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Influence of Family and School-Level Factors on Age of Sexual Initiation

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A B S T R A C T

Purpose: This study examined the association of individual, family, and school-level characteristics with age of sexual initiation (ASI) and focused specifically on school context as a moderator of known predictors of ASI.
Methods: Data are from Waves I and IV of the National Longitudinal Study of Adolescent Health (N = 10,596). Predictors include grade point average, physical development, attitudes about sex, likelihood of higher education, alcohol use, delinquency, family structure, parents' education level, childhood abuse, maternal approval of sex, parental monitoring, and parent–child relationship quality. School-level predictors are averages of adolescents' attitudes about sex and likelihood of higher education and parents' education. Hierarchical linear models run separately by sex were used to predict ASI.
Results: When school-level attitudes about sex are more favorable, both boys and girls report younger ASI, and school mean parental education attainment moderates the influence of individual adolescents' attitudes about sex on ASI. More of the predictors are significant for girls than boys, whereas perception of maternal and peer approval of sexual activity are the most salient predictors of younger ASI for boys.
Conclusions: Results highlight the importance of school context for understanding adolescents' motivations for early ASI. Findings support the need for school-wide prevention interventions that engage adolescents, peers, and parents in addressing attitudes about early sex.

IMPLICATIONS AND CONTRIBUTION

This nationally representative longitudinal study contributes to a better understanding of the multiple contexts that influence adolescent sexual activity. Findings support the need for school-wide prevention approaches that incorporate parent–child and peer-to-peer communication about attitudes about early sex and pregnancy for both boys and girls.

Bioecological systems theory emphasizes the importance of considering multiple systems to understand individual behavior [1]. However, most studies of adolescents' age of heterosexual intercourse (hereafter age of sexual initiation [ASI]) have focused exclusively on individual, peer, and family factors, despite research that demonstrates the influence of more distal contexts

on other adolescent risk taking behaviors [2,3]. For example, low neighborhood socioeconomic status (SES) has been found to be associated with adolescents' viewing sex and pregnancy in a positive light [4] and with higher rates of early initiation [5].

A better understanding of the influence of school-level factors, as well as the interaction between school characteristics and other known ASI predictors, is particularly important because sexual risk–taking behavior has been associated with adolescents' perceptions of their peers' attitudes and behaviors [6–11], and teen pregnancy and sexually transmitted disease prevention efforts are often school based [12]. Current intervention evaluations show successful reduction of adolescent sexual risk–taking behaviors using school-based interventions that directly address the predictors of ASI (e.g., perception of peer norms, academic

failure, parent—child relationship) [13]. However, findings have been inconsistent, possibly because of variation in the risk factors addressed, or unique characteristics of the target population. Moreover, there has been little examination into the effects of school-wide norms and values with regard to sexual activity, or the social and economic status of students' parents who serve as role models for adolescents by setting expectations for adulthood achievement such as college attendance. Given that neighborhood SES has been found to moderate the influence on ASI of parental involvement and decision making regarding youth's activities [10], it is also likely that aspects of the more proximal school context interact with individual and family characteristics. However, to the authors' knowledge, only one study [14] has examined the direct effect of "school" characteristics on sexual initiation, with the finding that initiation occurred earlier in private versus public schools and in schools with positive norms about adolescents' sexual activity. None have examined the interaction of school characteristics with other known ASI predictors.

The purpose of the present study is to examine multisystemic influences on ASI, focusing on school-level characteristics as possible moderators of previously identified individual and family characteristics associated with ASI. The study examines the multiple levels of influence separately for boys and girls, given previous studies that show sex differences for many ASI risk factors, and that some prevention interventions have been effective for one but not both sexes. For example, individual-level factors associated with early initiation for both boys and girls include delinquency [6,7,15—17], substance abuse [16,18—22], and childhood sexual and physical abuse and neglect [23,24]. Low academic achievement [9,15,18—21,25], low educational aspirations [26], and early physical development [10,25] have been significantly associated with ASI for both sexes and for girls only [17,27]. Family characteristics associated with early ASI for both boys and girls include single-parent family structure [10,28,29], low parental income and education [19,28,29], poor parent—child relationship quality [19,25,30,31], low parental monitoring [30], and parents' permissive attitudes about sex [25,30—32]. However, some studies have found these family factors to be significant for girls only [6,15,17,32—34]. The adolescent's sex therefore plays a critical role in which factors are associated with age of initiation. Existing research on sexual initiation is limited because of the lack of studies that simultaneously examine the influence of individual, family, and school-level factors while also noting any sex differences in predictors. The current analysis of a large sample allows for further examination of these sex differences and a comprehensive set of multisystemic predictors to inform evidence-based practice guidelines for social workers practicing with families and in the schools.

Methods

Data source

This study uses data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative survey that began in 1995, when students were in Grades 7—12 [35]. The Add Health study used a clustered and school-based stratified random sampling design to ensure that the selected schools were representative of schools in the United States. Eighty communities with schools spanning Grades 7—12 were randomly selected. The randomly selected school in 65 of the communities did not span all grades, so feeder middle schools

were selected. After random selection of students stratified by grade level and sex, and oversampling of particular subpopulations, the baseline sample included 20,745 adolescents.

At Wave I, researchers conducted an extensive in-home interview with the student and a half an hour interview with one parent (88% of the sample had a participating parent). Computer assisted self-interview protocols were used for respondents to record answers to sensitive questions such as those regarding sexual intercourse. Wave I respondents were followed into young adulthood with four in-home interviews.

Wave IV interviews were conducted from 2007 to 2008 when the sample was aged 24—32 years (N = 15,701). The current analysis excludes Wave IV respondents who are missing sampling weights, those who had not had sexual intercourse as of Wave IV, outliers on age of initiation, individuals who did not report or inconsistently reported ever having sex or age of initiation, those with missing family variable information, and individuals living with foster parents. Because of these exclusions, four strata were missing data and thus were also excluded from analysis. Compared with the analytic sample (N = 10,596), the excluded group reported a significantly lower age of initiation at Wave IV (mean, 16.11 years) and includes a significantly higher proportion of adolescents with characteristics associated with not completing high school (e.g., African-American, nonresident fathers).

Measures

Outcome variable: age of sexual initiation

At Waves I—IV, adolescents were asked, "Have you ever had sexual intercourse?" ("yes" or "no"). Sexual intercourse was defined for respondents as "when a male inserts his penis into a female's vagina." In Waves II—IV, respondents who answered "yes" were also asked "At what age did you have sexual intercourse for the very first time?" The current analysis uses ASI as reported at Wave IV.

Independent variables

Most of the independent variables are based on data collected at Wave I when participants reported on behaviors and feelings at or before that time. Two-parent family structure includes having both a mother and father in the house, which could include biological, step, adoptive, or other. Parent—child relationship quality is based on five questions concerning warmth, satisfaction with mother/father relationships, and satisfaction with communication style with each residential parent. Because different Likert scale response categories were used for the five items, "positive" responses ("strongly agree" or "agree," "quite a bit" or "very much") were counted to obtain an overall score, ranging from 0 to 5, with a higher score indicating more positive relationship. For individuals in two-parent families, the highest parent score is used. To address the negative skew, a dichotomous variable was created to differentiate the 79% with a value of five from the others. Childhood maltreatment, not assessed at Wave I, was measured by two Wave IV questions about physical and sexual abuse by parents or other adult caregivers by the time respondents were in the sixth grade. Responses to both items were summed to obtain an overall childhood abuse indicator, ranging from 0 ("never happened") to 10 ("more than 20 times"), and then rescaled to a three-point scale to address the high