2000) found that extraversion is an important predictor of sexual excitement, low sexual nervousness in males and sexual curiosity in females (Heaven et al., 2000). Further Schmitt (2004) found that extraversion is related to promiscuous sexual behavior, unsafe sexual practices, sexual intercourse at younger ages and favorable attitudes about having more sexual partners (Schmitt, 2004). But again, no information is currently available about the question whether extraversion moderates the relationship between exposure to sexual media use and sexual stereotypes.

Research Questions and Hypotheses

Although longitudinal and experimental studies found a relation between sexual media and sexual stereotypes, very little is known about personality factors moderating this relationship. In order to fill this gap, I conducted an experimental study to investigate the following main research question: Does exposure to sexual media have an effect on the sexual stereotypes adolescents have? In addition, I examined whether impulsivity and extraversion would moderate the relationship between exposure to sexual media and sexual stereotypes. Firstly, I hypothesize that adolescents who are exposed to sexual media content show more sexual stereotypes than adolescents who are exposed to neutral media content. Secondly, I hypothesize that for adolescents with higher levels of extraversion or, the effect of sexual media content on the development of sexual stereotypes would be more pronounced.

Method

Participants

Participants are 90 undergraduates of the University Utrecht and College Utrecht with an age between 17 and 23 years old. The mean age for male participants was 20.7 years old (SD=1.64) and the mean age for female participants was 20.2 years old (SD=1.04). 44.4 % (n=40) of these participants is male and 55.6 % (n=50) is female. 52.5% (n=21) of the male participants took part in the neutral condition and 47,5 % (n=19) took part in the sexual condition. 52% (n=26) of the female participants took part in the neutral condition and 48 % (n=24) took part in the sexual condition. In terms of ethnic background, 95,6% of all participants reported that they have a Dutch background and 4,4 % reported that they have another ethnic background. With regard to religion, 31,1 % (n=28) of the reported that they have a religious background, while 66,7 % (n=60) reported that they are not religious. With regard to sexual orientation, 91,1 % of the participants reported to be heterosexual, 5.6 % reported to be homosexual, 2,2 % reported to be bisexual and 1,1 % reported that their

sexual orientation must be called different or that they did not yet know what sexual orientation they have

Design

In the current study two groups are compared using an experimental method. The participants were randomly assigned to either the neutral or sexual (experimental) condition. Thereby I investigated whether there are differences in sexual stereotypes between participants in the neutral or the sexual condition. To measure this, I used a Repeated Measures Design with sexual stereotypes as within subjects variable (before and after watching the video) and condition (sexual versus neutral) as between subjects variable. Moreover, I measured whether the personality factors extraversion and impulsivity moderate the relationship between condition and sexual stereotypes of adolescents.

Procedure

The sample used in this study consists of students of the University Utrecht and College Utrecht with an age between 17 and 23 years old. To get these students to participate, we made posters which we hang all over the university and college and we also made a flyer which we handed out to the students. These posters and flyers contained information about which students could participate (maximum age 23 years old), the duration of the study and how students could sign up. Furthermore, these posters and flyers warned students that the video they got to see could contain clips of sex, drugs and violence. As a reward the participants could choose between 5 euro's or 1,5 test subject hours, which was also described on the poster and flyer.

When a student wanted to participate he or she had to send an e-mail so that the researcher could make an appointment for the research session. In the same e-mail the researcher sent the participant a questionnaire which he or she had to fill in. This questionnaire contains statements about the participant's media use, personality characteristics and stereotypes about relationships and sex. The participant had to indicate to

what extent he or she agreed with every item. After filling in the questionnaire the participant had to return it by e-mail before the research session. Completing this questionnaire took about 10 to 15 minutes.

Each participant was randomly assigned to either the neutral or the sexual condition. On arrival, the participant took place behind the table with the video laptop. Before watching the video, participants were told that they were participating in scientific research on the influence of personality for the evaluation of different kinds of videos. Furthermore, the participant was told that he or she got to see video clips of soaps, music videos and a commercial and after that he or she had to fill in a second questionnaire. The researcher also told the participant that the video clips could contain images of sex, drugs and violence. When a participant had problems with that, he or she could choose to stop with the research. While watching the video the researcher left the room so the participant could not be influenced by the researcher. Then the participant started watching the video. He or she wore a headphone and sat alone in a quiet room with few opportunities for distraction. The clip sequence was in both conditions the same (Table 1). After watching the video clips the participant had to fill in a second questionnaire. This questionnaire contained questions about the video clips they had seen, media images and sexual stereotypes. Completing this questionnaire took about 10 to 15 minutes.

The goal of this experimental study is to compare sexual stereotypes of participants exposed to sexual versus neutral video clips. To find appropriate video clips we searched Youtube for clips containing the stereotypes “Women as sex-objects”, “Men as sex-driven” and “Casual sex is okay”. After finding some suitable video clips two pilot studies (study 1, $n = 21$; study 2, $n = 28$) were performed to measure which videos were most neutral and most sexual. In the pilot studies, the participants in both groups had to watch nine video clips. These were neutral and sexual clips. The participants had to indicate to what extent they found the presented video clips characteristic of three stereotypes: “Women as sex-

objects”, “Men as sex-driven”, and “Casual sex is okay”. They had to fill in a form working with a 7-point scale ranging from ‘totally disagree’ (1) to ‘totally agree’ (7). Clips with a mean score of 5 or higher on the sexual stereotypes were suitable for the sexual condition and clips with a mean score of 2 or lower on these sexual stereotypes were selected for the neutral condition.

Measurements

Sexual stereotypes - To measure adolescents’ sexual stereotypes I investigated to what extent they agreed with nine statements of a sexual nature. These items originate from the *Sexual Double Standard Scale* (Muehlenhard & Quackenbush, 1998). The participants were asked how they thought about several items. Item examples which measured sexual stereotypes were: “Boys just want one thing and that is sex”, “It is okay for a boy to have sex without being in love”, “A lot of boys are players” and “It is okay for a girl to have sex without being in love”. A 5-point scale was used with all the items ranging from 1 (totally disagree) to 5 (totally agree). Internal consistency of items is adequate to high (pretest: $\alpha = .77$, posttest: $\alpha = .77$).

Impulsivity - To assess how impulsive participants are, five items were used. These items come from the *Eysenck Impulsiveness Scale* (Vitaro, Arseneault & Tremblay, 1997). The items used to measure impulsivity were: “I often run into problems because I do things without thinking about it”, “I am an impulsive person”, “I usually do and say things without thinking about it”, “I usually do not think before I speak” and “I think before I do anything”. A 5-point scale was used with these questions ranging from 1 (totally disagree) to 5 (totally agree). Internal consistency of the items is high ($\alpha = .89$).

Extraversion – Six items were used to measure how extravert participants are. These items come from the *Quick Big Five personality test* (Vermulst, 2005). Participants had to fill in a form working with on a 7-point scale ranging from 1 (is not completely correct) to 7 (it’s exactly right), In order to find out which of the following there are: “reticent”, “quiet”,

“secretive”, “talkative”, “coy”, “withdrawn”. Internal consistency of the items was high ($\alpha = .91$).

Statistical analysis

First of all, I checked whether the randomization was successful by performing independent samples t-tests, examining whether there are significant differences between the neutral and sexual condition group in terms of religion, media use, sexual stereotypes, extraversion and impulsivity. After this, I conducted a manipulation check, again using a t-test, examining group differences in how the participants judged the video clips on the stereotypes: “Women as sex-objects”, “Men as sex-driven” and “Casual sex is okay”. To answer the main question of this study, I conducted a Repeated Measures ANOVA. Here, the within subjects factor is sexual stereotypes and the between subjects factor is type of video (neutral versus sexual).

I investigated whether the personality traits ‘impulsivity’ and ‘extraversion’ moderate the relationship between exposure to sexual media and sexual stereotypes by specifying these moderator variables as additional, categorical between-subjects factors, and specifying a three-way interaction term of pre-post sexual stereotypes x condition x low versus high level of impulsivity/extraversion. To get an impression of the effect size, eta squared was calculated.

Results

Descriptives and preliminary analysis

To investigate whether there are differences between participants in the neutral and sexual condition *independent sample t-tests* were conducted. Table 2 shows that there are no significant differences between the conditions in terms of number of participants with a religious background, amount of television use per day, amount of television use per week, amount of internet use, amount of magazine use, sexual stereotypes and the personality factors extraversion and impulsivity.

Manipulation check for the video clips in the neutral and sexual condition

To measure how the participants assess the neutral and sexual video clips on the three sexual stereotypes (“Women as sex-objects”, “Men as sex-driven”, “Casual sex is okay”) a *t*-test was done. Participants in the sexual condition ($M=5.61$, $SD=.78$) reported that they saw more of the sexual stereotype “Women as sex-objects” in the video clips than participants in the neutral condition ($M=3.28$, $SD=1.29$) did $t(88) = -10.24$, $p < .001$. This was also the case for the sexual stereotypes “Men as sex-driven” (sexual condition: $M=5.74$, $SD=.71$, neutral condition: $M=3.04$, $SD=1.24$) $t(88) = -12.47$, $p < .001$ and “Casual sex is okay” (sexual condition: $M=5.60$, $SD= 1.09$, neutral condition: $M=2.83$, $SD=1.28$) $t(88) = -11.03$, $p < .001$.

Primary analyses

The main goal of this study is to measure whether exposure to sexual media influences the sexual stereotypes of adolescents. In other words, would participants in the experimental group (sexual condition) be more inclined than participants in the control group (neutral condition) to endorse the sexual stereotypes presented? To answer this question a Repeated Measures ANOVA was done comparing condition and endorsement with sexual stereotypes before and after viewing the video. Sexual stereotypes of the participants was the within subjects factor and condition was the between subjects factor. The Repeated Measures ANOVA shows that there is no significant difference in the acceptance of sexual stereotypes among participants in the neutral versus the sexual condition $F(1,88) = .96$, $p = .33$. Results are presented in Table 3.

Extraversion and impulsivity as moderators

To measure whether the personality factor extraversion moderates the relationship between condition and sexual stereotypes before and after watching the video clips I did a 2 (neutral versus sexual condition) x 2 (high versus low level of extraversion/impulsivity) Repeated Measures ANOVA. To measure whether extraversion has a moderating effect on

this relationship the sample had to be split in one group of participants with a low level of extraversion and one group of participants with a high level of extraversion. To split the sample in two groups the median was used. Extraversion was included as between subjects factor. Condition was also a between subjects factor and sexual stereotypes was specified as a within subjects factor. The analysis show no interaction effect of condition, extraversion and sexual stereotypes. Similar results were obtained when impulsivity was included as a moderator. Results are presented in Table 4.

I performed additional analyses by splitting extraversion and impulsivity at -1SD (low level of extraversion/impulsivity) and +1SD (high level of extraversion/impulsivity) below and above the mean, taking up these categorical variables as between-subjects effects in the repeated measures MANOVA. Again the results indicate no significant moderating effect of extraversion and impulsivity on the relationship between exposure to sexual media on the sexual stereotypes of adolescents $F(1,88) = .21, p = .65$ (extraversion) $F(1,88) = .56, p = .45$ (impulsivity).

Discussion

An experimental design was used to examine the effect of exposure to sexual media on sexual stereotypes of adolescents. It was also examined whether the personality factors extraversion and impulsivity have a moderating effect on this relationship. The results indicate that there is no significant causal effect of exposure to sexual media on sexual stereotypes of adolescents. Furthermore, the analyses show that extraversion and impulsivity do not have a moderating effect on the relationship between exposure to sexual media and sexual stereotypes of adolescents.

The fact that exposure to sexual media is not related to sexual stereotypes in this study is not consistent with the findings of Ward (2002), Ward, Hansbrough and Walker (2005) and Ward and Friedman (2006), who found that exposure to sexual media does have an effect on the sexual stereotypes of adolescents. Methodological differences could explain

why Ward (2002) and Ward and Friedman (2006) found an effect and the current study did not, although this study is very similar in terms of structure. Firstly, the video clips used in the studies of Ward (2002) and Ward and Friedman (2006) were selected on basis of one stereotype (“Women as sexual objects” versus “Men as sex-driven creatures” versus “Dating as a game”) while in this study video clips were only selected when they contained all three stereotypes (“Women as sex-objects” and “Men as sex-driven” and “Casual sex is okay”). The items they used to measure sexual stereotypes, matched the sexual stereotypes (“women are sexual objects”, “men are sex-driven creatures” and “dating is a game”) shown in the video clips, while the items used in this study did not specifically correspond with the three sexual stereotypes shown. As a result, it is possible that participants in those studies agreed more easily with the items than participants in this study. Secondly, the items used in this study for measuring sexual stereotypes showed rather extreme attitudes. As a consequence, a lot of participants replied that they totally disagreed with the items. Hence, it does not matter whether or not they have seen the sexual clips; there is a high probability that their response remains unchanged. Thirdly, another methodological reason for not finding an effect in this study while Ward (2002) and Ward and Friedman (2006) did, is that they only performed a posttest for measuring sexual stereotypes and did not make use of a pretest. Thus, it is possible that in those studies baseline differences between the control and experimental participants, in terms of sexual stereotypes, may have biased the outcomes.

Of course, besides methodological explanations, it may well be possible that no effect was found in the present study, because there simply is no effect of sexual media consumption on sexual stereotypes in this age group. Specifically, late adolescents may be less sensitive to exposure of sexual media than younger adolescents because they already have formed more stable sexual attitudes, values and stereotypes about relationships and sex. Moreover, late adolescents may be less affected because they have experienced much sexual media content already, making them less susceptible to the effect of sexual media exposure

in a short experimental time frame. This is confirmed by the study of Ward, Hansbrough and Walker (2005) and the study of Ward and Friedman (2006), who found an effect of sexual media on the sexual stereotypes of white and African American young adolescents (14-18 years old).

Furthermore, it is generally possible that participants are accustomed to such sexual images in the media. In the last five to ten years there was an enormous growth of forms in which media became available, the selection of programs, the media content and the amount of media used by adolescents. Nowadays such sexual video clips, as seen by the participants in the study, are daily on TV; this was not the case five or ten years ago when the studies of Ward (2002) and Ward and Friedman (2006) were done. It is possible that participants' stereotypes will not be influenced anymore, on account that they are accustomed to such images and do not change their attitudes based on such video clips accordingly.

Moreover, the analyses reveal no moderating effect of extraversion and impulsivity on the relationship between sexual media exposure and sexual stereotypes of adolescents. Several explanations for this could be given. Firstly, it is possible that we did not find an effect because of the way the sample was split, by either high or low level of extraversion/impulsivity, in order to compare participants. The sample was split in two ways; 1) using the median and 2) using the mean \pm 1 standard deviation. An advantage of using the median is that the groups are large enough to make a good comparison. On the other hand when participants are not very extravert/ impulsive the median is low. Consequently, there is not a big difference between the participants in the high level or low level group, which reduces the chance of finding an effect. When the sample was split using the mean \pm 1 standard deviation there were no problems with this because only the very extravert and impulsive participants are used versus the more introvert and less impulsive people. However, this yields the disadvantage that the groups became too small ($n < 20$), making it unlikely to find an effect. Secondly, there is the possibility that there really is no

significant moderating effect. It is for example possible that these personality traits are not very strongly related to attitudes but more so to behavior. This is in accordance with the studies of Heaven and colleagues (2000) and Schmitt (2004). It is also possible that using one personality trait is not sufficiently enough for finding a moderating effect. Perhaps a moderating effect can be found when broader personality types are used. Hereby the personality types described by Block (1971) and Robins, John, Caspi, Moffitt and Stouthamer-Loeber (1996) can be used. They distinguish between “under-controls”, “over-controls” and “ego-resilience”. “Under-controls” have moderate to high scores on extraversion and low scores on agreeableness and conscientiousness, “over-controls” have low scores on extraversion and emotional stability, high scores on conscientiousness and moderate scores on agreeableness and openness and “ego-resilience” high scores on all Big Five dimensions (Scholte, Van Lieshout, De Wit & Van Aken, 2005). For future research it is thus recommendable to measure whether broader personality types, as described earlier, have a moderating effect on the relationship between exposure to sexual media and sexual stereotypes of adolescents. Thereby, it is recommendable to use other items to measure sexual stereotypes than the items used in this study; for example the items used in the study of Ward (2002) and Ward and Friedman (2006) could be used, because those are perfectly connected to the stereotypes in the video clips.

Another recommendation for future research is to investigate the effect of sexual media exposure on sexual stereotypes of young adolescents. Which has already been investigated by Ward, Hansbrough and Walker (2005) and Ward and Friedman (2006) but the experimental designs they used differed from our design and they also made no use of a pretest. Furthermore, the results found in the study of Ward, Hansbrough and Walker (2005) may not be very representative for the Dutch population of adolescents because the participants they used were African American adolescents. When measuring the effect of sexual media on sexual stereotypes an important ethical issue is how old the adolescents

have to be to participate, because showing them sexual images may increase the probability for risky sexual behavior. As described in the Law Medical Treatment Agreement (WGBO): an adolescent is legally competent when he or she is sixteen years old. At that point they are able to make their own decisions about medical treatment and are also personally responsible for any consequences (Van der Linden, Ten Siethoff & Zeijlstra-Rijpstra, 2009). Therefore, adolescents of sixteen years old are suitable to participate in a research to the effect of sexual media exposure on sexual stereotypes of adolescents.

In conclusion, given the literature, it seems very clear that sexual media influences the stereotypes adolescents develop about relationships and sex, but in this study a causal effect was not found. This can be explained by the fact that the participants in this study are relatively old and could have already formed stable sexual stereotypes. On the other hand it is also possible that adolescents nowadays are more accustomed to these entertaining images in the media, resulting in no influence on their attitudes.

References

- Anderson, C. A., Berkowitz, L., Donnerstein, E., Huesmann, L. R., Johnson, J. D., Linz, D., Malamuth, N. M., & Wartella, E. (2003). The influence of media violence on youth. *Psychological Science in de Public Interest, 4*, 81-110.
- Baams, L., Overbeek, G., Dubas, J. S., Doornwaard, S., Rommes, E., & Aken, M., van (submitted). Seeing and believing: Perceived realism moderates the relation between sexualized media consumption and permissive sexual attitudes in adolescence.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice-Hall.
- Block, J. (1971). Lives through time. In R. J. Larsen, & D. M. Buss (2008). *Personality psychology*. New York: McGraw-Hill.
- Brown, J. D., Halpern, C. T., & L'Engle, K. L. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health, 36*, 420-427.
- Brown, J. D., & Keller, S. N. (2000). Can mass media be healthy sex educators? *Family Planning Perspectives, 32*, 255-256.
- Central Bureau of Statistics (2003). *Youth, numbers and facts*. Retrieved from http://www.cbs.nl/nr/rdonlyres/ab51beb9-d08f-4500-8ee2_5d81410aa3d8/0/jeugd2003.pdf.
- Escobar-Chaves, S. L., Tortolero, S. R., Markham, C. M., Low, B. J., Eitel, P., & Thickett, P. (2005). Impact of the media on adolescent sexual attitudes and behaviors. *Pediatrics, 116*, 303–326.
- Eysenck, H. J. (1972). Personality and sexual behavior. *Journal of Psychosomatic Research, 16*, 141-152.
- Greeson, L. E., & Williams, R. A. (1986). Social implications of music videos for youth: An analysis of the content and effects of MTV. *Youth and Society, 18*, 177– 189.

- Heaven, P. C. L., Fitzpatrick, J., Craig, F. L., Kelly, P., & Sebar, G. (2000). Five personality factors and sex: Preliminary findings. *Personality and Individual Differences, 28*, 1133-1141.
- Hoyle, R. H., Feifar, M. C., & Miller, J. D. (2000). Personality and sexual risk taking: A quantitative review. *Journal of Personality, 68*, 1203–1231.
- Huston, A. C., Wartella, E., & Donnerstein, E. (1998). *Measuring the effects of sexual content in the media: A report to the Kaiser family foundation*. Menlo Park, CA: The Henry J. Kaiser Family Foundation.
- Larsen, R. J., & Buss, D. M. (2008). *Personality psychology*. New York: McGraw-Hill.
- Linden, van der, A. P., Siethoff, ten, F. G. A., & Zeijlstra-Rijpstra, A. E. I. J. (2009). *Jeugd en recht*. Houten: Bohn Stafleu Van Loghum.
- Muehlenhard, C. L., & Quackenbush, D. M. (1998). Sexual double standard scale. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schreer, & S. L. Davis (Eds.). *Handbook of Sexuality-Related Measures* (pp. 186-188). Thousand Oaks: Sage Publications.
- Peter, J., & Valkenburg, P. M. (2007). Adolescents' exposure to a sexualized media environment and their notions of women as sex objects. *Sex Roles, 56*, 381-395.
- Robins, R. W., John, O. P., Caspi, A., Moffitt, T. E., & Stouthamer-Loeber, M. (1996). Resilient, overcontrolled, and undercontrolled boys: Three replicable personality types. *Journal of Personality and Social Psychology, 70*, 157-171.
- Schmitt, D. P. (2004). The big five related to risky sexual behavior across 10 world regions: differential personality associations of sexual promiscuity and relationship infidelity. *European Journal of Personality, 18*, 301–319.
- Scholte, R. H. J., Lieshout, van, C. F. M., Wit, de, C. A. M., & Aken, van, M. A. G. (2005). Adolescent personality types and subtypes and their psychosocial adjustment. *Journal of Developmental Psychology, 51*, 258-286.

- Vermulst, A. A. (2005). *QBF: Quick Big Five persoonlijkheidstest handleiding*.
Leeuwarden: LDC Publications.
- Vitaro, F., Arseneault, L., & Tremblay, R. E. (1997). Dispositional predictors of problem gambling in male adolescents. *American Journal of Psychiatry*, *154*, 1769-1770.
- Ward, L. M. (2002). Does television exposure affect emerging adults' attitudes and assumptions about sexual relationships? Correlational and experimental confirmation. *Journal of Youth and Adolescence*, *31*, 1-15.
- Ward, L. M. (2003). Understanding the role of entertainment media in the sexual socialization of American youth: A review of empirical research. *Developmental Review*, *23*, 347-388.
- Ward, L. M., & Friedman, K. (2006). Using TV as a guide: Associations between television viewing and adolescents' sexual attitudes and behavior. *Journal of Research on Adolescence*, *16*, 133-156.
- Ward, L. M., Hansbrough, E., & Walker, E. (2005). Contributions of music video exposure to black adolescents' gender and sexual schemas. *Journal of Adolescent Research*, *20*, 143-166.
- Zietsch, B. P., Verweij, K. J. H., Bailey, J. M., Wright, M. J., & Martin, N. G. (2010). Genetic and environmental influences on risky sexual behavior and its relationship with personality. *Behavior Genetics*, *40*, 12-21.

Appendix

Table 1

Selected video clips, time per clip and total time of the videos in the neutral and sexual condition.

	Neutral condition	Sexual condition
Soap	The road to tomorrow (1:30)	Good times, bad times (2:26)
Music video	Coldplay – Viva la Vida (4:00)	Shakira – La Tortura (3:42)
Soap	Gooische women (2:00)	Gooische women (3:42)
Commercial	Flower by Kenzo (0:20)	Guilty by Gucci (0:58)
Music video	Adele – Rolling in the deep (3:50)	50 cent & Olivia - Candyshop (3:34)
Total time	11:42 minutes	14:25 minutes

Note. Dutch title: The road to tomorrow = Onderweg naar morgen; Good times, bad times = Goede tijden slechte tijden and Gooische women = Gooische vrouwen.

Table 2

Means (M), Standard Deviations (SD), t-test (t) and significance (p) for characteristics of participants the neutral and sexual condition.

	Neutral condition		Sexual condition		<i>t</i>	<i>p</i>
	M	SD	M	SD		
Religious background	1.72	.46	1.63	.49	.89	.37
Television use per day	1.98	.79	1.79	.94	1.03	.31
Television use in a week	7.62	1.17	7.53	1.16	.33	.74
Internet use	2.81	.77	3.12	.80	-1.86	.07
Magazine use	3.22	1.26	3.30	1.23	-.32	.75
Sexual stereotypes	3.71	.61	3.77	.53	-.48	.63
Extraversion	5.05	1.18	5.00	1.02	.18	.86
Impulsivity	2.41	1.02	2.49	.84	-.37	.71

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

Table 3

Means (M) and Standard Deviations (SD) for sexual stereotypes in the pretest and posttest for participants in the neutral and sexual condition.

	Pretest sexual stereotypes		Posttest sexual stereotypes	
	M	SD	M	SD
Sexual condition				
Sexual stereotypes	3.77	.53	3.81	.42
Neutral condition				
Sexual stereotypes	3.71	.61	3.68	.59

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

Table 4

Degrees of freedom (Df), F-test (F), significance (p) and Effect size for the main effects and interaction effects of impulsivity and extraversion; sample split in two groups using the median.

	<i>Df</i>	<i>F</i>	<i>p</i>	<i>Effect size</i>
<u>Main effects in extraversion analysis</u>				
Extraversion	1	.79	.38	.01
Condition	1	.52	.47	.01
<u>Main effects in impulsivity analysis</u>				
Impulsivity	1	.74	.39	.01
Condition	1	.97	.33	.01
<u>Interaction effect</u>				
Condition x Impulsivity x Sexual stereotypes	1	1.45	.23	.02
<u>Interaction effect</u>				
Condition x Extraversion x Sexual stereotypes	1	2.68	.11	.03

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