Differences by Gender and Sexual Experience in Adolescent Sexual Behavior: Implications for Education and HIV Prevention
Deborah Nahom, Elizabeth Wells, Mary Rogers Gillmore, Marilyn Hoppe, Diane M. Morrison, Matthew Archibald, Elise Murowchick, Anthony Wilson, Laurie Graham

ABSTRACT: Researchers examined individual characteristics and peer influences related to adolescents' sexual behavior, taking gender and sexual experience into account. As part of a larger, longitudinal study investigating youth health awareness, 8th, 9th, and 10th graders reported their intentions to engage in sexual activity and use condoms in the next year, the amount of pressure they felt to engage in sexual activity, and their perceptions about the number of their peers engaging in sexual activity. Findings suggest intentions to engage in sexual behavior and use condoms, feelings of pressure to have sex, and perceptions about the number of friends engaging in sexual intercourse differ by gender and sexual experience at age. Implications of these findings for health and sexuality education, as well as HIV prevention programs targeted at adolescents, are discussed. (J Sch Health. 2001;71:14153-158)

The prevalence of sexual activity, pregnancy, and STDs among US adolescents has caused some alarm. Researchers have described outcomes associated with adolescent sexual behavior in terms varying from "a public problem" to "a new epidemic." Fear, anxiety, and concern over the life-altering nature of HIV and AIDS also prompted much research on adolescent sexual behavior and contraception use because, according to the Centers for Disease Control and Prevention (CDC), one in five AIDS cases in the United States is diagnosed in the 20-29 year-old age group and most of those are likely to have resulted from HIV infections acquired up to 10 years earlier.

In response, many AIDS education programs were instituted in US schools. Although researchers have identified characteristics of effective programs (see Kirby et al. for a review), two important variables typically included in research and found to be related to adolescent sexuality have not been considered when designing these programs: gender and sexual experience of adolescents. Because a relationship exists, these variables should be considered when studying the factors influencing adolescent sexuality and implementing adolescent sexuality education programs. This paper focuses on four factors: intentions to engage in sexual behavior, intentions to use condoms, perceptions of peers' sexual activity, and peer pressure—that have been shown empirically to influence adolescents' sexual behavior, and discusses differences in these factors by gender and level of sexual experience.

BACKGROUND
Intentions, Pressure, and Perceptions

Much of the research investigating ways to prevent unwanted consequences of sexual behavior among adolescents has focused on the identification of factors influencing adolescents' sexual behavior (i.e., sexual intercourse and contraception use). Empirical evidence suggests that intentions to engage in sexual behaviors are related to actually engaging in these behaviors, and that perceptions of peers' sexual behavior influence adolescents' decisions to engage in sexual behavior more strongly than peers' actual behavior. Though the argument that an individual's sexual behavior changes as a result of peer pressure has received relatively weak empirical support, adolescents do report experiencing peer pressure to engage in sexual activity, and the extent and impact of this pressure seems to vary by age and gender. This evidence underscores the need to consider these four variables when studying adolescent sexuality and when subsequently designing sexuality education programs.

Differences by Gender

Gender is consistently related to intentions to engage in sexual activity and use contraception, perceptions of peers' sexual activity, and peer pressure. One study found more frequent condom use among males than females ages 12, 13, and 17. Others found that females were less likely than males to follow through on intentions to consistently use condoms, and that males had more positive intentions to use condoms with steady partners, though not with casual partners. National survey data suggested that, while the proportions of boys and girls engaging in sexual activity were similar, age of first sexual intercourse was earlier for males than females. In addition, males were more likely to report having sex before finishing high school or getting married than were females. Males also anticipated more partner pressure for sex than did females. Females have been found to be more likely than males to perceive that a larger proportion of their peers were engaging in sex and using birth control and to perceive less peer pressure for sex and more support for waiting than did males. Though evidence suggests that important gender differences in these variables, gender is seldom taken into account in sexuality education or AIDS prevention programs aimed at youth.

Differences by Sexual Experience

The effect of previous adolescent sexual experience is less studied than gender in relation to intentions, perceived peer involvement, and peer pressure. Research typically
focuses on the experiences of sexually active adolescents and their contraceptive intentions and use. Few studies compare sexually experienced and inexperienced adolescents in their perceptions of friends' rates of sexual activity or perceived pressure to engage in sexual activity. One exception found that sexually experienced youth reported less HIV knowledge, less fear of HIV, and higher levels of general risk behaviors than abstinent youth, regardless of gender. Another study found a mismatch between sexual desire and sexual expectations that varied by gender and sexual experience. About one-quarter of sexually experienced respondents reported that they “really want” to have sex in the next year, but more than one-half expected to have sex in the next year. Of the 25% of all boys and 15% of all girls whose expectations and desires did not match, more than two-thirds of all boys desired sex even though they did not expect it, whereas about four-fifths of the girls expected to have sex even though they did not desire it. This evidence also points to a need to consider gender and sexual experience when discussing sexuality with youth.

**METHOD**

The Current Study

This study examined gender and differences between sexually experienced and inexperienced youth with regard to intentions to engage in sexual activity and use condoms, perceptions of peers' engagement in sexual activity, and pressure felt to engage in sexual activity. Based on the previously discussed evidence, it is hypothesized that boys will report significantly more positive intentions to engage in sexual activity and use condoms and significantly lower perceptions of peer sexual activity and peer pressure than girls. It is further hypothesized that, overall, sexually experienced youth will report significantly more positive intentions to engage in sexual activity and use condoms, significantly greater perceptions of their peers engaging in sexual activity and significantly more pressure to engage in sexual intercourse than sexually inexperienced youth, though these variables will interact with gender to show different patterns for boys than girls.

**Participants**

Data were obtained from a larger study, The Children's Health Awareness Project (CHAP), a seven-year longitudinal-cohort study intended to provide an empirical basis for designing AIDS education programs for youth. Following review and approval by the University's Institutional Review Board, the study sample was recruited from an urban school district in the Pacific Northwest. Parental written consent was obtained via mail, with telephone or personal visits used for those not responding to the initial mailing. Youth completed an assent form prior to each administration of the survey. The sample included 1,173 students in grades three through six (22% in grade three, 24% in grade four, 24% in grade five, and 30% in grade six during year one [1992]). A description of sample recruitment and representativeness is provided elsewhere. Fifty-one percent of the sample were female, 47%

<table>
<thead>
<tr>
<th>Sexual Experience</th>
<th>Had Sex mean (SD)</th>
<th>Not Had Sex mean (SD)</th>
<th>Boys mean (SD)</th>
<th>Gender</th>
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<tbody>
<tr>
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<tr>
<td><strong>“In the next year, do you think you will have sexual intercourse?”</strong></td>
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<tr>
<td>8th Grade</td>
<td>3.21 (0.83)</td>
<td>1.67 (0.79)*</td>
<td>2.20 (1.02)</td>
<td>1.73 (0.91)*</td>
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<td>9th Grade</td>
<td>3.27 (0.72)</td>
<td>1.81 (0.79)*</td>
<td>2.48 (1.00)</td>
<td>2.05 (1.00)*</td>
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<td>10th Grade</td>
<td>3.25 (0.76)</td>
<td>1.92 (0.82)*</td>
<td>2.67 (1.00)</td>
<td>2.33 (1.04)*</td>
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<td><strong>“If you have sexual intercourse in the next year, do you think you will use a condom?”</strong></td>
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<td>8th Grade</td>
<td>3.70 (0.65)</td>
<td>3.77 (0.60)</td>
<td>3.69 (0.67)</td>
<td>3.81 (0.54)</td>
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<td>9th Grade</td>
<td>3.63 (0.65)</td>
<td>3.81 (0.50)*</td>
<td>3.67 (0.62)</td>
<td>3.84 (0.49)*</td>
</tr>
<tr>
<td>10th Grade</td>
<td>3.61 (0.68)</td>
<td>3.77 (0.52)*</td>
<td>3.67 (0.56)</td>
<td>3.73 (0.62)</td>
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<tr>
<td><strong>“How much pressure do you feel from others to have sex?”</strong></td>
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<tr>
<td>8th Grade</td>
<td>2.01 (0.99)</td>
<td>1.55 (0.87)*</td>
<td>1.60 (0.86)</td>
<td>1.67 (0.95)**</td>
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<tr>
<td>9th Grade</td>
<td>2.09 (1.02)</td>
<td>1.64 (0.90)*</td>
<td>1.71 (0.92)</td>
<td>1.85 (0.99)**</td>
</tr>
<tr>
<td>10th Grade</td>
<td>2.18 (1.05)</td>
<td>1.71 (0.94)*</td>
<td>1.81 (0.99)</td>
<td>2.00 (1.02)***</td>
</tr>
<tr>
<td><strong>“How many of your friends who are your age are having sexual intercourse?”</strong></td>
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<tr>
<td>8th Grade</td>
<td>4.64 (1.57)</td>
<td>2.47 (1.38)*</td>
<td>2.96 (1.73)</td>
<td>2.79 (1.54)</td>
</tr>
<tr>
<td>9th Grade</td>
<td>4.84 (1.46)</td>
<td>2.88 (1.46)*</td>
<td>3.56 (1.72)</td>
<td>3.40 (1.69)</td>
</tr>
<tr>
<td>10th Grade</td>
<td>5.10 (1.36)</td>
<td>3.18 (1.46)*</td>
<td>4.00 (1.70)</td>
<td>3.97 (1.71)</td>
</tr>
</tbody>
</table>

* p < .0001
† Significant interaction effects; see Figure 1
‡ Significant interaction effects; see Figure 2
§ Significant interaction effects; see Figure 3
** p < .021
***p < .014
The sample was surveyed annually for seven years, with the final year of data collection occurring when youth were in ninth through 12th grades (1998). Over the seven years of data collection, the attrition rate remained low (12%). Data from the eighth, ninth, and 10th grades were collapsed across cohorts and used for the present analyses (eighth grade, n = 1,098; ninth grade, n = 1,057; 10th grade, n = 818). Earlier grades were excluded because relevant measures of sexual behavior were not appropriate at younger ages. Eleventh and 12th grades were excluded because data were available for only two cohorts in grade 11 and one cohort in grade 12.

Measure

A questionnaire, developed through focus groups, addressed knowledge of, and attitudes about, HIV/AIDS, other illnesses, health behavior, sexuality, alcohol and drug use, and family, peer, and social relationships. Six items were used for the present analyses. Gender and sexual experience were based on the answers to, “Are you a boy or a girl?” and “Have you ever had sexual intercourse with a male/female?,” respectively. Intentions to engage in sexual activity and to use condoms were assessed on 4-point scales (1 = “NO!,” 2 = “no,” 3 = “yes,” and 4 = “YES!”) with the question, “In the next year, do you think you will have sexual intercourse?” and “If you have sexual intercourse in the next year, do you think you will use a condom?” Pressure to engage in sexual intercourse was assessed on a 4-point scale (1 = “none,” 2 = “a little,” 3 = “some,” and 4 = “a lot!”) with the question, “How much pressure have you felt from a (boy/girl) to have sexual intercourse?” Perceptions of prevalence of sexual intercourse among peers was assessed on a 7-point scale (1 = “none of them,” 2 = “almost none of them,” 3 = “less than half,” 4 = “about half,” 5 = “more than half,” 6 = “almost all of them,” and 7 = “all of them”) with the question, “How many of your friends who are your age are having sexual intercourse?”

Procedures

Each year, surveys were administered in schools to groups of 30 or more than 10-15 students. An interviewer read the survey aloud while students followed along on their own copies and marked their responses. One or two other interviewers circulated around the room, answering questions, checking for missing data, and ensuring that the surveys were filled out independently. Teachers were not present during survey administration. The process lasted 41-45 minutes. For participants who had relocated or were not attending their original school, individual or telephone interviews were conducted during follow-ups. Each child participating in the study received a gift such as a t-shirt or a gift certificate.

Data Analyses

Descriptive statistics were used to examine rates of sexual intercourse by grade. Analyses of Variance (ANOVA) were used to compare subjects who had engaged in sexual intercourse to those who had not, boys to girls, and interactions between sexual experience and gender.
within grades. Although these analyses do not make full use of the longitudinal-cohort design and as such cannot answer questions such as how these variables vary over time, it is useful to empirically test whether or not differences exist at any given point in time before moving to more complex analyses. Evidence of difference can help us decide how, and to whom, interventions can be targeted.

RESULTS

Sexual Intercourse

The percentage of teens reporting ever engaging in sexual intercourse (vaginal or anal) increased across grades; more boys than girls reported having engaged in sexual intercourse in earlier grades and more girls than boys reported having engaged in sexual intercourse during 10th grade. In the eighth grade, 18% of the sample reported having engaged in sexual intercourse (23% boys; 14% girls), in the ninth grade, 30% of the sample reported having engaged in sexual intercourse (23% boys; 28% girls), and in the 10th grade, 43% of the sample reported having engaged in sexual intercourse (40% boys; 44% girls).

Intentions to Engage in Sexual Activity

Intentions to have sex were compared between teens who had engaged in sexual intercourse and those who had not, and by gender. Similar patterns were found in all grades: Those who had already engaged in sexual intercourse were significantly more likely to intend to have sex in the next grade than those who had not (Grade 8, F(1, 1091)=574.89; p<.0001; Grade 9, F(1, 1048)=820.15; p<.0001; Grade 10, F(1, 816)=606.08; p<.0001), and boys were significantly more likely to intend to have sex than girls (Grade 8, F(1, 1091)=29.44; p<.0001; Grade 9, F(1, 1048)=51.44; p<.0001; Grade 10, F(1, 816)=48.40; p<.0001: Table 1). No significant interactions occurred between gender and sexual experience.

Intentions to Use Condoms

In the ninth and 10th grades, teens who had already had sexual intercourse were significantly less likely to intend to use condoms than were those who had not had sexual intercourse (Grade 9, F(1, 1048)=20.66; p<.0001; Grade 10, F(1, 814)=12.34; p<.0001: Table 1). Boys in the ninth grade were also significantly less likely to intend to use condoms in the next year than ninth grade girls (F(1, 1048)=13.17; p<.0001). In the eighth and 10th grades, there were significant gender by sexual experience interactions, such that sexually experienced girls had less positive intentions to use condoms than girls who had not engaged in sexual intercourse but there was no difference between sexually experienced and inexperienced boys (eighth grade girls, F(1, 1092)=7.02; p<.0025; 10th grade girls, F(1, 817)=12.08; p<.0001; Figures 1 and 2).

Pressure to engage in sexual intercourse than did boys (Grade 8, F(1, 1092)=5.34; p<.021; Grade 9, F(1, 1052)=5.60; p<.021; Grade 10, F(1, 816)=6.10; p<.014; Table 1). No significant interactions occurred between gender and sexual experience.

Perceptions of Prevalence of Sexual Intercourse Among Friends

Sexually experienced teens perceived significantly more of their friends to have engaged in sexual intercourse than did virgins (Grade 8, F(1, 1091)=355.39; p<.0001; Grade 9, F(1, 1051)=405.18; p<.0001; Grade 10, F(1, 815)=358.74; p<.0001; Table 1). No significant gender differences existed in perceptions of friends having sex, but there was one significant gender by experience interaction: In eighth grade, boys who had engaged in sexual intercourse thought significantly more of their friends were engaging in sexual intercourse than did boys who had not engaged in sexual intercourse. This difference was smaller and not significant for girls (F(1, 1094)=8.46; p<0.004; Figure 3).

DISCUSSION

These data confirm that adolescents are engaging in sexual intercourse at young ages. Rates of sexual intercourse in this sample increased by grade level, and girls' reported rates of sexual intercourse surpassed those of the boys during the 10th grade. These rates are similar to those found in the literature to date and are consistent with earlier reports of boys initiating sexual intercourse earlier than girls.

Intentions to Engage in Sexual Activity and to Use Condoms. These data also point to important differences between boys and girls and between sexually experienced and sexually inexperienced teens. Sexually experienced teens had higher intentions to have sex in the next year when compared to non-sexually experienced teens, and girls were significantly less likely to intend to have sex in the next year than were boys. Thus, youth who have already had sex and who are thinking about continuing may benefit more from sexuality education addressing contraception or comfort with being sexual than those youth who have not experienced sexual activity. The gender difference suggests that girls may be better supported by sexuality education that provides sexual assertiveness training in which they learn to avoid intercourse when they really do not want to engage in it.

Overall, teens in this sample responded with positive intentions to use condoms if they thought they would engage in sexual intercourse in the next year. However, in later grades, teens with sexual experience were significantly less likely than teens without sexual experience to intend to use condoms if they thought they would have sex in the next year. In addition, girls reported higher intentions to use condoms than boys, although this only reached significance among the ninth graders, and sexually experienced girls were less likely to intend to use condoms than their non-sexually experienced peers in the eighth and 10th grades. These results suggest that particular importance be given to condom use over time, especially with girls, while raising some additional important questions.

Why does sexual experience decrease condom use intention? Is it that youth discover that sex feels better without condoms, that girls find out boys do not want to use
condoms, that girls find it more difficult to negotiate condom use with their partners than they had expected, or that different contraception (i.e., oral contraceptives) is used in longer-term relationships? Pros and cons for using condoms in different situations could be explored with girls as well as feelings of efficacy when asking their partner to use condoms. Differences between the ideal of using protection and the reality of using it also should be addressed in sexuality education; to this point, sexuality education has failed to adequately prepare young women to negotiate condom use in real life situations.

This finding may also be a result of the difference in the socialization process of boys and girls. Gender differences in condom use may stem from societal norms about the meaning of sexual activity for girls and boys. It is more socially acceptable for boys to desire sex, while girls are encouraged to stay virgins as long as possible. The societal pressure for girls to delay intercourse implies that it is inappropriate for girls, but not for boys, to desire sexual experience.

**Pressure to Engage in Sexual Intercourse.** Sexually experienced teens felt significantly more pressure to engage in sexual intercourse than non-sexually experienced teens, and girls felt more pressure than boys. This suggests that girls and boys may experience different social pressures regarding sexual intercourse and therefore may need different information and skills training when learning about this topic. For example, girls may need more open discussions about their sexuality to explore their feelings and how to handle the pressure they are experiencing. Boys may benefit from knowing how girls’ experiences differ. Role playing scenarios involving talking with girls about having sex might help boys be more sensitive to their partners and reduce pressuring girls to engage in sex. In addition, boys and girls with varying degrees of experience may have different learning needs and different concerns and questions about sexuality, but it is unclear at this point how educational curricula deal with these differences, if at all.

**Perceptions of Peer Involvement in Sexual Activity.** Teens who engaged in sexual intercourse perceived more of their friends as sexually active. Because we do not have peer reports, we do not know whether this reflects reality, but it is an important question. As teens struggle with their identity formation, and as their peers become increasingly important to them, it makes sense that they may perceive their peers to be increasingly like themselves, or may try to act in ways similar to their peers. Discussions among youth verifying their perceptions could lead to more open communication and ideas about what is actually happening in peer groups, which may in turn change some youths’ behavior.

**Limitations.** As with most self-report data, accuracy cannot be certain, especially due to the socially desirable nature of the subject. Though each participant answered on his or her own questionnaire and the circulating interviewer stayed in the back of the room during the sexuality section to ensure confidentiality of participant responses, the topic of sexuality is not usually discussed openly. Thus any conclusions drawn from these data must be made cautiously.

**CONCLUSIONS**

Clearly, adolescents engage in sexual activity, and sexual activity differs based on gender and experience. Programs addressing health and sexuality education need to consider these factors when designing curricula. Differences need to become as acknowledged as natural in these programs, so that teens can understand and embrace variability as opposed to trying to conform to a normative standard. Normalizing differences may also help create an environment in which adolescents can discuss their concerns and questions regarding sexual behavior openly, and be better prepared to make choices congruent with their desires.

Future research needs to address the environments in which teens are able to engage in frank discussions about sexuality, with whom they are more likely to discuss sexuality, and whether such discussions would reduce the occurrence of risk-related sexual behavior. An environmental context could then be fostered in existing structures, such as the school, the home, or the community, including people with whom teens need comfortable talking, whether this be teachers, parents, or counselors. Further, understanding how sexual experience and gender lead to different perceptions among youth would help curricula developers design better programs that take these factors into account. Once programs are designed to address gender and sexual experience differences, they must be evaluated for effectiveness in reducing the potential negative consequences of adolescent sexuality.

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**References**

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Students are eligible to submit papers if they are full- or part-time graduate students actively pursuing a degree at a college or university during the 2000-2001 academic year. Papers may include co-authors (other students or faculty) but should be primarily the work-product of the student submitting the paper. A Submission Form must be signed by a college/university advisor (or staff person) who can be contacted to verify the student status of the applicant. The submission must be postmarked by June 29, 2001.

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