Published in final edited form as:

J Dev Behav Pediatr. 2015 May ; 36(4): 258–266. doi:10.1097/DBP.0000000000000130.

Perceptions of siblings' sexual activity predict sexual attitudes among at-risk adolescents

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Abstract

Objective—Most American youth have siblings. This study examined the influence of early adolescents' perceptions of their older sibling's sexual activity on their own sexual attitudes and behaviors.

Method—Early adolescents (ages 12–14) at risk for emotional/behavioral problems reported on attitudes towards sex, sexual behaviors, perception of older siblings' and peers' sexual activity, and perceived parental approval toward sex. The sample was divided into three groups: teens who thought their older sibling was not having sex (N = 119), teens who believed their sibling was sexually active (N = 55) and teens without an older sibling (N = 170).

Results—Teens who thought their older sibling was not having sex scored higher in valuing abstinence and lower on perceptions of peer sex and maternal approval toward sex than teens who perceived their sibling to be having sex and teens without an older sibling. With regard to behaviors, teens who thought their older sibling was not having sex were less likely to endorse making out, touching genitals, oral sex, and vaginal sex compared to teens who thought their older sibling was having sex.

Conclusion—Perceptions that older siblings abstain from sexual activity may be a protective factor for more conservative attitudes towards sex and decreased sexual activity among young, at-risk teens. A single question about perceptions of siblings' sexual behaviors can be integrated into healthcare visits to introduce conversations about age-appropriate sexual decision-making.

Keywords

siblings; adolescents; sexual activity

Eighty-two percent of children in the United States have at least one sibling¹, and children are more likely to grow up with a sibling than a father in the home.¹ Given the prevalence of

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Disclosure: The authors declare no conflict of interest.

sibling relationships, there are many opportunities for an older sibling to influence the developmental trajectory of younger siblings, yet there is a dearth of research on siblings compared to parent-child or peer relationships.¹ Past sibling research has documented the influence of features of sibling relationships (e.g., differences in age and relationship quality) on the development of child and adolescent externalizing and internalizing disorders,² substance use,² and sexual risk behaviors.¹ Within the sibling literature, however, less is known about perceptions of an older sibling's sexual activity and associations with younger teens' attitudes towards sex and sexual behaviors. To begin to address this gap, the current study explored whether the perception of an older sibling's sexual activity was associated with attitudes towards sex and sexual behaviors of at-risk early adolescents.

Adolescence is a developmental period associated with increased risk-taking.³ Risky decisions about sex during adolescence (e.g., early sexual initiation, unprotected sex) can lead to outcomes such as unintended pregnancy and sexually transmitted diseases (STDs). Almost half of the approximately nineteen million annual incident STD infections are among young people ages fifteen to twenty-four years old.⁴ Teens with emotional and behavioral difficulties are at greater risk for early sexual initiation and unprotected sex, relative to their same age peers.⁵ Among early adolescents, emotional and behavioral symptoms are associated with more sexual activity.^{6,7} As teens get older, these symptoms are associated with risky sexual behavior.⁸⁻¹⁰ Therefore, understanding factors that may contribute to early sexual initiation among teens with emotional and behavioral difficulties can inform interventions intended to delay teens' sexual behavior. Sibling relationships may be one factor that affects teens' sexual activity and attitudes.

Many factors can influence teens' attitudes towards sex and their sexual behavior. The shared family environment, such as parent relationships and the general functioning of the family, can affect both older siblings' and younger siblings' sexual behaviors. A review of research on adolescent sexual and reproductive health found that higher levels of family connectedness (e.g., parental warmth and support) and parent-adolescent communication (e.g. quality and frequency) were protective against early sexual debut.¹¹ Perceived maternal and paternal disapproval of sex also has been associated with fewer occurrences of sexual intercourse and increased abstinence among teens.¹² Beyond the family, the important role of peer influence on sexual behaviors has been extensively researched. Early sexual onset, intentions to have sex, and engaging in sexual behaviors are all associated with teens' beliefs that many of their peers are engaging in sex.¹²

In addition to broader family and peer influences, sibling relationships also may affect teens' decisions to engage in sexual behavior. A majority of the existing sibling research on sexual behaviors has indicated that older siblings can influence the sexual behavior of younger siblings. For example, female teens with a pregnant older sister are significantly more likely to engage in sexual intercourse¹³ and get pregnant during adolescence^{14,15} than female teens with an older sister who is not pregnant. Additionally, self-reported sexual behavior by older siblings is associated with earlier onset of sex among their younger siblings.^{16,17} These studies explore sibling influences within high and low socioeconomic environments and

different racial groups, converging to indicate that a sexually active older sibling may be a risk factor for younger sibling sexual activity.

Social learning theory (SLT) is commonly used to explain the influence of older siblings on younger siblings.¹⁸ SLT proposes that individuals learn new behaviors through reinforcement and observing others' behaviors. Additionally, individuals show a better likelihood of learning when behaviors are modeled by someone who is warm, holds a high status, and is similar (e.g., close in age, same gender) to the individual.¹⁹ In the context of sibling relationships, older siblings are often viewed as models for younger siblings, given the intrinsic age difference (i.e., higher status) and environmental and genetic similarity between the siblings.² SLT predicts that an older sibling who is warm towards their younger sibling and perceived as competent would be an effective role model for their younger sibling.¹⁸

In a study testing the principles of SLT with regard to sexual risk, McHale and colleagues²⁰ observed associations between teens and their older siblings on three criteria: risky attitudes towards sex, risky attitudes towards pregnancy, and risky sexual behavior. Across the three criteria, sibling pairs' self-reports were significantly related, even after controlling for family factors such as household income and mothers' attitudes towards sex. These results from a nationally representative sample (Add Health) are consistent with earlier sibling research on sexual risk.^{13–17} Notably, correlations were stronger for teens who were the same gender, and marginally significant for similarity in age (i.e., less than two years apart). The associations also were stronger when siblings reported a closer, warmer relationship, supporting the predictions of SLT.²⁰

To our knowledge, SLT hypotheses have not been applied to early adolescents who are at-risk for emotional and behavioral difficulties. Children and adolescents who endorse higher internalizing and externalizing problems report lower sibling warmth and greater sibling conflict.²¹ In turn, sibling conflict is also associated with risky behaviors, such as cigarette smoking, skipping school,²² and increased sexual activity.²³ Greater sibling conflict among at-risk teens and their older siblings suggests that these teens are less likely to benefit from the protective effects of sibling warmth, thus placing these teens at higher risk for problem behavior. The current study adds to the existing research on SLT by investigating whether teens' and their older siblings' attitudes towards sex and sexual behaviors are related in sibling relationships that may be marked by increased conflict.

In addition to the focus on at-risk teens, the current study contributes to the existing research on siblings and sexual behavior in multiple ways. First, the current study examines whether sibling similarity in sexual behavior is associated with teens' *perception* of an older sibling's sexual activity. Previous sibling studies measured the actual behavior of older siblings, either through the older siblings' parenting status (e.g., pregnant, parenting, non-pregnant/parenting)^{13–15} or older siblings' self-reported sexual activity.^{16,17,20} The importance of younger siblings' perceptions of an older brother or sister has been demonstrated in the context of other risk behaviors. For example, among an undergraduate sample of older siblings, teens' alcohol use was positively correlated with perceptions of their older siblings' alcohol use.²⁴ Only moderate agreement was found between perceptions of older sibling

behaviors and the actual behavior of the older siblings, suggesting that *perceptions* can exert more influence than *actual* behavior.²⁴ This finding underscores the importance of investigating teens' perceptions of older siblings' behaviors in relation to their own risk behavior.

Second, the current study contributes to the existing research by focusing on early adolescents. Less is known about the prevalence of sexual behaviors of teens during middle school compared to those in high school.²⁵ One exception is a recent study exploring environmental influences (e.g., supportive parenting, media exposure) on the sexual attitudes of over 1,700 seventh graders within an urban school district. Female teens who reported having a sibling who was a teen parent were more likely to indicate that sexual relations are normal for teens in their age group.²⁶ However, this research did not address the features of the sibling relationship (e.g., age of older sibling) and did not measure rates of sexual behavior among the teens.

Lastly, the current study includes a group of teens without an older sibling in order to better contextualize differences in teens' attitudes towards sex and sexual behaviors. The sibling research^{13–17,20} compares teens of sexually active older siblings to teens of non-active older siblings in order to determine sexual risk. In these sibling-to-sibling comparisons, it is possible that the protective effects of non-active older siblings are being missed without a referent group for comparison. The inclusion of teens without an older sibling could provide a “neutral” referent group to compare the attitudes towards sex and sexual behaviors of the two sibling groups. This comparison may allow us to better classify the protective or risky nature of teens' perceptions of their older siblings' sexual behavior.

The current study explored associations of young, at-risk teens' own sexual attitudes and behaviors with their perceptions of an older sibling's sexual activity. Controlling for demographic and other confounding factors (e.g., general family functioning, sibling relationship quality), we hypothesized that teens who believed their older sibling was not having sex would be less likely to report favorable attitudes towards sex and less likely to report their own engagement in sexual behaviors compared to teens who thought their older sibling was having sex. Teens without an older sibling were expected to report riskier attitudes and more sexual behavior than teens who thought their older sibling was not having sex, but less risky attitudes and less sexual behavior than siblings who thought their older sibling was having sex.

Methods

Participants

The sample consisted of 420 seventh graders (ages 12 to 14) who participated in Project TRAC (Talking about Risk and Adolescent Choices), a randomized controlled trial evaluating risk reduction interventions for youth with symptoms of emotional and behavioral difficulties. Teens were enrolled from five urban public schools in Rhode Island between 2009 and 2012. School nurses, counselors, and administrators were given a standardized checklist of symptoms to use as a guide when referring students at-risk for emotional and behavioral difficulties. This checklist, developed by one of the participating

school districts for staff to use when making counseling referrals, contained items such as withdrawal behavior, hyperactivity, disruptive behavior, declining academic performance and suspected substance use/sexual activity. This procedure resulted in a 27% referral rate to the program, generally consistent with national data on the rates of mental health disorders among adolescents.²⁷ Teens who were pregnant, developmentally delayed, unable to participate in groups in English, self-identified as HIV positive, had a history of sexually aggressive behavior, or had a sibling who previously participated in the TRAC program were excluded from the study. School staff obtained permission for the research team to contact interested families, and the research team conducted face-to-face parent consent and adolescent assent.

As part of the computerized assessment, teens were asked if they had an older sibling living with them at home. In the current study, older siblings included step-siblings and half-siblings. Teens indicated whether they had an older brother, an older sister, both an older brother and sister, or no older sibling at home. If teens had both an older brother and sister, they were asked questions about their same-sex older sibling. If teens had multiple older brothers or sisters, they were asked to report the age of the older sibling that was closest in age to them. Teens then referred to this brother/sister as their older sibling for the questions that followed. Teens who indicated that their older sibling was the same age ($N = 4$) or younger ($N = 3$) were omitted from the current analyses. Additionally, teens who reported an older sibling greater than eighteen years old ($N = 68$; mean age = 21.54; $SD = 3.02$) were also omitted, as these older siblings were outside the developmental period of interest. The final sample consisted of 344 teens, 174 of whom reported having an older sibling.

The mean age of the teen participants was 12.92 ($SD = 0.53$). Forty-seven percent of the teens were female and 40% reported Hispanic or Latino ethnicity. Thirty-four percent of the teens considered themselves white/Caucasian, 26% black/African American, 4% native Hawaiian or other Pacific Islander, 2% American Indian or Alaskan native, and 1% Asian. Seventeen percent of teens indicated they were multi-racial, and 16% of teens did not report their race. Thirty-two percent of parents indicated a yearly family-income of less than or equal to \$20,000.

Of the 174 teens who reported an older sibling, the mean age of the older sibling was 15.62 ($SD = 1.47$), and the mean age difference between the teens and their older siblings was 2.71 years ($SD = 1.42$). Forty-nine percent of the older siblings were female.

Procedures

All study procedures were approved by the Institutional Review Board at Rhode Island Hospital. Teens used laptop computers to complete an audio computer-assisted self-interview for the baseline assessment. Baseline data were used in the present analyses; therefore, participants had not yet received the TRAC intervention when reporting on baseline sexual activity and attitudes and family/sibling factors.

Measures

Demographics—Teens reported their age, race, gender, and ethnicity. A legal guardian provided family income in a separate assessment.

Adolescent Risk Behavior Assessment (ARBA)²⁸—Engagement in sexual behaviors was collected through self-reported yes/no questions. For the current study, additional items from the Psychosexual Development Inventory²⁹ were included. Teens were asked if they had ever made out with someone, ever had their genitals rubbed or rubbed another person's genitals under clothes, ever received or given oral sex, or ever had vaginal sex.

Perception of Sibling Sexual Behavior—Teens were asked the following yes/no question: “Do you think your older brother/sister is having sex?”

Sibling Relationship Quality³⁰—Sibling relationship quality was measured through four questions that assessed frequency of arguing and/or fighting with their older sibling (reverse scored), feelings of love towards their older sibling, and time spent together with their older sibling and with their older sibling's friends. These questions were previously used by the Add Health study. Response options were modified to a five-point scale, from “never” to “very often,” with higher mean scores indicating better sibling relationship quality. In the current sample, Cronbach's alpha was .62.

Abstinence Attitudes³¹—Value placed on abstinence was measured with a ten-item scale. Items included “even if I am physically mature, that doesn't mean I am ready to have sex” or “I think it is okay for teens my age to have sex.” Response options were on four-point scale, from “strongly disagree” to “strongly agree,” with higher mean item scores indicating greater value placed towards abstinence. In the current sample, Cronbach's alpha was .86.

Perceived Parental Approval³²—Teens' perceptions of maternal and paternal approval of sexual behaviors were measured with separate three-item scales. The three sexual behaviors were kissing, rubbing genitals under clothes, and engaging in sex. Response options were on a four-point scale, from “strongly disapprove” to “strongly approve,” with higher mean item scores indicating greater perceived parental approval of sexual behaviors. In the current sample, Cronbach's alpha was .62 for maternal approval questions and .82 for paternal approval.

Family Assessment Device (FAD)³³—The twelve-item General Functioning subscale of the FAD, which assesses open communication and support from family members, was used to measure family functioning. Sample questions included “individuals are accepted for what they are” and “we can express feelings to each other.” Response options were on a four-point scale, from “strongly agree” to “strongly disagree” with lower mean scores indicating better familial functioning. In the current sample, Cronbach's alpha was .75.

Perceived Peer Sexual Activity³⁴—Teens' perception of how many of their peers were engaging in sex was measured with one item. Teens were asked how many people their age

they believed had ever had sex. Response options were on a five-point scale, from “none, or almost none of them” to “all, or almost all of them” with higher item scores indicating a greater number of peers perceived to be engaging in sex.

Data Analyses

Three groups were created based on teens’ responses to the question: “Do you think your older sibling is having sex?”: teens who answered yes, teens who answered no, and teens without an older sibling. Preliminary analyses compared the demographics among the three groups, and any significant differences were subsequently entered as control variables.

One-way analyses of variance and post-hoc comparisons with SPSS Bonferroni correction were used to test differences among the three sibling groups in attitudes towards sex. (The Bonferroni correction multiplies the unadjusted p-statistic by the number of comparisons made. This adjusted p-statistic can then be compared to the selected alpha, in this case, .05.) Three (sibling group) by two (participant endorsement of sexual behavior) chi-square tests were used to compare rates of sexual behavior among the groups. Post-hoc comparisons of column proportions with Bonferroni correction for significant omnibus tests were used to further describe group differences. Independent samples t-tests compared the two groups of teens with older siblings on sibling relationship quality and general family functioning. Lastly, a logistic regression was run with teen gender, age, family functioning, perceived peer engagement in sex, perceived maternal approval towards sex, older sibling age, and perception of older siblings’ sexual activity to assess the independent effects of these variables on teens’ engagement in oral or vaginal sex. Across most measures, less than two percent of responses were missing. For the paternal approval scale, only sixty percent of teens reported having a father. Listwise deletion was used for missing data.

Results

Demographics

There were no significant differences in age, gender, ethnicity, race, or household income among teens who thought their older sibling was not having sex ($N = 119$), teens who thought their older sibling was having sex ($N = 55$), and teens without an older sibling ($N = 170$) (Table 1). Teens who thought their older sibling was having sex reported a significantly older sibling than teens who thought their older sibling was not having sex. There was no significant relationship between perceptions of older sibling sexual activity and gender match (same-sex [i.e., sister/sister or brother/brother] vs. different-sex [i.e., sister/brother]) sibling pairs ($X^2(1, N = 174) = .002, p = .96$).

Attitudes towards Sex

A one-way analysis of variance revealed group differences in value placed on abstinence ($F(2,341) = 13.18, p < .01$), perceived peer sexual activity ($F(2,336) = 9.21, p < .01$), and perceived maternal approval towards sexual behaviors ($F(2,340) = 4.99, p < .01$) among the three groups. Post-hoc tests with Bonferroni correction indicated that teens who thought their older sibling was not having sex placed significantly greater value ($p < .05$) on abstinence ($M = 2.92, SD = 0.56$) compared to teens who thought their older sibling was

having sex ($M = 2.45$, $SD = 0.52$) and teens without an older sibling ($M = 2.70$, $SD = 0.60$). Teens without an older sibling placed significantly ($p < .05$) greater value on abstinence compared to teens who thought their older sibling was having sex. Teens who thought their older sibling was not having sex also perceived fewer of their peers to be engaging in sex ($M = 1.70$, $SD = 0.96$) compared to teens who thought their older sibling was having sex ($M = 2.42$, $SD = 1.10$) and teens without an older sibling ($M = 2.13$, $SD = 1.20$). Lastly, teens who thought their older sibling was not having sex perceived less maternal approval towards sexual behaviors ($M = 1.50$, $SD = 0.47$) compared to teens who thought their older sibling was having sex ($M = 1.75$, $SD = 0.58$) and teens without an older sibling ($M = 1.67$, $SD = 0.60$) (Figure 1). There were no significant group differences in perceived paternal approval towards sexual behaviors ($F(2, 201) = 1.43$, $p = .24$).

Sexual Behaviors

Chi-square tests indicated group differences in rates of teen sexual behaviors including making out ($X^2(2, N = 338) = 12.19$, $p < .01$), rubbing genitals under clothes ($X^2(2, N = 344) = 17.18$, $p < .01$), oral sex ($X^2(2, N = 344) = 9.89$, $p < .01$), and vaginal sex ($X^2(2, N = 339) = 14.93$, $p < .01$). Post-hoc analyses with Bonferroni correction indicated that teens who thought their older sibling was not having sex reported significantly ($p < .05$) lower rates of all sexual behaviors compared to teens who thought their older sibling was having sex. Compared to teens without an older sibling, teens who thought their older sibling was not having sex displayed lower rates of rubbing genitals under clothes and vaginal sex (Figure 2).

Family Processes

To further explore the sibling and family context of the teens with an older sibling, independent samples t-tests were used to compare sibling relationship quality and general family functioning between teens who thought their older sibling was having sex and teens who thought their older sibling was not having sex. There were no differences in teens' reported sibling relationship quality ($t(172) = .45$, $p = .66$) between teens who thought their older sibling was having sex ($M = 12.44$, $SD = 3.92$) and those who thought their older sibling was not having sex ($M = 12.69$, $SD = 3.24$). There was a difference, however, in family functioning between the two groups. Teens who thought their older sibling was not having sex reported better general family functioning ($M = 24.48$, $SD = 5.81$) than teens who thought their older sibling was having sex ($M = 27.31$, $SD = 4.12$; $t(143.59) = 3.67$, $p < .01$).

To examine the relative influence of perceptions of older siblings' sexual activity on teens' oral or vaginal sexual activity, a logistic regression predicting teen sexual activity was conducted. Variables entered into the model included teen's age and gender, older sibling's age, and teen's perceptions of their older sibling's sexual activity, family functioning, peer engagement in sex, and maternal approval towards sexual behaviors. Older sibling's perceived sexual activity and perceived maternal approval were significant predictors of teens' own sexual behavior, independent of the other variables included in the model. General family functioning, perceived peer engagement in sexual behavior, older sibling age, teen age and teen gender were not significant predictors in this model (Table 2).

Discussion

In this study, teen perceptions of older adolescent siblings' sexual behaviors were related to their own sexual behaviors and attitudes. The study suggests that early adolescents' perceptions that an older sibling is not having sex may be a protective factor for early adolescent sexual activity among youth with emotional and behavioral symptoms. These findings are consistent with SLT and previous sibling research.^{13–17,20} The current study builds on the existing research by measuring teen *perceptions* of older sibling activity, instead of older sibling self-reports of their sexual behavior^{16,17,20} or pregnancy/parenting status.^{13–15} The association between teens' positive attitudes towards sex and increased engagement in sexual behaviors was still present when teens *thought* their older sibling was having sex. This highlights the importance of perceptions among early adolescents, regardless of their accuracy. Indeed, previous research has documented a poor correspondence between teens' perceptions of their older siblings' health risk behaviors (including sexual activity) and their older siblings' actual behaviors.²⁴

In the current study, teens who thought their older sibling was having sex displayed an increased chance of engaging in vaginal or oral sex and more positive attitudes towards sex. This finding is consistent with prior research documenting similarities in perceived sexual activity and attitudes among sibling pairs. The current findings extend previous work by enrolling a sample with a younger mean age (12.9 years in the current sample vs. 15.8 years in previous work²⁰). In the current sample, a greater difference in age-spacing may contribute to higher perceived social status of older siblings,³⁵ but this has not been tested. Future research on sibling influence can further explore the associations among age-spacing, older sibling age, sibling relationship quality, and other constellation factors (e.g., sex match between siblings).

The current results suggest that addressing teens' perceptions of an older sibling's sexual activity could be useful for interventions aimed at delaying engagement in early sexual behaviors. In comparing the two sibling groups, teens who thought their older sibling was having sex had the highest odds of engaging in oral or vaginal sex. This perception was a stronger predictor than a number of other variables associated with engaging in sex, including general family functioning and perception of peer engagement in sex.^{11,12} Perceived maternal approval was also a significant predictor of teen sex. It is possible that influences to engage in sexual behavior may come primarily from family members in early adolescence and then shift to peers later in adolescence. Future research could explore how perceptions of sibling behavior and peer influence may interact during different developmental stages of adolescence.

The inclusion of a no-older-sibling group is a contribution of the study, as it allows for a referent group to which to compare results. If the no-older sibling group were omitted, the current conclusions would be similar to previous studies that framed older siblings' sexual activity as a risk factor for engaging in sexual behavior. When teens without older siblings were used as a reference point to compare the sexual attitudes and behaviors of the two sibling groups, these no-sibling teens were similar to teens who thought their older sibling was having sex. Compared to teens who thought their older sibling was not having sex, teens

without an older sibling endorsed significantly more positive attitudes about sex on three of the attitudinal measures and indicated higher rates of genital rubbing and vaginal sex. This pattern of results suggests that the perception that one's older sibling is not having sex may be framed as a protective factor for at-risk early adolescents. As depicted in Figures 1 and 2, sexual attitudes and behaviors increased in a step-wise pattern such that the no-older-sibling group endorsed more risky attitudes and behaviors than teens who did not believe their siblings were sexually active, but less than those who did. These findings should be replicated, as it is possible that the differences in attitudes and behaviors between teens without an older sibling and teens who thought their older sibling was having sex were not statistically significant because of the smaller sample of teens who thought their older sibling was having sex relative to the other two groups.

Previous research noted the effects of increased sibling conflict on teens' mental health²¹ and risk behaviors.^{22,23} Therefore, the current study investigated whether SLT predictions would persist in an at-risk sample as these sibling relationships may have higher levels of conflict relative to non-risk teens. The results of the current study are consistent with previously observed relationships between teens' and older siblings' attitudes and behaviors. Additionally, there was no significant difference in sibling relationship quality between teens who thought their older sibling was having sex and teens who thought their older sibling was not having sex. Future research should compare sibling relationship quality between normative and at-risk samples of teens to further investigate SLT hypotheses and sibling relationships. The perception that an older sibling was not having sex yielded significant attitudinal and behavioral differences between teens without an older sibling and teens who thought their older sibling was having sex. Additional longitudinal research exploring how these differences change (e.g., attenuate or strengthen) and possibly interact with sibling relationship quality during adolescence would clarify the mechanisms through which perceptions influence at-risk teens' attitudes towards sex and sexual behaviors.

This study has clinical implications for the assessment of adolescent sexual risk. The basic question used in this study, ("do you think your older brother/sister is having sex?"), was associated with sexual attitudes and behaviors. This question may be a helpful conversation starter about sexual health during visits with pediatric healthcare providers. Talking to teens about their engagement in sexual behaviors can be an uncomfortable conversation for providers to initiate. An update on the Home, Education, Eating, peer-group Activities, Drugs, Sexuality, Suicide/depression, and Safety (HEEADSS) psychosocial screen, an assessment tool meant to complement formal guidelines set by the American Medical Association and other organizations, indicated that the sexual history component of the interview is "the most sensitive, private part" for teens.³⁶ This report further suggests that instead of asking early adolescents directly if they are sexually active, healthcare providers ask teen patients if they think peers engage in sex. Given that beliefs about peers were not associated with sexual activity in the final regression model, results of the current study suggest that asking about older siblings may be an informative, alternative approach to initiating sexual health conversations. This screening item may be particularly important for youth with emotional or behavioral symptoms, which often co-exist with sexual risk in adolescence.

This study has limitations. The cross-sectional design does not allow for causal conclusions between perceptions and adolescent sexual behavior. Since the study measured perceptions of sibling sexual behavior, the actual behavior of older siblings is unknown and the accuracy of younger siblings' perceptions cannot be determined. Additionally, the study addressed only one sibling relationship; understanding the dynamics of multiple sibling relationships as they influence sexual behavior will be important for further research. Although the study included a culturally diverse sample, it represents one geographic region. Participants were selected because they exhibited emotional and behavioral difficulties, so it is possible that the findings may not extend to teens who do not display these symptoms. Finally, the data on sexual behaviors were collected via self-report. However, previous research has shown that the audio computer-assisted self-interviews used in the current study enhance reliability for collecting data on sensitive topics from youth.³⁷

In sum, this study explored an under-researched but influential subsystem of the family, the sibling relationship. Findings suggest that the perceptions that an older sibling is not having sex may serve an important, protective relationship for less risky sexual attitudes and behaviors among young teens at-risk for emotional and behavioral problems. The inclusion of a no-sibling referent group allowed a closer look as to whether perceptions of an older sibling's sexual activity are risky or protective in nature. Asking teens if they think their older sibling is having sex during a sexual history screening is a question providers could use to initiate important conversations about sexual behaviors with young adolescents.

Acknowledgements

Research supported by NINR grant R01 NR 011906 to Rhode Island Hospital.

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Figure 1.

Favorable attitudes towards abstinence, perceived peer engagement, and parental approval of sex by sibling group.

Note: * = Significantly different than other two groups at $p < .05$.

Figure 2.

Rates of sexual behavior by sibling group.

Notes: * = Significantly different than other two groups at $p < .05$; ^ = Significantly different from active older sibling group at $p < .05$.

Table 1

Demographic Comparisons by Older Sibling (OS) Group

	Teens with perceived Abstinent OS (n=119)	Teens with perceived Active OS (n=55)	Teens without OS (n=170)	Test statistic	Significance
Mean Age (SD)	12.89 (.51)	12.97 (.52)	12.93 (.55)	$F(2,340) = .50$	$p = .61$
Female (%)	45	58	45	$\chi^2(2) = 3.25$	$p = .20$
Hispanic (%)	41	42	38	$\chi^2(2) = .51$	$p = .78$
Race (%) ^a				$\chi^2(10) = 14.89$	$p = .14$
Caucasian/White	26	35	40		
African American/Black	26	25	26		
Asian	1	2	1		
American Indian/Alaskan Native	1	4	2		
Native Hawaiian/Pacific Islander	7	0	2		
Multi-Race	18	25	14		
Household Income (< \$20,000;%) ^b	28	42	32	$\chi^2(2) = 2.77$	$p = .25$
OS Mean Age (SD)	15.25 (1.39)	16.42 (1.33)	--	$t(172) = 5.21$	$p < .01$
OS Gender (% Female)	50	45	--	$\chi^2(1) = .37$	$p = .54$

^a 16% of participants did not report a racial category.

^b 16% did not report household income.

Table 2

Logistic regression of predictors of teen oral and vaginal sex between teens who think their older sibling is not having sex and teens who think their older sibling is having sex

Variables	B (SE)	OR	95% CI
Family Functioning	.06 (.05)	1.06	.96–1.17
Perception of Older Sibling's Sexual Activity	1.31 (.51)	3.72**	1.37–10.09
Perceived Maternal Approval	1.08 (.45)	2.95*	1.21–7.18
Perceived Peer Sexual Activity	.10 (.21)	1.11	.73–1.68
Older Sibling Age	-.21 (.17)	.81	.58–1.13
Age	.32 (.45)	1.38	.58–3.31
Gender	-.17 (.49)	.85	.33–2.21

Note:

* = Significant at $p < .05$,

** = Significant at $p = .01$.