

Sexual Motivations and Engagement in Sexual Behavior During the Transition to College

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Abstract Motivations for and against sex are salient predictors of engaging in or abstaining from sex in cross-sectional studies. Participants ($N = 637$, 41.4% male) provided data on their motivations for and against sex and lifetime sexual behavior prior to entering college and six months into the first year in college. Longitudinal data were used to examine differences on motivations for and against sex reported the summer before college entrance for students who continued to abstain (Nevers, 44.7%), transitioned to sexual behavior in the following months (Transitioners, 11.0%), and who were previously sexually active (Actives, 44.3%). Multivariate analysis of variance analyses indicated that Transitioners evidenced mean-level differences in motivations surrounding sex (greater intimacy and enhancement motives for sex, lower values motives against sex) prior to their behavioral initiation compared to Nevers. In addition, Transitioners reported greater changes in motivations from pre-college to the six-month follow-up, including increased enhancement motivations for sex and decreased values and not ready motivations against sex. Men reported more important motivations for sex and less important motivations against sex than women, with an interaction showing that sexually experienced women reported more important intimacy motivations and sexually inexperienced men reported more important coping motivations for sex. Identifying salient motivations associated with imminent changes in sexual behavior

may support the development of sexual health promotion programs that seek to reach sexually inexperienced individuals at important times of transition.

Keywords Motivation · Sexual behavior · Sexual health · College students

Introduction

Developmental scientists are inherently interested in the reasons or motivations why individuals engage in new behaviors, including sexual behavior (Lefkowitz & Gillen, 2005), and the ways in which these motivations may change over time. Forming a more complete understanding of college students' perceptions of the costs and benefits associated with their behavior will inform developmental models of sexual behavior and programs designed to promote sexual health (Cooper & Shapiro, 1997; Furby & Beyth-Marom, 1992). Engagement in sexual behaviors increases across the college years (Cooper, 2002; Siegel, Klein, & Roughmann, 1999), which begs questions regarding the motivational differences for individuals who initiate sexual behavior for the first time and those who continue to abstain. Specifically, the current study focused on whether individuals who initiated sexual behavior during their first two quarters in college evidenced motivational differences compared to those who did not initiate sexual behavior. In other words, the focus was on whether an individual's motivations for sexual behavior reported *prior* to their initiation of sexual behavior provided clues regarding their propensity to initiate sexual behavior.

Although less research attention has been paid to individuals initiating sexual behavior in late adolescence and beyond, the average age of first intercourse in the United States is 17.7 years (Else-Quest, Hyde, & DeLamater, 2005)

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and among students who go to college about half have not yet engaged in penetrative sexual behavior (Siegel, Klein, & Roughmann, 1999). The transition to college is particularly important given that most people who have not had sex by college entrance will have their first sexual experiences during their college years (Cooper, 2002). The early college experience involves encountering opportunities to participate in a diverse array of activities that both pose developmental and health risks and offer opportunities for growth and development (Schulenberg & Maggs, 2002). Therefore, identifying motivations to have or not have sex as predictors of early college sexual behavior may contribute to efforts to support healthy sexual development among incoming college students.

Motivations Associated with Behavior

Motivational influences on behavior have been key components of several theories of behavior (e.g., problem behavior theory (Jessor & Jessor, 1977) and the theory of planned behavior (Ajzen & Fishbein, 2000)). Research has identified several specific types of motives for the engagement of different types of high-risk behavior among young adults (Cooper & Shapiro, 1997). For example, social, affective, coping, and conformity motives have been associated with high-risk drinking among college students (Cooper, Frone, Russell, & Mudar, 1995; Cox & Klinger, 1988). To a lesser extent, motivations regarding sexual behavior, particularly sexual initiation, have been examined with late adolescents transitioning to adulthood.

Motivations for Sex

Types of sexual motivations have been identified and reviewed in previous work on adolescents, college students, and adults (Cooper, Shapiro, & Powers, 1998; Eyre & Millstein, 1999; Hil, 2002; Hill & Preston, 1996; Leigh, 1989; Patrick, Maggs, & Abar, 2007). Hill (2002; Hill & Preston, 1996) found that college students reported approach motivations, such as experiencing pleasure, feeling valued, providing and receiving comfort, and feeling and expressing affection, as the most important rewards of sexual behavior. Eyre and Millstein (1999) identified a core set of reasons adolescents reported for sex that seemed to be true across gender and ethnicity, including having an available and attractive partner, positive partner attributes (e.g., intelligence, ease of communication, sense of humor), love for the partner, belief that the “time is right,” and available condoms. Consistent with this work on motivations, Cooper et al. (1998) developed a multi-dimensional model of motivations for sex and demonstrated the salience and predictive power of these motivations across African American and

European American, adolescent and adult, and college and community populations.

Three dimensions of motivations to have sex are included in the current study: intimacy (i.e., partner- and relationship-focused reasons), enhancement (i.e., physical pleasure and excitement), and coping (i.e., to escape from negative states) (Cooper et al., 1998). Greater enhancement and intimacy motivations for sex have been found to be associated with more lifetime experience with oral and penetrative sexual behaviors, although enhancement and coping were associated with riskier sexual behavior and intimacy was associated with less risky sexual behavior (Cooper et al., 1998; Patrick, Maggs, Cooper, & Lee, 2008).

Motivations Not to Have Sex

Motivations not to have sex, or the perceived costs of engaging in sexual behavior, for an extended period of time or on particular occasions have been particularly understudied (for exceptions, see Leigh, 1989; Regenerus, 2007; Sprecher & Regan, 1996). However, programs to promote sexual health often try to specifically increase these motivations (e.g., teaching about health risks in an effort to increase condom use) (e.g., Jemmott, Jemmott, & Fong, 1992; Weinhardt, Carey, Johnson, & Bickham, 1999). Research has converged on three motivations to avoid sexual behavior both in general and in particular situations: health (i.e., avoiding pregnancy and disease), morals (e.g., religious beliefs), and not being ready for sex (Patrick et al., 2008; Regenerus, 2007; Sprecher & Regan, 1996).

Gender Differences

The prevalence of sexual behaviors varies by gender: men report more sexual partners and women are more likely to report lifetime penetrative sex experience (among 18–19 year-olds in the U.S., 66% of men and 74% of women) (e.g., Mosher, Chandra, & Jones, 2005). However, the motivations behind this behavior require further attention (Ozer, Dolcini, & Harper, 2003; Paradise, Cote, Minsky, Lourenco, & Howland, 2001). Cooper et al. (1998) found that men reported greater enhancement motivations and coping motivations than women, but there were no gender differences in intimacy motivations. Patrick et al. (2008) reported that women rated health, values, and not ready motivations against sex as more important than did men. Therefore, gender differences were investigated in the current study.

Implications for Understanding Motives During the Transition to Sexual Behavior

Distinguishing individuals' motivations for sex may lead to better prediction of sexual behavior as well as an increased

understanding of the ways that motivation affects behavior (Browning, Hatfield, Kessler, & Levine, 2000; Cooper et al., 1998). For example, individuals who have sex for approach motivations (to gain rewards; e.g., for pleasure, intimacy) versus avoidance motivations (to avoid negative experiences; e.g., to prevent partner from becoming upset) may experience more positive emotional and relationship consequences (Impett, Peplau, & Gable, 2005). Perceived benefits and risks of sexual behavior must be understood by individual clinicians and by college campuses who seek to make sexual health programs relevant to college students (Ott, Millstein, Ofner, & Halpern-Felsher, 2006), particularly because very little is known about the prevention of sex-related consequences among emerging adults (Kotchick, Shaffer, & Forehand, 2001; Lefkowitz & Gillen, 2005). The majority of existing sexual health promotion strategies focus on information and skills (e.g., BACCHUS, 2007), with little or no information about motivations, reasons, or personal readiness. Among programs for college student alcohol use, motivational enhancement approaches have reported some of the highest effect sizes (Larimer & Cronce, 2002; Tevyaw & Monti, 2004; Walters & Neighbors, 2005; White et al., 2006), and once more is known about motivations for sexual behavior these same types of programs may be adapted for sexual health (e.g., Chernoff & Davison, 2005). However, researchers comment on the lack of understanding of the mechanisms of the effects of motivational enhancement interventions to explain the promising effects (Tevyaw & Monti, 2004). The key goal of motivational techniques for intervention is to enhance an individual's motivation for healthy behavior (Miller & Rollnick, 1991). Therefore, a primary need to improve these promising approaches is a better understanding of existing motivations for sexual behavior and the types of intervention that would be most salient.

The Current Study

The current study was designed to assess whether incoming college students who would initiate penetrative sexual activity during their first two quarters of college could be differentiated from those who would continue to abstain based on self-reported motivations for sex. The present study includes secondary data analysis as part of a larger project assessing the efficacy of a prevention program aimed to reduce or delay initiation of marijuana use during the transition to college. Potential mean differences on motivations for and against sex reported the summer before college entrance and six months later were investigated, comparing students who continued to abstain from sex, who transitioned to sexual behavior, and who were previously sexually active. Gender differences in sexual motivations were also explored. In addition, logistic regression was used to predict the likelihood of transitioning to sex by six months later among

students who were abstainers the summer before college entrance based on sexual motivations.

Method

Participants

Participants were incoming first year college students who were in a longitudinal trial investigating the efficacy of a marijuana prevention program for students transitioning to college. Over 4050 incoming students were invited to participate in a pre-college study the summer immediately following their graduation from high school and preceding their first year enrolled at a university in the northwestern United States. The response rate was 52.4% ($N = 2123$ completed the pre-college survey). Recruitment rates were similar to other large scale screening studies with college populations (e.g., Marlatt et al., 1998). To be eligible for the longitudinal prevention study, students were either lifetime marijuana abstainers or reported using marijuana in the last three months pre-college. In total, 770 students were invited for longitudinal participation (400 randomly selected marijuana abstainers and 370 current marijuana users) (further details about sampling and preliminary efficacy can be found in Lee, Neighbors, Kilmer, & Larimer, 2008). Over 94% ($n = 725$) of invited students participated in the longitudinal study.

The current sample ($N = 637$, 41.4% male) provided data on their lifetime sexual behavior and motivations pre-college and six months into college. Self-reported racial background was 67.1% White, 20.5% Asian, 7.8% Multiracial, 1.6% Black/African American, 1.6% Other, 0.9% Native Hawaiian/Pacific Islander, and 0.6% American Indian/Alaskan Native. A separate question assessed Hispanic ethnicity, which was reported by 6.9% of the sample. Of the total sample used, 46.4% reported lifetime marijuana use pre-college. The majority (95.3%) self-identified as heterosexual or "straight," with 1.9% bisexual, 1.6% questioning, and 1.3% gay. Residence was largely on-campus with 70.8% in residence halls/dorm rooms, 14.6% in fraternities or sororities, 8.8% living with parents, and 5.8% in off-campus housing. At six months into college, 42.7% were single and not dating, 27.6% were single and dating, 29.4% were in a serious relationship, and 0.3% were engaged.

Procedure

Participants received \$10 as compensation for completion of the pre-college online survey. The informed consent process was conducted online for individuals over age 18; parents of those under age 18 were asked to return a signed consent form in order for their teenager to be contacted for study

participation. The study had the approval from the university IRB, as well as a federal Certificate of Confidentiality. Students completed four additional web-based follow-up assessments, with retention over 90% for each follow-up. Data on sexual motivations collected six months into college (in March) were used in the current analysis. Students were compensated an additional \$30 for completion of the six-month assessment.

Measures

Motivations for Sex

Motivations for sex were assessed before college and six months into college using three adapted subscales from Cooper et al.'s (1998) motivations for sexual behavior measure. Because intimacy, enhancement, and coping motives most consistently predicted sexual behaviors and outcomes in prior research (Cooper et al., 1998), these were assessed for the present study. A total of 15 items were administered following the question, "Listed below are different reasons why people have sexual intercourse. How important is each of these reasons in influencing your decisions about whether or not to have sex?" Ratings of importance of each reason in influencing their decisions about whether or not to have sex, ranged from 1 = *not at all important* to 5 = *very important*. Intimacy (5 items, $\alpha = .94$ [pre-college] and .95 [6 months]; e.g., "to express love"), Enhancement (5 items, $\alpha = .90$ and .92; e.g., "for the thrill of it"), and Coping (5 items, $\alpha = .88$ and .90; e.g., "to feel better when lonely") for sexual behavior were used. These subscales demonstrated invariance across gender, European American, African American, and Asian American racial groups, and age (i.e., under age 21 and over age 21), as well as reliability and validity in college and community samples (Cooper et al., 1998; Patrick et al., 2008). All students were asked the identical questions, regardless of their sexual experience.

Motivations Against Sex

Three subscales of motivations against sex were assessed (see Patrick et al., 2008 for support of reliability, validity, and configural invariance across populations in this sample) with the question, "Listed below are different reasons why people do not have sexual intercourse or take actions to minimize risks. How important is each of these reasons in influencing your decisions about whether or not to have sex?" Responses on a total of 12 items ranged from 1 = *not at all important* to 5 = *very important*. Values motives (3 items, $\alpha = .91$ and .92; e.g., "against my beliefs"), Health motives (3 items, $\alpha = .80$ and .84; e.g., "fear of STDs"), and Not Ready motives (3 items, $\alpha = .76$ and .78; e.g., "not old enough")

against sexual behavior were included. Again, all students were asked the identical questions, regardless of their sexual experience.

Transitional Sex Status

Participants reported their lifetime experience with penetrative sex pre-college and six months into college by responding to the question, "Have you ever had sexual intercourse (sex in which the man inserts the penis into a partner's vagina or anus)?" (no = 0, yes = 1). Individuals who reported never engaging in penetrative sex at baseline and at six months were coded as Nevers. Those who reported never engaging in penetrative sex pre-college, but who reported engaging in penetrative sex by six months were coded as Transitioners. Participants who reported engaging in lifetime penetrative sex before college and again at six months were coded as Actives. Transitional sex status codes were not assigned to nine students (1.4%) who reported inconsistent information regarding their lifetime sexual behavior (i.e., reported lifetime sexual activity pre-college but no lifetime sexual activity at six months); these individuals were excluded from the analyses.

Results

College students who had never had sex (Nevers) comprised 44.7% of the sample ($n = 285$, 43.2% males) and those who had initiated sex pre-college (Actives) comprised 44.3% ($n = 282$, 39.7% males). A total of 11.0% of students ($n = 70$, 41.4% males) transitioned to penetrative sexual behavior between pre-college and the end of the second quarter in college (Transitioners).

Sexual Motivations Over Time by Transitional Sex Status and Gender

A repeated measures multivariate analysis of variance (MANOVA) was conducted to examine differences in motivations over time. A 2 (Gender) \times 3 (Transitional Sex Status) \times 2 (Time: Pre-college vs. 6 months in college) MANOVA was conducted on the six dependent measures. Dependent measures were the three reasons to have and three reasons not to have sex measured pre-college and at 6 months.¹ Table 1 reports the means and sample size for each cell. Results revealed a multivariate gender effect, $F(6, 626) = 18.29, p < .001$, a transitional sex status effect, $F(12,$

¹ To test for potential differences based on the study design, MANOVAs with marijuana use pre-college and randomized intervention group as covariates were examined. Adding these two covariates did not change any of the previously statistically significant results as reported.

Table 1 Mean scores on motivations for sex by wave, gender, and transitional sex status

Motive	Pre-college							Six months						
	Nevers		Transitioners		Actives		Total	Nevers		Transitioners		Actives		Total
	M	F	M	F	M	F		M	F	M	F	M	F	
Intimacy	3.60	3.22	3.88	3.76	3.83	4.03	3.67	3.97	3.47	3.80	4.26	4.22	4.34	4.00
Enhancement	2.77	2.01	3.01	2.86	3.67	3.14	2.85	3.14	2.42	3.84	3.51	4.05	3.67	3.31
Coping	1.70	1.31	1.53	1.47	1.58	1.44	1.49	2.24	1.58	2.00	1.88	2.11	1.87	1.91
Health	3.80	4.25	3.77	4.34	3.62	4.09	4.00	3.86	4.27	3.54	4.26	3.54	4.04	3.97
Values	2.71	3.51	2.31	2.78	1.70	2.20	2.59	2.96	3.51	1.77	2.47	1.71	2.30	2.62
Not ready	2.82	3.80	2.55	3.51	1.89	2.75	2.92	3.00	3.79	2.25	3.13	2.08	2.85	2.97
<i>N</i>	123	162	29	41	112	170	637	123	162	29	41	112	170	637

Note: M = male; F = female. Motives range from 1 (not at all important) to 5 (very important)

1254) = 23.68, $p < .001$, and a multivariate main effect for time, $F(6, 626) = 31.31$, $p < .001$. There was also a multivariate Transitional Sex Status \times Time interaction, $F(12, 1254) = 2.49$, $p < .01$, but no multivariate Gender \times Time interaction, $F(6, 626) = 1.09$, $p > .10$.

Gender differences were found for all motivations except for intimacy. Men reported that enhancement and coping motivations were more important to them than did women. Women reported that health, values, and not ready motivations were more important to them than did men. Follow-up analyses for each motive over time are described below.

Motivations Reported Pre-college and at Follow-up

A second set of analyses examined each motivation separately in a 2 (Gender) \times 3 (Transitional Sex Status) \times 2 (Time: Pre-college vs. 6 months in college) design. Results are shown in Table 2. From pre-college to the six-month follow-up, participants reported an increase in importance of all motivations for sex (intimacy, enhancement, and coping).

The increase in enhancement motives was evident for all groups, but it was especially pronounced among Transitioners (Time \times Transitional Sex Status effect). Health motivations did not change across time. However, the Time \times Transitional Sex Status interaction was also significant for values and not ready motivations against sex. In both cases, the Transitioners reported decreases in the importance of these motivations while Nevers and Actives reported increases or no change. Therefore, for enhancement, values, and not ready motivations, Transitioners evidenced more dramatic changes in importance than the other two groups.

Logistic Regression Predicting Transitioning to Sex Among Abstainers

Finally, we were interested in exploring the role motivations had in predicting transition to sex (Table 3). Gender was not a significant predictor of initiation. Enhancement motivations were uniquely and significantly predictive of initiating penetrative sexual behavior. Having greater enhancement

Table 2 Analysis of variance for sexual motivations

Source	Intimacy		Enhancement		Coping		Health		Values		Not ready	
	df	F	df	F	df	F	df	F	df	F	df	F
<i>Between-subjects</i>												
Gender (G)	1	0.10	1	29.62**	1	15.64**	1	31.53**	1	26.03**	1	94.25**
Sex Status (S)	2	21.85**	2	99.18**	2	0.28	2	3.98**	2	70.62**	2	76.90**
G \times S	2	7.54**	2	4.73*	2	5.39**	2	0.34	2	0.21	2	0.15
Error		(1.84)		(1.56)		(0.92)		(1.76)		(2.84)		(1.66)
<i>Within-subjects</i>												
Time (T)	1	28.56**	1	140.17**	1	98.78**	1	0.75	1	2.51	1	0.45
T \times G	1	0.96	1	0.00	1	2.73	1	0.21	1	0.07	1	1.30
T \times S	2	0.32	2	4.08*	2	0.49	2	0.63	2	7.82**	2	5.11
T \times G \times S	2	1.55	2	0.95	2	0.81	2	0.12	2	2.36	2	0.18
Error		(0.64)		(0.41)		(0.40)		(0.59)		(0.53)		(0.63)

Note: * $p < .05$, ** $p < .01$; Values enclosed in parentheses represent mean square errors. Error df = 631

Table 3 Sexual motivations pre-college predicting continued abstinence or initiation of sexual behavior by 6 months (among abstainers pre-college, $n = 354$)

	Initiating sex	
	OR	CI
Gender	1.23	0.90, 1.68
Intimacy	1.15	0.89, 1.49
Enhancement	1.59	1.16, 2.19**
Coping	0.62	0.38, 1.01
Health	1.17	0.87, 1.58
Values	0.88	0.71, 1.10
Not ready	0.87	0.63, 1.20

** $p < .01$

motivations pre-college was associated with a 59% greater likelihood of having sex for the first time during the first two quarters of college. Two-way interactions between gender and sexual motivations were not significantly associated with the transition to sexual behavior and are not reported.

Discussion

A longitudinal investigation of motivations for and motivations against sex of students across the first six months of college contributes to the existing literature on motivations and behavior. Individuals who initiated sexual behavior during the first six months of college differed in reported motivations for and against sex from individuals who would not initiate sexual behavior, and evidenced more dramatic changes in reported motivations over time. In other words, longitudinal data illustrated that motivations for sexual behavior showed differences *before* behavior changed. Specifically, mean level values motivations against sex differentiated individuals who would transition to sexual behavior. In addition, intimacy and enhancement motivations for sex were rated as more important by transitioners than by students who remained sexually abstinent. Enhancement motivations, or having sex for pleasure or for a thrill, were also uniquely predictive of initiating sex for the first time.

In addition, transitioners reported greater changes in motivations over the six-month transition to college, including decreases in values and not ready motivations against sex and increases in enhancement motivations for sex. Therefore, by the end of the second quarter of college, individuals who had recently initiated sexual behavior (Transitioners) were indistinguishable on all sexual motivations from individuals who had been sexually active prior to college (Actives). Sexual abstainers continued to report lower motivations for sexual behavior and higher motivations against sexual

behavior. As incoming college students confront a variety of activity choices (Schulenberg & Maggs, 2002) and a large proportion of students initiate sexual behavior (Cooper, 2002), the college years are an optimal time to study these developmental changes. Developmentally, the most interesting point of motivational change may coincide with the time period immediately before and after behavioral change. Individuals who are about to initiate sexual behaviors may have anticipatory differences in motivations. However, once they have made the transition to sex, they show the same levels of motivations as individuals who had previously initiated. The evidence for motivational differences between individuals who would continue to abstain and those who would transition to sexual behavior in the following months supports the conceptual model of motivational differences preceding behavior change. However, the fact that those who transitioned to sex had more dramatic changes in motivations in the intervening six months may also reflect cognitive dissonance, such that behavioral change may have prompted a change in self-reported motivations (Festinger & Carlsmith, 1959).

Consistent with previous research (e.g., Cooper et al., 1998; Leigh, 1989) on gender differences, men tended to report that the given motivations (i.e., Enhancement and Coping) for sex were more important to them than did women and women tended to report that motivations against sex (i.e., Health, Values, and Not Ready) were more important to them than did men. Overall, men and women in the current study reported similar levels of intimacy motivations for sex. However, a significant transitional sex status by gender interaction qualified these effects, for intimacy and coping. For example, among those who transitioned to sexual behavior, women reported higher intimacy motives than men, which is consistent with other findings (e.g., Leigh, 1989; Ozer, Dolcini, & Harper, 2003; Patrick et al., 2007).

Results suggest that specific motivations are associated with the transition to sexual behavior. The transition to sexual behavior may be a particularly important juncture for individuals to learn strategies for relational and sexual health promotion as they navigate new relationships, feelings, and pressures. Knowledge regarding salient motivations for sexual behavior, or the reasons that drive individuals to do what they do, may be meaningfully incorporated into health promotion programs to engage participants and deliver relevant information. For example, understanding the importance of intimacy motivations, innovative programs may speak to the possibility of expressing trust and closeness in relationships by openly discussing STD status and using condoms (Eyre & Millstein, 1999).

The importance of some motivations surrounding sex, such as enhancement and values, appear to differ based on current and future sexual behavior and, therefore, may vary in salience for different audiences of college students with

different histories. In particular, enhancement motivations may be particularly predictive of increases in sexual behavior and, as other research has shown, of risky sexual behavior (Cooper et al., 1998). Other motivations, such as health, may not vary systematically based on engagement in sexual behavior and could be presented as universally relevant for students. Future research should incorporate measures of sexual motivations at multiple time points during the transition to college to provide replication and extension of these results. The rate of change of motivations is unknown; that is, how quickly motivations change in expectation of and in response to sexual initiation should be further investigated. In addition, future research should evaluate potential motivational changes in other populations of individuals transitioning to sexual behavior, and perhaps include a wider array of motivational measures (e.g., self-affirmation, partner approval; Cooper et al., 1998).

The current study was able to illustrate that motivations precede behaviors, such that initial levels of motivation and motivational changes are evident for a group of individuals who transition from abstinence to sexual activity. Understanding the motivations most salient for those beginning to engage in sexual relationships would support interventions aimed to address sexual health for incoming college students who were least experienced with sex but most likely to become sexually active. While students who are sexual abstiners at college entrance may not be considered health promotion targets, 11% of participants in this sample who reported no previous sexual behavior before college began to engage in penetrative behaviors within the following six months. Therefore, current abstainers at college entrance are an important group who merit consideration for strategies to support healthy sexuality, given their lack of sexual experience and imminent initiation of behaviors that affect health and interpersonal development.

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