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Development of Sexual Expectancies among Adolescents: Contributions by Parents, Peers and the Media

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Abstract

In order to expand the scant research on sexual expectancies development among non-sexually active adolescents, we examined the relationship between adolescents' exposure to four socializing agents—mother/female guardian, father/male guardian, peers, and television programs with high sexual content—and their endorsement of four sexual expectancies: Social Benefit, Pleasure, Social Risk, and Health Risk. Data are from Waves 2–3 of a three-wave annual longitudinal study conducted among California adolescents, the majority of whom were non-sexually active ($N=914$, 84%). Structural equation models were conducted to examine cross-sectional and longitudinal associations between the socializing agents and the sexual expectancies. Cross-sectional results indicate associations between peer sexual communication and Social Benefit, Pleasure and Social Risk expectancies. A positive association was found between exposure to music videos and Social Benefit expectancies and a negative association was found between exposure to music videos and Health Risk expectancies. Longitudinal results suggest that communication with peers positively predicted Pleasure expectancies and negatively predicted Social Risk expectancies. No other socializing agents were associated with any sexual expectancies. An invariance test found that significant correlations were similar across the different age groups. Results suggest that efforts to support positive sexual decision-making among non-sexually active adolescents should target peer sexual communication.

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Keywords

Adolescence; expectancy theories; media

Expectancies are defined as an individual's beliefs about the likelihood of positive and negative personal consequences of engaging in a specific behavior (Olson, Roese, & Zanna, 1996). Research on adolescent expectancies has established a robust and consistent relationship between expectancies for a specific behavior and the likelihood of engaging in that behavior (Bourdeau, Grube, Bersamin, & Fisher, 2010; Cranford, Zucker, Jester, Puttler, & Fitzgerald, 2010; Guilamo-Ramos et al., 2007; Martino, Collins, Kanouse, Elliott, & Berry, 2005). For example, O'Donnell and colleagues (2003) found that adolescents who endorsed more positive sexual expectancies (e.g., proves s/he is a man/woman, shows person how much s/he is loved) also reported an earlier age of sexual initiation, while Bourdeau and colleagues (2010) found that social risk expectancies (e.g., get a bad reputation, disappoint important people) were predictive of changes in frequency of sexual activity, even after controlling for age, gender, and race.

Adolescence has been characterized as a period of increased risk for sexually transmitted infections (STI) and unintended pregnancy (CDC, 2009; Finer & Henshaw, 2006; Weinstock, Berman, & Cates, 2004). Given the established relationship between sexual expectancies and sexual behaviors, it is critical to better understand what factors contribute to the development and formation of sexual expectancies during a developmental period when adolescents are beginning to explore issues and behaviors associated with identity, intimacy, and sexuality. To date, research exploring the *development* of adolescent sexual expectancies has been limited (Bleakley, Hennessy, Fishbein, Coles, & Jordan, 2009; Bleakley, Hennessy, Fishbein, & Jordan, 2008; Bourdeau et al., 2010; Busse, Fishbein, Bleakley, & Hennessy, 2010; L'Engle, Brown, & Kenneavy, 2006; L'Engle & Jackson, 2008). However, the focus on adolescent sexual expectancies is important as many prevention programs target expectancies as key variables to address and modify (Kirby, Coyle, Alton, Roller, & Robin, 2011; NIAAA, 2002). Increased understanding of the different factors that contribute to sexual expectancy development among adolescents can help practitioners and educators develop more effective sexual health education programs. Thus, the purpose of this paper is to examine whether, and to what degree, important socializing agents (parents, peers, and media) contribute to the development of adolescent sexual expectancies.

Social Cognitive Theory (SCT) suggests that cognitions mediate behavior (Bandura, 1986). Attitudes, beliefs, and expectancies are inter-related cognitions that contribute to the decision making process. For example, cognitive representations of desired consequences (e.g., expectations about a certain outcome) may motivate behavior in an effort to obtain that outcome (Bandura, 1986). Expectancies differ from attitudes and beliefs in that an expectancy focuses on the likelihood or probability of a specific behavioral outcome (Olson, Roese, & Zanna, 1996). SCT posits that the development of cognitions such as expectancies is influenced by the social environment (Bandura, 1986), a finding supported by the literature (Guilamo-Ramos et al., 2007; Martino et al., 2005).

Adolescents report learning about sex from a number of different sources including parents, peers (e.g., friends, siblings), the media (e.g., television, movies, magazines, the internet), health care providers, and teachers (Borzekowski & Rickert, 2001; Filcheck, Berry, & McNeil, 2004; Harper, Gannon, Watson, Catania, & Dolcini, 2004; Kelly, 2010; Lyons, Giordano, Manning, & Longmore, 2011; Reina, Ciaravino, Llovera, & Castelo-Branco, 2010). For example, a recent study among 14–16 year olds found that 74.9% reported learning about sex from friends, 62.2% from teachers, 60.9% from mothers, 57.0% from the media, and 41.5% from doctors (Bleakley, Hennessy, Fishbein, Coles, & Jordan, 2009). This study also found that messages from each of these sources differ in terms of content, frequency, and perceived validity.

In this same study, Bleakley and colleagues (2009) examined the association between adolescents' outcome expectancies related to engaging in sex and their exposure to the above-mentioned sources of sexual information (i.e., friends, teachers, mothers, etc). The sexual outcome expectancies related to *self* included: give me pleasure, make me feel as though someone had taken advantage of me, and make me feel good about myself. The sexual outcome expectancies related to *partner* included: increase the quality of relationship with my partner, hurt my relationship with my boyfriend/girlfriend, please my partner, and increase feelings of intimacy between me and my partner. The sexual outcome expectancies related to *other* included: get my parents mad, make my friends think badly of me, and gain the respect of my friends. The sexual outcome expectancies related to *physical* consequences included: get me or my partner pregnant, give me an STD, and give me HIV/AIDS.

The results suggest that—when controlling for age, gender, ethnicity, and other sources of information—no single source of sexual information had a comparable effect across the different sexual outcome expectancies. Adolescents whose friends and cousins were sources of sexual information were more likely to report more positive *self* and *partner* outcomes related to engaging in sex (e.g., make me feel good about myself, increase feelings of intimacy between me and my partner) than those who didn't indicate friends and cousins as sources. Interestingly, adolescents whose cousins were sources of sexual information were also more likely to report negative *physical* consequences related to engaging in sex (e.g., give me an STD). Adolescents whose mothers were sources of sexual information were more likely to report negative *physical* consequences related to engaging in sex (e.g., get me or my partner pregnant).

In another study, Epstein and Ward (2008) found that the most frequently recalled messages about sex differed significantly by source among a sample of male college students. Twenty-one percent of respondents reported learning messages that “sex is casual” from the media, 15% from conversations with peers, and less than 1% from conversations with parents. In contrast, 71% of respondents reported learning messages that centered on the “positive nature of sex” from conversations with parents, 21% from conversations with peers, and 15% from the media. Messages about contraception and abstinence were also significantly more likely to result from parent conversations. These results reflect other recent research, which suggests that parental conversations about sexuality are more likely to focus on sexual and reproductive health issues such as condom use, pregnancy prevention, and HIV/STI

prevention than other sex messages (Beckett et al., 2010; Dilorio, Kelley, & Hockenberry-Eaton, 1999; Eisenberg, Sieving, Bearinger, Swain, & Resnick, 2006).

In a study to examine the relationship between frequency of mother-teen sexual communication and adolescent sexual outcome expectancies, Guilano-Ramos et al. (2007) found that, in general, the more mothers talked to their teens about specific sexual topics, the more the teens sexual expectancies mirrored their mothers' messages. For example, adolescents who reported more frequent conversation with their mothers about how sex would interfere with school were more likely to endorse that outcome expectancy as compared to those who reported fewer sexual communications with their mothers on this topic.

In terms of the effect of media, studies on the sexual content of television programs targeting adolescents found that—although scant time was devoted to sexual and reproductive health topics (e.g., birth control, abstinence, or STI prevention)—the programs averaged seven scenes of sexual content per hour (Brown, Steele, & Walsh-Childers, 2002; Kunkel, Eyal, Finnerty, Biely, & Donnerstein, 2005). In other studies, researchers found that greater exposure to television programs with high sexual content was associated with less negative social and health expectancies (Martino et al., 2005) and more positive sexual expectancies (Martino, Collins, Elliott, Kanouse, & Berry, 2009). Likewise, Collins et al. (2004) found that adolescents who watched more sexual content on television (measured by selecting from a list of shows on network, basic, and cable television high in sexual content) were more likely to initiate intercourse a year later than youth who watched less sexual content on television. Interestingly, another study found that while overall exposure to sexual content was not associated with engagement in sexual behavior, it was associated with particular genres of television, particularly exposure to sexual content in comedies (Gottfried, Vaala, Bleakey, Hennessy, & Jordan, 2011). A content analysis by Fisher and colleagues (2004) found that cable television had a significantly higher percentage of shows containing sexual behaviors, more frequent and explicit references to sex, and more frequent and explicit portrayals of sex.

Finally, research on adolescent sexuality suggests that significant changes in adolescent sexual cognitions occur across time, particularly in early adolescence as youth pass through different stages of development (O'Sullivan & Brooks-Gunn, 2005). Thus, similar experiences may be interpreted in a differential manner depending on one's developmental stage. For example, one study found that positive affect towards alcohol advertising influenced positive alcohol expectancies in youth but not young adults (Fleming, Thorson, & Atkin, 2004). Children and adolescents' expectations about the effects of alcohol use can develop before they consume alcohol, and as adolescents gain more experience with alcohol, their expectancies become more defined (see Patel & Fromme, 2009). The current study aims to examine whether age moderates the relationship between various socialization agents (e.g., parents or peers) and the development of sexual expectancies among adolescents.

In the present study, we examine adolescents' exposure to four socializing agents—mother/female guardian, father/male guardian, peers, and television programs with high sexual

content (music videos, premium cable programs, and adult-content cable programs)—and the impact of these agents on endorsement of four sexual expectancies: Social Benefit, Pleasure, Social Risk, and Health Risk. Given the fact that sexual content is so omnipresent in the media, we conceptualized the study by focusing on *explicit* sexual content. Based on the extant research (Cranford et al., 2010; Epstein & Ward, 2008; Eisenberg et al., 2006; Guilamo-Ramos et al., 2007; Kunkel et al., 2005; Martino et al., 2009; O'Donnell et al., 2003; O'Sullivan & Brooks-Gunn, 2005), we developed three directional hypotheses to examine the associations between the four socializing agents and the four sexual expectancies, which we tested cross-sectionally and longitudinally. Additionally, we examined whether associations between expectancies and socialization agents differed by age.

- H1** Adolescents who report more frequent sexual communication with mothers/fathers/guardians will be significantly more likely to endorse Social Risk and Health Risk expectancies as compared to other adolescents.
- H2** Adolescents who report more frequent sexual communication with peers will be significantly more likely to endorse Social Benefit and Pleasure expectancies and significantly less likely to endorse Social Risk and Health Risk expectancies as compared to other adolescents.
- H3** Adolescents who report more frequent exposure to television programs with high sexual content will be significantly more likely to endorse Social Benefit and Pleasure expectancies and significantly less likely to endorse Health Risk expectancies as compared to other adolescents.
- H4** Socializing agents will have a stronger effect on changes in sexual expectancies among younger adolescents (aged 13–14) as compared to older adolescents (aged 15–18).

Method

Sample

Data are from Wave 2 and Wave 3 of an annual three-wave longitudinal study (2003–2005) among youth who were 13–18 years old at Wave 2. Adolescents were recruited via a list-assisted sample of households in California's greater San Francisco Bay Area and in Los Angeles County. Youth who agreed to participate were asked to complete a thirty-minute Computer Assisted Self Interview (CASI) in the home to collect data on their sexual communication with parents/guardians and peers, media use, exposure to media, sexual behaviors, and sexual attitudes, beliefs, and expectancies. Adolescents received a US\$30 incentive for their participation at each wave. While adolescents completed their CASIs in private, parents/guardians completed a self-administered questionnaire in another room to help ensure that the adolescents had absolute privacy. The written permission of parents/guardians and written assent of adolescents was obtained for all respondents, per the approved IRB protocol of the principal investigator's research institute. Among the original sample ($N = 1,105$, Wave 1) 92% of adolescents completed the survey at Wave 2 ($N = 1,012$) and 92% of adolescent completed the survey at Wave 3 ($N = 932$). The present

analyses included only those adolescents who did not have any missing data on key variables ($N = 914$).

Measures

Demographics—Age, gender, and race/ethnicity are included in the present analyses. In terms of age, the sample was dichotomized into younger adolescents (aged 13–14) and older adolescents (aged 15–18). In terms of race/ethnicity, participants were asked to identify the racial/ethnic group(s) that best described them. Due to the relatively few numbers of racial/ethnic minorities in the sample, the participants' responses were dummy coded into “non-Hispanic White” or “other.”

Sexual Communication—Three items were used to assess frequency of sexual communication with mother/female guardian, father/male guardian, and peers during the past six months. Adolescents were asked, “How often during the past 6 months have you asked questions about sex or had a conversation with your mother or female guardian where the topic was sex?” Similar questions were asked for adolescents' fathers/male guardians and peers. Each item was coded on a five-point scale that included 1 (*never*), 2 (*1–2 times*), 3 (*3–5 times*), 4 (*6–10 times*) and 5 (*10+ times*). In order to assist with interpretation of summary statistics, response items were recoded to the midpoint of each item response range in order to rescale the variable so that summary statistics (e.g., the means) would better correspond with reported frequencies. In other words, if the adolescent indicated that s/he talked to a parent 3–5 times (response item 3 on the five-point scale), the adolescent was given a score of 4. The rescaled item ranged from 0 (for response item 1) to 12 (for response item 5). Although we collected data for the current study in yearly intervals, the set of items pertained only to sexual communication during the past six months.

Exposure to Television Programs with High Sexual Content—First, respondents were asked to indicate how much television they watched during a typical week. Next, respondents were asked to indicate how many hours during a typical week they viewed three categories of television programs previously identified as have high levels of sexual content (Fisher, Hill, Grube, & Gruber, 2004). These three categories included (1) music videos, (2) premium cable programs (i.e., HBO, Showtime, Cinemax), and (3) adult-content cable programs (i.e., Playboy, Spice or adult-content pay-per-view movies). Specifically, respondents were asked, “In a typical week, about how many hours do you spend watching (1) televised rock, rap, or hip-hop music videos like those on MTV, BET, CMT, or VH-1?”, “(2)... programs on HBO, Showtime, or Cinemax?” and “(3)... adult cable channels (for example the Playboy Channel or Spice) or adult Pay-Per-View movies on television?” Previous studies have examined adolescent media consumption by asking similar genre exposure or programming exposure questions (Klein et al., 1993). The nine response options for each of the three categories of television programs with high sexual content (music videos; premium cable programs; and adult-content cable programs) ranged from 1 (*I do not watch any of those*) to 9 (*I watch more than 20.5 hours per week*). In order to assist with interpretation of summary statistics, we followed the same score procedure used for the “sexual communication” variable outlined above so that the response items for the “television viewing” variable were recoded to the midpoint of each item response range in

order to rescale the variable. The recoded item responses ranged from 0–21 hours of exposure per week for each of the three categories of television programs with high sexual content (i.e., music videos, premium cable programs, and adult-content cable programs).

Adolescent Sexual Experiences—Adolescents were asked if they had ever engaged in oral sex and vaginal sex. For example, female participants were asked (a) “Have you ever had oral sex with a boy (when a boy puts his mouth or tongue on your genitals or you put your mouth or tongue on a boy’s genitals)?” and (b) “Have you ever had sexual intercourse with a boy? By sexual intercourse we mean when a boy puts his penis into a girl’s vagina.” Parallel items focusing on engagement in oral sex and vaginal sex with females were asked of male participants. We controlled for this variable in our analysis, as previous research has found that sexual expectancies can be influenced by past sexual experience (Bourdeau, Grube, Bersamin, & Fisher, 2010).

Adolescent Sexual Expectancies—The Adolescent Sexual Expectancies Scale (ASEXS) (Bourdeau, Grube, Bersamin, & Fisher, 2010) was used to measure endorsement of four sexual expectancies: (1) Social Benefit (i.e., the expectancy that engaging in sexual intercourse will increase one’s popularity among peers, six items $\alpha = .67$); (2) Pleasure (i.e., the expectancy that engaging in sexual intercourse will produce feelings of excitement or lead to sexual satisfaction, three items $\alpha = .76$); (3) Social Risk (i.e., the expectancy that engaging in sexual intercourse will lead to social stigma among peers or loss of one’s self-respect, five items, $\alpha = .70$); and (4) Health Risk (i.e., the expectancy that engaging in sexual intercourse will result in pregnancy or contracting an STI, three items $\alpha = .85$). Eighty-four percent of adolescents sampled had no prior sexual intercourse experience. Therefore, participants were instructed to select their “best guess” as to the likelihood of experiencing each consequence. Responses were on a four-point scale that ranged from 1 (*very unlikely*) to 4 (*very likely*). An analysis of missing data among expectancy questions revealed items missing at random among those who had responded in each wave. Therefore we used the EM (expectation-maximization) estimation procedure to impute values for participants who were missing on individual items and who did not have structurally missing data.

Attrition and Analysis Plan

A missing data analysis found that 6.7% ($n = 68$) of participants did not answer the question related to frequency of sexual communication with fathers/male guardians, mother/female guardians, and friends. Further exploration revealed that a majority of these participants ($n = 59$) did not have a father/male guardian. Therefore we elected to recode these missing data to 0 (indicating no communication). An attrition analysis found that 80 adolescents did not complete the Wave 3 survey. However, a series of t -tests found that adolescents who completed Wave 3 did not differ significantly from those who did not complete Wave 3 on any of the predictor variables (e.g. age, race, frequency of communication with mothers, fathers, or friends, and exposure to television programs with high sexual content). A logistic regression predicting attrition from demographic and socializing agents confirmed this finding.

T-tests were conducted to determine whether mean differences emerged between younger adolescents (aged 13–14) and older adolescents (aged 15–18) with regards to exposure to the four socialization agents. Structural equation models (SEM) were estimated to examine associations between the socialization agents and each of the four sexual expectancies, both cross-sectionally and longitudinally (i.e., over the one-year interval from Wave 2 data collection to Wave 3 data collection). Each SEM model included all four socializing agents (frequency of sexual communication with mother/female guardian, frequency of sexual communication with father/male guardian, frequency of sexual communication with peers, and frequency of exposure to television programs with high sexual content) and controlled for sexual experience, age, gender, and race/ethnicity. When estimating longitudinal models with outcomes at Time 3, we entered the outcome in question at Wave 2 as a covariate. For example, if the analysis focused on Pleasure expectancies, we controlled for Pleasure expectancies reported in the previous year as suggested by Cole and Maxwell (2003). Finally, we examined whether the structural relationships between our identified predictors and outcomes were equivalent across the two age groups with a multigroup invariance test. SEM models were estimated in Mplus version 6.1 (Muthén & Muthén, 2010).

Results

The sample was relatively equally distributed between males (51.9%) and females (48.1%) and ranged in age from 13–18 years old ($M = 15.06$, $SD = 1.42$). A majority of the sample identified as non-Hispanic White (72%). Approximately 16% of youth reported having oral and/or vaginal sex. Adolescents engaged in sexual communication during the past six months four times as often with peers as compared to parents/guardians ($M = 5.49$ vs. $M = 1.04$) and almost twice as often with mothers/female guardians as compared to fathers/male guardians ($M = 1.40$ vs. $M = .68$) (see Table 1). In terms of typical television programs, adolescents watched an average of 20.6 hours per week. In terms of television programs with high sexual content, adolescents watched music videos an average of 2.5 hours per week, premium cable programs (i.e., HBO, Showtime, Cinemax) an average of 1.8 hours per week, and adult-content cable programs (i.e., Playboy, Spice, adult pay-per-view movies) an average of .15 hours per week.

Older adolescents (aged 15–18) did not differ from younger adolescents (aged 13–14) in terms of their sexual communication with either mothers/female guardians or fathers/male guardians, or in terms of their exposure to television programs with high sexual content (see Table 2). However, older adolescents reported significantly more sexual communication with peers as compared to younger adolescents.

SEM models were estimated to examine the relationship between adolescents' exposure to four socializing agents—including mother/female guardian, father/male guardian, peers, and television programs with high sexual content (music videos, premium cable programs, and adult-content cable programs)—and their endorsement of the four sexual expectancies (Social Benefit, Pleasure, Social Risk, and Health Risk) while controlling for age, gender, and race/ethnicity. We estimated two SEM models: one cross-sectionally at Time 2, and one longitudinally between Times 2 and 3. Both models were evaluated according to standard structural equation modeling fit indices: chi-square, comparative fit index (CFI), non-

normed fit index (NNFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (RMSEA). Guidelines—but not hard standards—for “good” model fit include a nonsignificant chi-square, CFI .95, NNFI .90, RMSEA .05, and SRMR .05 (Kline, 2010). The RMSEA index also provides a 90% confidence interval and a probability that the true RMSEA value is at or below .05 (Hancock & Freeman, 2001). However, West, Taylor, and Wu (2012) caution that models should not be rejected solely because they approach, but do not meet, these cutoffs.

Cross-Sectional Models

The cross-sectional model at Time 2 provided a good fit to the data, $\chi^2(3) = 5.91, p = .11$; CFI = 1.00; NNFI = .97; RMSEA = .031 (90% CI = .000 to .069, close fit probability = .76); SRMR = .008. Gender was significantly associated with all four expectancies: Social Benefit, $\beta = .18, p < .001$; Pleasure, $\beta = .35, p < .001$; Social Risk, $\beta = -.32, p < .001$; and Health Risk, $\beta = -.23, p < .001$ (a negative sign indicates that girls scored higher, whereas a positive sign indicates that boys scored higher). Younger adolescents scored higher than older adolescents on Social Benefit expectancies, $\beta = -.09, p < .01$; Social Risk expectancies, $\beta = -.20, p < .001$; and Health Risk expectancies, $\beta = -.09, p < .01$; whereas older adolescents scored higher on Pleasure expectancies, $\beta = .11, p < .001$. No ethnic differences emerged in any of the expectancy variables.

In terms of associations with hypothesized predictors, prior sexual experience was negatively associated with Social Risk expectancies, $\beta = -.26, p < .001$; and Health Risk expectancies, $\beta = -.10, p < .01$; and was positively associated with Pleasure expectancies, $\beta = .20, p < .001$. Number of hours spent watching music videos was positively associated with Social Benefit expectancies, $\beta = .09, p < .01$; and negatively associated with Health Risk expectancies, $\beta = -.13, p < .001$. Number of hours spent watching premium and adult-content cable programs was not significantly associated with any expectancy variable. Sexual communication with peers—but not with mothers/female guardians or fathers/male guardians—was significantly associated with three of the four expectancy variables: Social Benefit, $\beta = .22, p < .001$; Pleasure, $\beta = .28, p < .001$; and Social Risk, $\beta = -.11, p < .001$.

Longitudinal Model

In the longitudinal model, we began by covarying all of the expectancies at Time 2 in the regression of each Time 3 expectancy on the Time 2 predictors. We then trimmed the model by removing nonsignificant paths between Time 2 expectancies and Time 3 expectancies (not including the autoregressive path between each expectancy and itself over time). The resulting model fit the data well, $\chi^2(6) = 10.89, p = .09$; CFI = 1.00; NNFI = .98; RMSEA = .030 (90% CI = .000 to .058, close fit probability = .87); SRMR = .008. Younger adolescents were more likely to endorse Social Risk expectancies, $\beta = -.10, p < .001$. Sex communication with peers was positively predictive of Pleasure expectancies, $\beta = .07, p < .01$. Sex communication with peers was negatively predictive of Social Risk expectancies, $\beta = -.10, p < .001$. Sex communication with peers was negatively predictive of Health Risk expectancies, $\beta = -.12, p < .001$. No significant longitudinal effects of prior sexual experience, parental sex communication, or television exposure emerged once the autoregressive effects of expectancies over time were statistically controlled.

A multigroup invariance test found that the patterns of significant associations to be identical across the two age groups, suggesting that both age groups are similarly influenced by the socialization agents.

Discussion

This study is one of only a handful to prospectively investigate four sexual expectancies—Social Benefit, Pleasure, Social Risk and Health Risk expectancies. We expand on prior research through use of a longitudinal study design and use of the previously validated Adolescent Sexual Expectancies Scale (ASEXS) (Bourdeau, Grube, Bersamin, & Fisher, 2010) to determine the relation of four socializing agents (mother/female guardian, father/male guardian, peers, and television programs with high sexual content) on the four sexual expectancies.

Previous research suggests that adolescents report learning about sex from a number of different socializing agents, including parents (e.g., Bleahey et al., 2009; Guilano-Ramos et al., 2007). Nevertheless, there are some noteworthy nuances regarding the frequency of sexual communication between adolescents and their parents. We found that—during the past six months—adolescents engaged in nearly five sexual communications with peers for every one sexual communication with mothers/female guardians and for less than one sexual communication with fathers/male guardians. However, contrary to hypothesis one (H1), we found that adolescents who reported more frequent sexual communication with parents/guardians did not endorse Social Risk and Health Risk expectancies any more than adolescents who reported less frequent sexual communication with parents/guardians. This was true both cross-sectionally and longitudinally. These results are surprising given the large body of research which suggests that—although they often seem to ignore advice from parents on topics such as dress or music choice—adolescents often pay attention and adopt attitudes similar to those of their parents around more serious topics such as drinking, sexual behavior, and smoking (Castrucci & Gerlach, 2006; Cranford et al., 2010; DeVore & Ginsburg, 2005; Piko & Balázs, 2011). It may be that it is not the frequency of parental sexual communication that impacts the development and maintenance of adolescent sexual expectancies, but the content of such conversations (Martino, Elliott, Corona, Kanouse, & Shuster, 2008; Miller, Kotchick, Dorsey, Forehand, & Ham, 1998).

Both cross-sectional and longitudinal results supported hypothesis two (H2) regarding peer sexual communication. In the cross-sectional analysis, we found that adolescents who reported more frequent sexual communication with peers were significantly more likely to endorse Social Benefit and Pleasure expectancies and were significantly less likely to endorse Social Risk expectancies. In the longitudinal analysis, we found that adolescents who reported more frequent sexual communication with peers were significantly more likely to endorse Pleasure expectancies and were significantly less likely to endorse Social Risk and Health Risk expectancies. These results suggest that the effect of sexual communication with peers is a lasting effect as this variable was significant in both the cross-sectional and longitudinal analyses. Adolescents' peers may be particularly effective in influencing sexual expectancies given their high rate of sexual communication with one another during this particular life stage. Similarly, it may be that learning sexual expectancies is a function of

high rates of interaction with particular socializing agents from whom adolescents acquire sexual scripts (Wright, 2011). Therefore, additional research is necessary to assess whether and to what degree increased rates of parent-to-adolescent sexual communication might mitigate the effects of peer-to-adolescent sexual communication.

Cross-sectional results found partial support for hypothesis three (H3) regarding exposure to television programs with high sexual content. Specifically, adolescents who reported more frequent exposure to television programs with high sexual content were significantly more likely to endorse Social Benefit expectancies and significantly less likely to endorse Health Risk expectancies. Television has been referred to as a “super peer” (Brown, Halpern, & L’Engle, 2005) and therefore it is not surprising that adolescent sexual expectancies are associated with exposure to sexual content in media (Strasburger & Wilson, 2002). However, the longitudinal analysis was not significant. This result was surprising given the mounting evidence that sexual content in media impacts adolescent sexual behavior (Bleakley, Hennessy, Fishbein & Jordan, 2008; O’Hara, Gibbons, Gerrard, Li, & Sargent, 2012; Strasburger, 2012; Wright, 2011). For example, in a recent review, Strasburger (2012) reported that results from 17 longitudinal correlational studies that “allow cause-and-effect conclusions to be drawn” and that “virtually all of them show an impact of sexual content in the media on adolescents’ sexual behavior” (p. 22–23). Therefore, the lack of statistically significant longitudinal association, the significant cross-sectional association, and previous research indicative of a relationship *may* speak to a phenomenon in which the effects are immediate and short in duration and therefore not captured across a one-year time span. For example, in a six-wave longitudinal study among adolescents, O’Hara and colleagues (2012) found that greater exposure to movies with high sexual content predicted early sexual debut and other sexual risk behaviors.

We did not find support for hypothesis four (H4) that socializing agents will have a stronger relation to changes in sexual expectancies among younger adolescents (aged 13–14) as compared to older adolescents (aged 15–18). These findings are inconsistent with research on adolescent development and sexuality, which suggests that significant changes in adolescent sexual cognitions occur across time, particularly in early adolescence (O’Sullivan & Brooks-Gunn, 2005). It should be noted that perhaps changes occur at a much younger age and thus, the impact of socialization factors might occur much earlier than could be measured by the current study.

Our results have implications for parents, sexual risk prevention interventionists, and health educators. First, results suggest that parents may wish to increase how often they talk with their children about sex, as well as closely consider the content of these discussions (Evans, Davis, Silber Ashley, & Khan, 2012). While parents may be reluctant due to embarrassment or uncertainty (Wilson, Dalberth, Koo, & Gard, 2010), Evans and colleagues (2012) found that increasing sexual communication between parents and adolescents may help “promote behavioral outcomes such as delaying sexual debut and increasing contraceptive use” (p. 498). For example, such discussions may serve to dispel common myths among adolescents, such as the myth that you cannot get pregnant the first time you have sex or if you have sex standing up or in a hot tub (National Campaign, 2012), transmit parental attitudes, beliefs, and values, and increase knowledge among adolescents. Second—given the powerful

influence of peers on adolescents' sexual expectancies—sexual risk prevention programs targeting the development positive adolescent sexual decision-making (e.g., delaying sexual intercourse among adolescents) should not merely recognize peer-driven influences but incorporate peer-related strategies into all levels of a program's components, such as using peer educators to transmit accurate sexual health information (Advocates for Youth, 2012). Third, although we recognize the inherent issues in cross-sectional analysis, our results suggest that adolescents' sexual expectancies may be malleable to recent events as evident by the cross-sectional, but not longitudinal, association between television with high sexual content and our sexual expectancy variables. In order to counteract the influence of both peers and media on adolescents' sexual expectancies, it may be important for health educators to develop comprehensive sexual health education programs that are delivered consistently throughout the secondary school years.

Limitations and Future Directions

The results of all surveys are subject to a variety of sources of error, such as inaccurate recall. For a survey such as this one, which was concerned with sensitive behaviors and attitudes among adolescents, likely sources of error are selective non-response and unintentional false recall. For example, it is possible that adolescents in the present study may have over- or under-reported their *frequency* of sexual communication with parents/guardians and with peers, and/or may have over- or under-estimated their exposure to television programs with high sexual content.

Another challenge facing this area of research is the difficulty in measuring exposure to *sexual content* of different forms of media. For example, in the present study, we measured self-reported exposure to specific *channels* with documented high sexual content (e.g., MTV, Cinemax, Playboy Channel) rather than conducting a content-coding of specific music videos or specific episodes of particular television programs. It is possible that there are other high sexual content television genres or networks that youth are exposed to that were not examined in the present study. As such, future research could examine other television categories and their impact on sexual expectancies among youth. Although beyond the scope of the present study, the procedures that O'Hara et al. used in their 2012 study of associations between early sexual exposure via film and risky sexual behavior in young adulthood could be instructive for future research directions. Likewise, Bleakley and colleagues (2008) tested the association between multiple media measure of exposure to sexual content and sexual behavior that was based on adolescents' subjective ratings of sexual content in titles of four types of media (i.e., television, music, magazines, videogames) that may have utility for future research (Bleakley, Fishbein, Hennessy, Jordan, Chernin, & Stevens, 2008). It is also important to note that as internet and social media use (Facebook, YouTube, etc.) continues to expand among adolescents across all ethnic/racial groups (Lenhart, Ling, Campbell, & Purcell, 2010; National Campaign, 2010), future research should explore how sexual content on internet sites impacts adolescent sexual expectancies and sexual risk behaviors.

A third challenge facing this area of research is the difficulty in measuring the *content* of sexual communications with parents and peers. For example, while the frequency of sexual

communication between adolescents and their parents may be similar, it is likely that the content of such communications varies dramatically across families and, therefore, will have significantly different effects. To better gauge the relationship between the *frequency* and *content* of sexual communication and how they impact sexual expectancies and sexual behaviors, it is critical to develop valid and reliable measures that can be administered in survey format to increase generalizability.

Finally, while our sample size was large, the majority of the respondents identified as non-Hispanic white. Therefore, in order to increase the generalizability of results to other groups, future studies on adolescent sexual expectancies and socializing agents should include samples that vary not only across age but across ethnicity/race and socio-economic status.

Despite any limitations, this study is one of the few longitudinal investigations of sexual expectancies among a sample of predominately non-sexually active adolescents. Our findings suggest that incorporating peer influences into risk prevention programs designed to affect sexual expectancies among adolescents holds considerable promise, given the high frequencies of sexual communication with peers reported among the sample of adolescents.

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Table 1Descriptive Statistics (*N*=914)

	Range	Mean	SD	%
Gender (male)				48.9%
Non-Hispanic White				72%
Sexually Experienced				15.9%
Age	(13–18)	15.06	1.42	
Sexual communication frequency with mother/female guardian in past 6 months	(0–12)	1.40	2.37	
Sexual communication frequency with father/male guardian in past 6 months	(0–12)	.68	1.63	
Sexual communication frequency with peers in past 6 months	(0–12)	5.49	4.71	
Weekly exposure to music videos with sexual content	(0–21)	2.55	3.50	
Weekly exposure to premium cable programs with sexual content	(0–21)	1.89	3.31	
Weekly exposure to adult-content programs	(0–21)	.15	.68	
Social Benefit expectancies	(0–4)	2.30	.68	
Pleasure expectancies	(0–4)	3.12	.79	
Social Risk expectancies	(0–4)	2.61	.71	
Health Risk expectancies	(0–4)	1.98	.82	

Table 2

Mean differences by age group

	Ages 13–14 n = 350	Ages 15–18 n = 563	p-value
Sexual communication frequency with mother/female guardian in past 6 months	1.29 (2.10)	1.47 (2.52)	.23
Sexual communication frequency with father/male guardian in past 6 months	.76 (1.74)	.64 (1.55)	.16
Sexual communication frequency with peers in past 6 months	4.35 (4.46)	6.20 (4.72)	<.01
Weekly exposure to music videos with sexual content	2.45 (3.53)	2.62 (3.49)	.54
Weekly exposure to premium cable programs with sexual content	1.80 (3.32)	1.94 (3.30)	.47
Weekly exposure to adult-content cable programs	.11 (.42)	.18 (.80)	.62