RESEARCH NOTE

Do Questions about Watching Internet Pornography Make People Watch Internet Pornography? A Comparison Between Adolescents and Adults

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Over the past decades, the social sciences have paid great attention to socially undesirable behavior among adolescents, such as substance use, unsafe sex, or reckless driving (for reviews, see e.g., Dahl, 2004; Reyna & Farley, 2006; Steinberg, 2007, 2008). Although the various disciplines differ in their specific foci, they typically rely on longitudinal surveys for data gathering, usually due to obvious ethical and practical constraints in the experimental manipulation of socially undesirable behaviors. However, the importance of longitudinal surveys for the study of socially undesirable behavior among adolescents is at odds with our knowledge about a pressing, but under-researched issue in that type of research, the question-behavior effect.

The question-behavior effect refers to the possibility that the mere asking of survey questions about particular behaviors changes these behaviors (Fitzsimons & Moore, 2008; Sprott et al., 2006). Research on the question-behavior effect has predominantly focused on socially desirable behavior, such as donating money to charity, and socially neutral behavior, such as purchasing goods (for a review, see Dholakia, 2010). Lately, however, researchers have also started to investigate socially undesirable behavior. For example, a survey-based experiment has shown that college students who were asked about their intention to use illegal drugs consumed more illegal drugs in the 2 months after the survey than students who had not received that question (Williams, Block, & Fitzsimons, 2006). In a similar experiment, college students were first either asked how likely they were to drink more than two drinks in a sitting in the next week, or were given a question about TV use. One week later, those who had been asked about drinking reported more drinking than participants who had answered the TV use question (Fitzsimons, Nunes, & Williams, 2007).
Despite their intriguing findings, the studies on the effects of survey questions on socially undesirable behavior are contested (Fitzsimons & Moore, 2008; Moore & Fitzsimons, 2008; Sherman, 2008). For example, the findings on the impact of survey questions on illegal drug use (Williams et al., 2006) did not stand the test of a re-analysis of the data (Schneider, Tahk, & Krosnick, 2007). Moreover, the specific findings have not been replicated to date. Scholars, however, agree that a potential question-behavior effect may have important consequences for survey-based research, particularly when it involves minors (Gollwitzer & Oettingen, 2008; Moore & Fitzsimons, 2008). If survey questions about a particular behavior do influence this very behavior, longitudinal studies may be threatened by an artifactual change in the behavior they intend to measure, similarly to reactivity effects in experimental designs. Moreover, if a question about, for instance, adolescents’ intention to use illegal drugs indeed augments the use of illegal drugs, any survey study on socially undesirable behavior becomes ethically untenable.

Against this backdrop of intriguing, but controversial findings, various researchers have called for more research (Dholakia, 2010; Fitzsimons & Moore, 2008; Moore & Fitzsimons, 2008; Sherman, 2008). Two problems seem particularly important. First, although scholars outline the relevance of question-behavior effects often with respect to research among adolescents (Fitzsimons & Moore, 2008), no study to date has studied question-behavior effects among adolescents. The studies have typically been conducted with college students, that is, emerging adults (Fitzsimons, Nunes et al., 2007; Williams et al., 2006). Moreover, we do not know whether potential question-behavior effects are stronger or weaker among adolescents than among adults. Without such information, however, the severity of the problem cannot be assessed.

A second problem is that studies have usually dealt with questions about the intention to engage in a particular future behavior (e.g., “How likely are you to use any illegal drug […] in the next two months?”; Williams et al., 2006, p. 121). However, many surveys on socially undesirable adolescent behavior focus on past or current behavior (e.g., How often in the past 2 months have you used illegal drugs?). It is unclear whether questions on past or current behavior may affect future behavior. Fitzsimons and Moore (2008), for example, argue “that both types of questions [i.e., about intentions and current/past behavior] might have the adverse effect of increasing risky behavior” (p. 89). Sherman (2008), in contrast, emphasizes “that it would be inappropriate to conclude things about the effects of asking about current behaviors from research that investigated the effects of asking about future behaviors” (p. 99). Given the importance of this problem, it is striking that it has not been studied to date.

The Present Study

In line with the two problems in research on question-behavior effects in surveys on socially undesirable behavior, notably among adolescents, this study had two goals. First, it tried to uncover whether question-behavior effects occur among adolescents. Specifically, we attempted to evaluate the severity of potential question-behavior effects by comparing them between adolescents and adults. Second, the present
study investigated whether questions about past behavior would also elicit a question-behavior effect.

We focus on adolescents’ use of sexually explicit Internet material (SEIM) because research on the subject has been mushrooming in the past years (e.g., Brown & L’Engle, 2009; Peter & Valkenburg, 2010a). By SEIM, we mean pornographic, adult-oriented material that shows sex in unconcealed ways, often with close-ups on vaginal or anal penetration. Currently, most empirical research on the issue comes from countries with liberal attitudes toward adolescent sexuality (Knudsen, Lofgren-Martenson, & Mansson, 2007; Peter & Valkenburg, 2008) where institutional review boards (IRBs) seem to be more positive toward sensitive research topics. Conversely, IRBs in countries with less liberal attitudes toward adolescent sexuality appear more skeptical about studies on adolescents’ use of SEIM. Therefore, it is important information for IRBs in any country whether studies on adolescents’ SEIM use may have adverse effects on adolescents, for example by increasing their SEIM use.

In the literature on question-behavior effects (Fitzsimons & Moore, 2008), it has recently been pointed out that one theoretical rationale for the occurrence of question-behavior effects regarding socially undesirable behaviors may come from research on implicit social cognition (Cacioppo & Berntson, 1994; Greenwald & Banaji, 1995). According to this research, question-behavior effects regarding socially undesirable behaviors result from the activation of implicit positive attitudes about such behaviors in the response process (Fitzsimons & Moore, 2008; Fitzsimons, Nunes et al., 2007). This explanation assumes that people hold ambivalent overall attitudes toward socially undesirable behaviors. Ambivalent overall attitudes consist of two contrasting elements—an explicit attitude that surfaces in high-deliberation settings and an implicit attitude that surfaces in low-deliberation settings. People’s explicit attitude toward socially undesirable behavior implies that they are aware of the negative consequences of socially undesirable behavior. People’s implicit attitude toward socially undesirable behavior implies that they find such behavior attractive and thrilling, because answering questionnaires presents an innocuous, low-deliberation activity for respondents (Williams, Fitzsimons, & Block, 2004), a question about socially undesirable behavior may easily activate implicit attitudes. These activated implicit attitudes, in turn, render the subsequent performance of the socially undesirable behavior more likely (Fitzsimons & Moore, 2008).

Research on adolescents’ SEIM use has shown that adolescents hold ambivalent attitudes toward SEIM (e.g., Berg, 2007; Hagstrom-Nordin, Sandberg, Hanson, & Tyden, 2006; Lofgren-Martenson & Mansson, 2010). In terms of explicit attitudes, adolescents are aware that messages in SEIM that are often problematic and deviate from social norms (Berg, 2007; Hagstrom-Nordin et al., 2006), and they also emphasize potentially negative consequences of its use (Hagstrom-Nordin et al., 2006; Hagstrom-Nordin, Tyden, Hanson, & Larsson, 2009; Lofgren-Martenson & Mansson, 2010). Conversely, in terms of implicit attitudes, adolescents find SEIM attractive because it is arousing (Berg, 2007; Lofgren-Martenson & Mansson, 2010; Peter & Valkenburg, 2008), highly involving (Peter & Valkenburg, 2010b), and provides sexual information that adolescents do not find in other sources (Lofgren-Martenson & Mansson, 2010; Peter & Valkenburg, 2010a). If a question
about SEIM use activates implicit attitudes (Fitzsimons & Moore, 2008; Fitzsimons, Nunes et al., 2007), the subsequent performance of this behavior becomes more likely. Thus, we expected that adolescents who were asked about their SEIM use would be more likely to use SEIM subsequently than were adolescents who were not asked this question.

It is currently unclear whether question-behavior effects are stronger among adolescents than among adults. Moreover, we do not know whether adolescents and adults differ in their explicit and implicit attitudes toward SEIM. However, it is often suggested that SEIM is more likely to present a “forbidden fruit” for adolescents than for adults (Peter & Valkenburg, 2011). Adolescents are technically not supposed to use SEIM, although sexual curiosity peaks in adolescence (Savin-Williams & Diamond, 2004). As a consequence of this tension, adolescents may feel more attracted to SEIM than adults and, consequently, their implicit attitudes toward SEIM may be more easily activated. This tendency may be intensified by adolescents’ difficulty with controlling impulses (Dahl, 2004; Reyna & Farley, 2006; Steinberg, 2008). Thus, we expected that if question-behavior effects of asking about SEIM occurred, they would be stronger among adolescents than among adults.

Methods

This study is based on a two-wave panel survey that included a series of experiments on questions about sensitive issues. The first wave took place in September 2009, the second wave in March 2010. We opted for a 6-month period between the two waves in line with recent research on the issue (Peter & Valkenburg, 2009, 2010a). Moreover, a time lag that is too short may reduce the chance that participants engage in the particular behavior, which in turn diminishes the likelihood of the question-behavior effect to occur. The data were collected in the LISS panel (Longitudinal Internet Studies for the Social sciences), a nationally representative online panel of 5,000 Dutch households administered by Centerdata at the University of Tilburg in the Netherlands. For sensitive questions, online surveys are superior to other survey modes (Mustanski, 2001).

In the first wave, 8,237 adolescent and adult household members were contacted. For minors’ participation, parental consent was obtained. To preclude that intrafamily communication or surveillance would distort the answers to sensitive questions, only the parents or the children in a particular household were eligible for the study. In total, 5,137 household members agreed to participate in the survey in the first wave and 4,692 respondents completed it, which equals a response rate of 57%, computed according to the guidelines of the American Association for Public Opinion Research (2009, response rate 1). In total, 3,802 respondents participated again in the second wave (attrition 19%). A logistic regression with participation as dichotomous dependent variable indicated that respondents who had answered sensitive questions in Wave 1 were not more likely to drop out than respondents who had not received such questions.

Before the survey started, institutional approval of the study was obtained, as well as parental consent for adolescent participants. All participants were notified that the questionnaire included questions about media use and sexuality and had to give
informed consent before starting. Respondents were further informed that their answers would be treated confidentially and that identifying information and answers would not be stored together. After completing the questionnaire, all participants received a voucher worth 5 Euros.

Design
The study used a one-factorial between-subjects design. Participants were randomly assigned either to a condition in which questions on SEIM use were asked in both waves or to a condition in which SEIM use was assessed only in Wave 2. Participants in the latter group answered in Wave 1 neutral questions about media use instead of the questions about SEIM use. Post hoc randomization checks indicated that the randomization had been successful.

The survey of which this study is a part also contained a series of survey experiments on how question context and time frame specified in the question introduction would affect the reporting of SEIM use. The design thus included another between-subjects factor. Therefore, we only used those respondents who had received identical question contexts and time frames. Consequently, the number of respondents usable for this particular study approximately halved ($n = 1,881$), consisting of 1,758 adults and 123 adolescents.

Measures
We focused on two types of SEIM use, general SEIM use and specific SEIM use. In contrast to general SEIM use, specific SEIM use refers to the frequency with which people use particular themes of SEIM.

**General SEIM Use.** For the most part, we followed an operationalization that has been shown to be valid and reliable (Peter & Valkenburg, 2006). Respondents were asked to indicate how often, in the 6 months prior to the interview, they had intentionally looked at (a) pictures with clearly visible genitals; (b) video clips with clearly visible genitals; (c) pictures in which people are having sex; (d) video clips in which people are having sex. Participants were informed that the four items focus on sexually explicit, pornographic content on or from the Internet (and not *Playboy*-type nudity). The response categories were 1 (never), 2 (less than once a month), 3 (1–3 times a month), 4 (once a week), 5 (several times a week), 6 (every day), 7 (several times a day), and a residual category (I rather do not want to answer this question).

**Specific SEIM Use.** Participants had to indicate how often, in the 6 months prior to the interview, they had looked at pictures or video clips in which (a) people had coital sex; (b) people had group sex; (c) women had sex with women (lesbian sex); (d) men had sex with men (gay sex). Participants were aware that the four items aimed at sexually explicit, pornographic content on or from the Internet. We used the same response categories as above for general SEIM use.

The results in the excluded conditions were largely similar. However, we did not find any significant interaction effects.
Data Analysis

For both general and specific SEIM use, we analyzed the various items separately. Combining the items into a scale may obfuscate question-behavior effects that may only show at the level of the specific item. The analyses that we conducted for the separate items included multiple statistical significance tests. Therefore, we corrected the relevant significance levels using the Bonferroni correction. With eight significance tests for the various items of general and specific SEIM use, done separately for adolescents and adults, our critical \( p \)-value was \( .003125 \).

In our analyses, we excluded those respondents (1.6–2.0%) who, in Wave 2, had chosen the residual category for a particular item. Logistic regressions with choice of residual category as dichotomous dependent variable showed that those who had received these items already in Wave 1 were not more likely to choose the residual category in Wave 2 than those who had not received these items in Wave 1.

We analyzed our data with analysis of variance. However, the skewed distribution of our dependent variables violated important assumptions of parametric statistics. To test the robustness of our results, we estimated all statistical significances also on the basis of bootstrapped regression analyses. Bootstrapping is recommended as an alternative to traditional parametric tests of statistical significance when assumptions of parametric statistics are not met. Bootstrapping confirmed all statistical significances reported below.

Results

We expected that adolescents who were asked about their SEIM use would be more likely to use SEIM subsequently than adolescents who were not asked this question. The left-hand columns of Table I show the means of adolescents’ general and specific SEIM use in Wave 2, separately for the various items. As Table I indicates, adolescents who had been asked about their SEIM use in Wave 1 did not use SEIM afterwards more frequently than did adolescents who had not been asked that question in Wave 1. This finding applied to adolescents’ general and to their specific SEIM use. Thus, we did not find evidence of a question-behavior effect for adolescents’ SEIM use.

We further expected that question-behavior effects would be more distinct among adolescents than among adults. As the right-hand columns in Table I show, adults who had been asked in Wave 1 about their general and specific SEIM use did not subsequently use it more often than adults who had not been asked that question in Wave 1, with one exception. Adults who had been asked in Wave 1 about the use of gay sex were more likely to report the use of such material in the second wave than adults who had not been asked that question in Wave 1, \( F(1, 1,729) = 8.62, p = .003 \).

Given well-documented gender differences in SEIM use (Peter & Valkenburg, 2006), we tested post hoc, with interaction effects between gender and experimental condition, whether the occurrence of question-behavior effects may have depended on participants’ gender. For the various items that constitute general and specific SEIM use, no moderating effect of gender occurred either among adolescents or among adults, with one exception. In terms of adults’ specific SEIM use, the two-way interaction between gender and experimental condition for the gay sex item,
Recent research has suggested that asking young adults about their intention to engage in socially undesirable behavior may affect that very behavior (Fitzsimons, Block, &
Williams, 2007; Fitzsimons, Nunes et al., 2007). This study has dealt with two unresolved issues in this line of research. First, we investigated whether question-behavior effects differed between adolescents and adults. Second, we studied whether question-behavior effects also occurred for questions about past behavior. Overall, our findings were largely opposite to our expectations and to results from prior question-behavior studies on socially undesirable behavior (Fitzsimons, Block et al., 2007; Williams et al., 2006). We found only one main question-behavior effect (for the gay sex item among adults). However, further analyses showed that this effect depended on respondents’ gender and sexual orientation. Thus, the question about the use of gay sex only increased the use of gay sex among nonexclusively heterosexual male adults.

Our findings tentatively point to the possibility that question-behavior effects may emerge less frequently for questions about socially undesirable past behavior than for questions about socially undesirable future behavior. Given the scarcity of previous research on the issue, the main goal of our study was to establish whether question-behavior effects would occur for questions about socially undesirable behavior. Against the backdrop of our findings, however, a necessary next step is to study whether, for the same socially undesirable behavior, the occurrence and strength of question-behavior effects may differ for questions about past and future behavior. Future research should therefore systematically compare the question-behavior effects of questions about past behavior with those of questions about future behavior. In these future studies, researchers may also want to select socially undesirable behaviors that occur relatively often. Our study suffered from very low frequencies of SEIM use and we cannot preclude that floor effects may have reduced the chance of finding question-behavior effects.

For a better understanding of our findings, it is also crucial that future studies explore the processes that underlie question-behavior effects in more detail. Only one finding (i.e., the increased use of gay SEIM among nonheterosexual male adults who had answered a question about gay SEIM in Wave 1) was in line with the predictions derived from the implicit social cognition framework. Consequently, researchers may want to consider other explanations of question-behavior effects associated with socially undesirable past behavior than the implicit social cognition framework used in this study. For example, researchers have argued that questions about a particular behavior result in a mental simulation of that behavior, which subsequently increases both the fluency with which the behavior is processed and the likelihood that it is enacted (e.g., Dholakia, 2010; Sherman, 1980). This may partly explain the absence of main question-behavior effects in this study. The questions about past behavior may have triggered the mental simulation of behavior less strongly than questions about future behavior would have done.

Another explanation of question-behavior effects that may be relevant to our results refers to the influence of social norms in the answering process (e.g., Dholakia, 2010; Spangenberg, Sprott, Grohmann, & Smith, 2003). According to this explanation, answering socially undesirable questions increases the salience of social norms associated with the behavior. Respondents thus become aware of what they should do and adjust their subsequent behavior or, at the very least, do not intensify that behavior. The total absence of question-behavior effects among adolescents who had received a question about this behavior in Wave 1 suggests that the question may have augmented adolescents’ awareness of social norms regarding SEIM use. As a result, the
behavior did not increase. The awareness of social norms about SEIM use may have been particularly influential among adolescents because they are not supposed to use SEIM. Moreover, adolescents generally seem to react more sensitively to social information than adults (e.g., Steinberg, 2008).

In conclusion, the majority of our findings suggest that questions about the general and specific use of SEIM do not stimulate that very behavior, at least not among adolescents. On a more practical note, however, we advise future researchers to be careful with questions about specific categories of SEIM that adolescents in particular may not know, such as bondage or sadomasochism. We cannot preclude that asking questions about more specific categories of SEIM may stimulate adolescents’ interest and subsequently their use of such categories. More generally, we also caution researchers against using our results as evidence that questions about past risk behavior, such as binge drinking, reckless driving, and substance abuse, may not affect the performance of such behavior among adolescents. We need programmatic research on a variety of socially undesirable behavior, along with a comparison of past and future-oriented questions, and a better understanding of the processes underlying the question-behavior effect before we can state that survey questions about socially undesirable behavior do not affect the future performance of this behavior.

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References


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