Conceptualizing healthy sexual relationships:
The role of family structure, parent-teen relationships and peer environments in teens' first sexual relationships

Preliminary analyses

Jennifer Manlove

Elizabeth Terry-Humen

Erum Ikramullah

Erin Schelar

Child Trends

This research is supported by grant APRPA006012-01-00 from the Office of Population Affairs, Department of Health and Human Services, through their Adolescent Family Life program.

An extensive research literature has found that family environments, parenting processes, and peer relationships have implications for adolescent reproductive health outcomes. Teens who grow up in stable families with two biological parents are more likely to initiate sex at an older age and have a reduced risk of teen or unintended pregnancy than teens who grow up in other family structures.[43] Strong parent-teen relationship quality, communication, and monitoring/awareness of teen activities are associated with delayed sexual initiation and a reduced risk of teen pregnancy. [43] The presence of positive peers (and absence of negative peers) is also associated with delayed sexual initiation.[3]

This paper posits that the influence of parenting and peer environments and adolescent reproductive health behaviors may be due, in part, to their association with teen decision-making about sexual relationships and partners. An expanding research has found that characteristics of adolescent sexual relationships – particularly risky sexual relationships -- are associated with reduced contraceptive use and a greater risk of unintended pregnancy and sexually transmitted infections (STIs). For example, extensive media and research attention has been placed on teens in risky sexual relationships, including those who engage in "hook-up" sexual encounters within casual relationships.[36,56,57] Some research suggests that teens in romantic, steady relationships are more likely to use contraception than those in more casual relationships[17,37] (although others have linked more casual relationships to greater condom use [50,54]). Both media and policy attention have also focused on young teens who have sex with much older partners, and statutory rape laws have been strengthened in the past decade in order to prevent the sexual exploitation of teens.[14] Having an older sexual partner is associated with poor reproductive health behaviors, while having a similar-age partner is linked to improved contraceptive use and condom use,

[17,19,32] having fewer sexual partners during the high school years[31], and a reduced risk of a teen pregnancy.[8]

This paper posits that two aspects of healthy sexual relationships are having a steady, romantic partner (vs. a casual partner) and having a similar-aged partner (vs. a much older or younger partner). A better understanding of whether and how parent and peer environments are associated with the timing and characteristics of first sexual relationships will potentially help programs and policies targeted towards reducing unintended pregnancy and STIs. This paper expands previous research by using nationally-representative, longitudinal information on a recent cohort of teens to examine family, individual and peer factors associated with 1) the transition to sexual intercourse and 2) having a healthier first sexual partner (defined as having a similar-aged partner and a romantic or a steady relationship at the time of first sex). We hypothesize that strong family environments, solid parent-teen relationships, and positive peer environments will all be associated with delaying sexual intercourse, and – among sexually experienced teens – with more positive relationship characteristics. Because of differences in relationship context by gender, we examine these associations separately for males and females.

Conceptual Framework

A life-course approach provides the framework for assessing relationship context and the transition to adolescent childbearing. One primary life-course principle, as well as a major component of an ecological perspective, is that individual behavior, such as the series of decisions associated with early sexual activity and childbearing, can be understood only within the context of the institutions and relationships in which a person is involved.[4,5] Based on a life course approach, we hypothesize that characteristics of teens' parent and peer environments,

including their relationships with their parents, and will be associated with their early sexual relationships.

Family environments may influence adolescent behaviors in several ways. For example, attachment theory posits that stable early family life experiences, and supportive relationships with parents, allow youth to feel secure in later relationships and teach them the skills needed to form their own positive relationships in adolescence.[7,22] However, according to social control approaches, disruption in family structure during childhood may lead to less parental supervision and monitoring, which is likely to be associated with riskier adolescent relationships, including earlier and more serious teenage dating and more frequent premarital sex.[40,58] Socialization theory suggests that parents may also model relationship behaviors for their children.[41] For example, having a single parent often means that children are exposed to their parent's dating experiences and even cohabiting relationships; social modeling of these relationship types (less stable than marriages) is associated with more frequent sexual experiences for youth.[25] Peers may also model behaviors; teens who spend time with much older peers may be exposed to peer groups who find sexual activity more normative than peers who are their own age, and thus be at greater risk of early sexual experience.[2,38]

Background

Parent-teen relationships, activities and communication

An expanding research literature has found that characteristics of parent-teen relationships -- including relationship quality and communication -- can have a positive influence on adolescent reproductive health. Strong parent-child relationships are associated with later adolescent sexual initiation, increased contraceptive use and a reduced likelihood of pregnancy

among males and females and among multiple racial and ethnic groups.[3,13,18,26,45,51,53,55,59] The overall quality of parent-teen relationships is closely connected with family communication.[42] For example, some research suggests that teens may be more comfortable communicating with their parents when they feel more overall support and closeness in their relationship.[63] Parent-teen communication – including overall communication and specific conversations about sex, pregnancy and STIs -- is also associated with delayed sexual experience, improved contraceptive or condom use, and reduced pregnancy risk.[10,15,20,23,24,27,35,43,46,47] Positive parent-teen relationships and communication can help teens avoid conforming to permissive peer norms about sexual risk-taking.[60] Parent-teen activities and time spent together as a family represent another dimension of family closeness that is associated with reduced sexual activity and pregnancy risk.[9,51,59] Teens who spend more time with their family in daily activities may feel more comfortable communicating with their parents on a range of issues.[63]

Some researchers suggest that strong parent-teen relationships may help reduce the prevalence of sexual experiences between young teens and older partners,[28] and parent-teen communication is linked to discussions between sexual partners about sexual activity and contraceptive use.[61] Thus, we hypothesize that parent-teen relationships and parental monitoring may also influence the types of sexual relationships in which teens engage.

Parental monitoring and awareness

Parental monitoring and awareness generally measures parental knowledge about where their teens are when they are not at home or in school.[11,12,43] Higher levels of parental monitoring and awareness of their teen's activities when they are not home or in school are associated with fewer risky sexual behaviors among adolescents, mainly by limiting

opportunities for sexual activity.[11,12,43] However, excessive or inappropriate parental control can be associated with increased problem behaviors among adolescents.[43,52]

Some research suggests that parental monitoring and supervision may be linked with characteristics of teen sexual partners. For example, young female adolescents who report being in unsupervised situations that could lead to sex (i.e. being at a party without adults present or being alone with someone they were attracted to) are more likely to have older boyfriends than same-age ones.[39]

Family structure and stability

Family structure and stability are associated with positive reproductive health outcomes among adolescents. Teens who grow up in stable families with two biological parents are more likely to initiate sex at an older age than teens who grow up in other family structures.[43] Alternatively, family structure *turbulence* (referring to the number of transitions that families experience through changes in household composition) is associated with poorer parent-child relationships[49] and early initiation of sexual intercourse.[48,49] Some research has found that unstable family environments and living in single-parent families are associated with a greater likelihood that teens will have an older romantic partner and thus be at greater risk of early sex.[28,38,62] Thus, we hypothesize that family environments are also linked with having an older *sexual* partner.

Peer relationships

Teens' peer relationships can also influence their sexual behaviors. For teen females, the presence of low-risk peers (i.e. those who are more engaged in school) have a protective influence on sexual initiation and adolescent pregnancy, while having high-risk peers (such as

those involved in substance use) is associated with an increased risk of sexual initiation.[3,6,30] Teen girls who have older friends, and who think their peers are sexually active, tend to have sex at an earlier age than those with younger or same-age friends and friends who are not engaging in sex.[3] Peers may also influence the choice of romantic or sexual partners. For example, adolescents who have older peers are more likely to have older boyfriends or girlfriends, and older sexual partners,[38,33] and peer substance use is linked to having an older romantic or sexual partner.[62] Thus, we hypothesize that peer factors may be associated with sexual relationship and partner characteristics.

Family and individual controls

Other family environments are associated with delayed sexual activity, including families with higher parental education and socio-economic status and those with higher religious attendance.[29] Among teens, an older age is associated with greater odds of first sex, and an early timing of menarche is linked to having sex at an early age and with an older partner.[29,34,45] Finally, one primary risk factor for sexual experience among teens is being in a steady dating relationship.[29,45]

Gender differences

Previous research suggests gender differences exist in the characteristics of first sexual relationships. For example, recent data have found that males are more likely to report being in casual relationships at their first sexual intercourse than females,[2] and females are more likely to have older first sexual partners than males.[2,31,34] Thus, we think it's important to examine gender

differences in the association between family, individual and peer factors and having a healthy sexual relationship.

Hypotheses

Based on our review of the literature, we have three primary hypotheses. First, we hypothesize that positive parent-teen relationships that are high quality, and involve high parental awareness of teen friends and activities, and family routines (including eating dinner together or doing something fun together as a family on a regular basis) will be associated with a reduced likelihood of having sex, and with more positive characteristics of adolescents' first sexual relationships, including having a similar-aged partner with whom they are going steady at the time of first sex. Second, we hypothesize that the stability of family environments, including living in a stable household with two biological parents and having experienced no change in family structure, will be associated with delayed sexual initiation and more positive sexual relationships. Third, we hypothesize that positive peer environments will be associated with the development of positive adolescent sexual relationships. Having more positive peers, with college aspirations, who attend worship services regularly, or who are engaged in volunteering will be associated with delaying sexual intercourse, and with greater odds of having a first sexual experience in a steady relationship with a similar-aged partner. However, having more negative peers who are engaged in other problem behaviors such as substance use, will be associated with an earlier timing of sex and riskier first sexual relationships.

Data

This study analyzed longitudinal data from the National Longitudinal Survey of Youth, 1997 Cohort (NLSY97), Rounds 1 – 8 (1997 – 2004). The NLSY97, sponsored and directed by the Bureau of Labor Statistics, U.S. Department of Labor, is a nationally-representative sample of 8,984 youth aged 12 – 16 in 1997. These data provide valuable information on parent-youth relationships, youth sexual experiences and partners, family background factors, and demographic controls. Youth were initially interviewed in 1997, and we include annual follow-up data through 2004.

Sample

The analytic sample was restricted to 12-14 year olds – the only age group that reported on parent-teen relationships – and those who did not report having had sexual intercourse by Round 1 (n=4,790). We excluded respondents who did not report any valid information about sexual experience in Rounds 2 through 8 (n= 81), for an initial sample of 4,709 youth.

Among the 4,709 respondents, 710 never had sexual intercourse and 3,999 were sexually experienced by Round 8. Because the dependent variables of interest relate to first sexual experience, we included only years leading up to and including the year of first sexual intercourse. We removed 94 respondents who were missing information on two critical independent variables, mother-youth relationship scale and parental monitoring scale, and 27 respondents who were married at the time of their first sexual relationship for a final sample of 4,588 respondents.

We structured our analysis file to consist of a separate observation for each round or year in which a respondent was in our sample – in other words, for each year that they were at risk of having sex for the first time. The final sample of 4,588 youth provided 16,916 person-years of

information, from which we removed 383 years that were non-interviews, for a final sample of 16,533 person-years (8,207 among males and 8,326 among females) for analyses of sexual experience. For analyses of relationship type at first sex and partner age difference, we removed 346 and 606 person-years of missing data on the dependent variables, respectively.

Measures

Dependent variables. We included three dependent variables in our analyses. The first dependent variable is the transition to first sexual intercourse. For each round from 1997 to 2004, respondents were asked, "Have you ever had sexual intercourse, that is, made love, had sex, or gone all the way with a person of the opposite sex?" Within each person-year, values of 1 were assigned if a respondent reported sexual experience and values of 0 were assigned if the respondent had not yet had sex.[a]

The second dependent variable examined relationship with first partner at first sexual experience. This measure is based on the following question asked of sexually experienced respondents, "At the time you first had sexual intercourse, how would you describe your relationship with your first sexual partner?" We coded this dependent variable into three categories comparing those who 1) had first sex in a steady relationship (were going together or going steady, engaged, or were living together in a "marriage-like relationship") with 2) had first sex within a casual relationship (had just met, were just friends, went out once in a while, or some other relationship with their first sexual partner), or 3) did not have a first sexual relationship. Our third dependent variable measures age difference between respondents and

[a] Because respondents were not asked questions on sexual experience until they turned 14, we used the respondent's reported age at first sex to determine person-round of first sex in cases where the respondent reported having had sex the first time s/he was asked. 815 respondents had at least one round of non-valid information on sexual experience prior to reporting that they had had sex. Among these, 13 cases were missing on age at first sex, and we only used data from rounds of no sex.

their first sexual partner. It is based on the following question asked of sexually experienced respondents, "How old was your partner at that time [of first sex]?" Age difference was created by subtracting the respondent's age from the partner's age and coded into the following categories comparing those who 1) had sex with a similar aged partner (partner is within two years of respondent's age) with 2) had sex with a much older or younger partner (partner is three or more years older or younger) or 3) did not have a first sexual relationship.

We included both fixed and time-varying predictors in our models. Fixed variables are those that do not change over time while time-varying variables could change from round to round. Three time-varying measures of parent-teen relationships were used. Parent-adolescent relationship quality was measured as a three-item summative index ranging from 0-12 capturing whether the teen thinks highly of his/her mother, enjoys spending time with his/her mother, and whether his/her mother is a person s/he wants to be like based on teen reports in Rounds 1-3, 5, and 7. Parental monitoring/awareness, as reported by the teen in Rounds 1-5, is a NLSY97-created summative scale (alpha=.71) ranging from 0-16 of how well the mother knows their child's close friends and their friends' parents, their teachers and school activities, and who their teen is with when they are not at home.[21] The family routines index (scores from 0-28), also collected from the adolescent survey in Rounds 1-4, assesses the frequency with which the teen does the following with his/her family: eats dinner, does something fun, does something religious, and does household chores.

Family structure is measured each round and compares adolescents living with two biological or adoptive parents with those living with one biological and one other parent, a single biological parent, and any other family structure type. Family structure stability was a

dichotomous measure of whether a change had occurred in the teen's living situation since the previous round.[b]

Several time-invariant measures were also included in our analyses. Parent religious attendance at Round 1 ranged from (1) never to (7) every day, and the highest level of educational attainment among residential parents (range 1 to 20) was used as a proxy for socioeconomic status. A physical environment risk index (range 0-7, with higher scores indicating more risk) was also created at Round 1 and captures the quality of the teen's home and neighborhood environment, while an enriching environment index (range 0-3) measures the level of access the youth has to material resources in their home.[c] A dichotomous measure of whether the respondent's mother was under age 20 at her first birth was also included. We included two summative indices of peer environments at Round 1 (the only round they were available): 1) positive peer environment (range 0-4) if more than 75% of the teen's peers had positive behaviors (desire to go to college, church attendance, extracurricular activities, and volunteerism); and 2) negative peer environment (range 0-5) if more than 25% of the teen's peers took part in negative behaviors (smoking, drinking, drugs, belonging to a gang, and cutting class).

Fixed individual controls included race/ethnicity and whether the respondent was foreign-born (vs. native born). Time-varying individual controls included the respondent's age

[b] Because family structure stability could not be assessed at Round 1 we included a flag for an undetermined category.

[c] The physical risk environment index is composed of the following items: 1) home has hade electricity and heat when needed; 2) how well kept most of the buildings on the street where R lives are; 3) how well kept the interior of the youth's home is; 4) whether the interviewer felt concerned for their safety when they went to the respondent's home; 5) how often R hears gunshots in their neighborhood. The enriching environment index is composed of the following items: 1) home has usually had a computer in the past month; 2) home has usually had a dictionary in the past month; 3) R spent time taking extra classes or lessons in a typical week.

(categorized as 12-14, 15-16, 17-18, and 19 and older), whether s/he had started puberty[d], and the frequency with which s/he dated in the last year (not at all, once a month, and more than once a month).

Analytic Methods

Bivariate analyses testing for associations between parent, family, peer, and individual factors with the three dependent variables were conducted using chi-square and t-test analyses. Logistic regression models controlling for random effects were used for multivariate analysis of sexual experience. Because the three time-varying measures of parent-teen relationships were not collected in all rounds of the survey, we used respondent-specific information to plug missing values with the value that the respondent last reported in previous rounds. Multinomial logistic regression modeling was used for analyses of relationship type and partner age difference; however, controls for random effects were not available for multinomial regression models. All analyses incorporate weights and were run in Stata separately for males and females.

Sample Characteristics

Table 1 presents means for characteristics of our sample in two ways: 1) for the respondent-level file of 2,283 males and 2,305 females, and 2) for the file of 8,207 male person-years and 8,326 female person-years. Approximately four-fifths of males and females had transitioned to sex by Round 8, corresponding to one-fifth of the person-rounds for males and

[d] Males were asked the following question each round: "Signs of puberty for males include physical changes such as developing pubic or facial hair, or the voice cracking or lowering. Would you say these changes have not yet begun? Have barely started? Are definitely underway? Seem completed? Females are asked the following questions in each round: Have you ever had a menstrual period?

females. Among sexually experienced respondents, 58 percent of males and 75 percent of females had sex within a steady relationship versus a more casual relationship. The vast majority of males (87%) had their first sexual experience with a similar-aged partner who was within two years of their age.

We limit the remainder of the discussion of descriptive characteristics to the respondent-level sample of 2,283 males and 2,305 females. Thus, the numbers represent the characteristics of the adolescents at the time when they first entered our sample (i.e., their interview in 1997). Males and females had comparable ratings of parent-adolescent relationship quality (9.0 and 9.3 out of 12) and parental monitoring/awareness (10.2 and 10.8 out of 16 respectively, indicating moderately high levels of monitoring). In addition, males and females scored slightly over 15 (out of 28) for family routines.

The majority of respondents lived with two biological or adoptive parents, nevertheless, approximately 1 in 4 lived with a single biological parent. Additionally, one-fifth of respondents' mothers were teenagers at the time of their first birth. On average, respondents' parents had at least some college experience and attended religious services about once a month. Males and females scored 1.8 and 1.9 respectively (out of 3) on the enriching environment index and 1.1 (out of 5) on the physical environment risk index. Males and females reported having almost 2 out of 4 positive peer environments (1.8 and 1.9, respectively). Further, males reported 2 out of 5 negative peer characteristics while females reported 2.4 out of 5.

The average age of respondents at Round 1 was 13.3 years-old. The majority of respondents were white and approximately 5% of adolescents were born outside the U.S. Almost three-quarters of respondents had started puberty by Round 1. Although more males

than females had dated in the year before they were first interviewed, 62% of males and 70% of females did not report dating at all, as of Round 1.

Time-varying factors by age

Table 2 shows changes in the time-varying measures by age. The percentage of adolescents who have sex increases with age until age 19 for both males and females. Among respondents who have had sex, steady partners are more common at age 15 and older but then decrease significantly for males and females at ages 19 and above. This pattern repeats itself among males and similar-aged partners with males aged 17-18 most likely to have a similar-aged partner. Among females, respondents aged 15-16 are the most likely to have similar-aged partners.

As teens get older, levels of parental monitoring/awareness and family routines generally decrease, with 12-14 year-olds reporting the highest levels of parental monitoring/awareness and family routines for both males and females. There were no comparable declines in parent-adolescent relationship quality, and females aged 19 and older reported the highest parent-teen relationship quality scores.

Family structure and stability and individual characteristics also changed as respondents became older. Not surprisingly, the largest shifts in family structure occurred between ages 17-18 and 19 and older – presumably a time when young adults are living apart from their parents. As expected, the proportion of males and females experiencing puberty significantly increased with age so that all males, and nearly all females, had started puberty by age 19. For both males and females, the proportion who dated at least once a month in the last year increased until ages 17-18, with a decline in dating between ages 17-18 and 19 and over.

Parent, family, peer, and youth characteristics by relationship type

Tables 3 and 4 present parent, family, peer and youth characteristics by relationship type and partner age difference by gender using person-year data. There are several significant differences by relationship type among males and females (see Table 3). Males and females in steady relationships reported being closer to their parents on the parent-adolescent relationship quality scale and reported higher levels of parental monitoring and awareness than teens in casual relationships.

Among females, about one-third of those in casual relationships lived with a single parent, while about one-quarter of those in steady relationships lived in a single parent household. Teens in steady relationships reported more positive peer characteristics than those in casual relationships. Among females, those in steady relationships at first sex were older, and among males, those in steady relationships at first sex were more likely to be white, compared with those in casual relationships. Among males and females, those in steady relationships were more likely to date regularly.

Compared with person-years in which teens did not engage in sexual activity, females who had sex in a steady relationship reported lower parent-teen relationship quality and both males and females who first had sex in a steady relationship reported lower parental monitoring/awareness and more family routines than those in casual relationships. As hypothesized, those who had sex with a steady partner had more disadvantaged family environments, poorer peer environments, and were more likely to date than those who did not have sex.

Parent, family, peer, and youth characteristics by partner age difference

In bivariate analyses of partner age differences, males and females with similar-aged partners differed from those with much older or younger partners on several characteristics (see Table 4). Males and females with a similar-aged partner participated in significantly fewer routine family activities than those with a much older or younger partner.

Respondents with similar aged partners reported more family structure changes, more enriching environment factors and, more positive and less negative peer environments than those with a much older or younger partner. Males with similar-aged partners were more likely to be white and males and females with similar-aged partners dated more frequently in the last year than those in relationships with much older or younger partners.

Compared with person-years in which teens did not engage in sexual activity, those who had sex with a similar-aged partner reported lower parent-teen relationship quality, parental monitoring/awareness, and few family routines. Adolescents who had not had sex differed significantly from those who had sex with a similar-aged partner, on all other measures except "other" family structure, race/ethnicity for females, place of nativity for males, and puberty status for males.

Multivariate results

Table 5 shows results from logistic regression analyses predicting sexual experience among males and females. Among both males and females, parent-teen relationships are associated with sexual experience. Specifically, males with higher reported relationship quality with their mothers, higher levels of parental monitoring/awareness, and a greater frequency of family routines have lower odds of having had sex. For females, only a greater frequency of

family routines is associated with lower odds of sexual experience. There is also a significant association between family structure and sexual experience, with both males and females living in families with one biological parent and one step-parent or from families without either biological parent having higher odds of sexual experience, compared with males and females living with two biological/adoptive parents. For females, living with a single biological parent is also associated with higher odds of sexual experience.

All other family environment factors are significantly associated with sexual experience for males and females. More frequent parent religious attendance, higher parental education, and living in a more enriching environment are all associated with reduced odds of sexual experience, while living in a more risky physical environment and having a mother who was a teen mother are both associated with greater odds of sex.

With respect to peer influences, analyses show that more positive peer characteristics are associated with reduced odds of sexual experience for males, but not for females, and more negative peer characteristics are associated with higher odds of having sexual intercourse, for both genders.

Youth factors associated with greater odds of sexual experience for both males and females include having started puberty and having been on a date at least once a month in the past year (compared with no dating), while being 12-14 years older (compared with 15-16 years old) is associated with reduced odds of having had sex. Among females, being 19 years or older is associated with reduced odds of having sex, compared with 15-16 year olds. Males aged 17-18 (compared with 15-16 years old) and those of black or Hispanic race/ethnicity have greater odds of sexual intercourse. All models in Table 5 control for unobserved heterogeneity.

Table 6 shows findings from multinomial logistic regression analyses comparing factors associated with having a steady versus casual partner at first sex and having a similar-aged partner versus a much older or much younger partner at first sex, both controlling for person-years in which youth did not have sex.

Analyses of steady versus causal relationships show that higher levels of mother-teen relationship quality are associated with greater odds of being in a steady versus casual relationship for males while higher levels of parental monitoring/awareness are associated with greater odds of a steady relationship for females. Additionally, for females, higher parent education is associated with *lower* odds of having a steady partner at first sex (O.R.= .92). No other family or peer factors are associated with relationship type at first sex, however several control factors are. Among males, black compared with white race/ethnicity is associated with lower odds of a steady relationship, while having started puberty and dating more than once a month are both associated with greater odds of being in a steady relationship versus a casual relationship. Among females, more frequent dating is associated with greater odds of having a steady versus casual first sexual relationship.

For both males and females, there are no significant associations between parent-teen relationships and having a similar-aged partner compared with a much older or younger partner. However, males living within an "other" family structure had lower odds of having a similar-aged partner, compared with males who live with two biological or adoptive parents. In addition, 12-14 year old males had greater odds of having a similar-aged partner versus a much older or younger partner, compared with 15-16 year olds while the youngest females had the lowest odds. Black males had reduced odds of having a similar-aged partner, compared with white/other race/ethnicity. Among females, those with more positive peer characteristics and

those who went out on a date more than once a month had greater odds of having a similar-aged partner versus a much older or younger partner.

Discussion

This study extends previous research by using nationally-representative longitudinal data to examine the role of parent-teen relationships, family structure and peer relationships in the transition to first sexual relationships. We found that family, individual and peer factors were associated with the timing of first sex and the type and characteristics of teens' first sexual relationships.

Family environments and sexual relationships

As hypothesized, we found that multiple dimensions of teens' family environments – including parent-teen relationships, activities and monitoring, family structure, and other family environments – were associated with teens' first sexual relationships. For example, for both females and males, higher levels of family routine activities were associated with lower odds of sex. This finding expands on previous research showing that family activities are linked to more positive adolescent outcomes[9,51,59] and suggests that engaging in activities as a family – including regular meals or chores, or religious or other activities – is protective of early sexual relationships. Regular family activities may help teens feel more attached to their families and provide opportunities to communicate with parents.[63]

Higher reported relationship quality between male teens and their mothers is associated with reduced odds of sexual activity, which corresponds with other research on this topic.[10,15,20,23,24,27,35,43,46,47] Among males, a stronger relationship with a parent is also associated

with greater odds that their first sexual experience will occur within a steady relationship instead of in a more casual relationship. This finding suggests that parents can help foster more positive sexual relationships (or help teens avoid more casual risky sexual relationships), and that teens' attachment to their families may provide tools for entering healthy relationships.

Parental monitoring and awareness of teens' activities are also associated with the timing of first sex for males, which confirms other research on this topic.[11,12,43] In addition, higher levels of parental monitoring and awareness are associated with greater odds that a daughter's first sexual relationship will occur with a steady partner instead of in a more casual relationship. Our measure of monitoring includes not only parental awareness of who their teen is with when they are not home (which has been included in several other studies) but also parental awareness of their teen's close friends, their friends' parents, and their teachers and school activities. This finding suggests that parental awareness of their child's whereabouts is critical, but also that parental *connectedness* to their teens' peer and school environments are protective against early sex and against risky sexual relationships. This higher level of awareness among parents may be a function, in part, of their overall communication with their children, which is also associated with reduced sexual activity among teens. [10,15,20,23,24,27,35,43,46,47]

Also as hypothesized, family structure is associated with the timing of first sex, with those living with two biological parents having the lowest odds of sexual experience, which corresponds with other research linking family structure and the timing of sexual experience.[29] In addition, male teens in family structures without either biological parent have higher odds of a sexual relationship with a much older or younger partner, which confirms some previous research linking family structure to partner age.[28,38,62] However, changes in family structure were not associated with the transition to sex or with relationship/partner factors in our models.

We plan to explore whether parent-teen relationships may potentially mediate the association between family structure, stability and sexual activity.

Higher parental education and religious attendance were associated with reduced odds of sexual activity, while having a mother who was a teen at her first birth is associated with increased odds, as has been found in previous studies.[29] In addition, we examined the association between household environments and the transition to first sex. We found that teens with greater access to material resources in their homes (such as a computer) had lower odds of first sex, while those living in neighborhoods with high levels of disadvantage or safety risk had higher odds. These factors reflect socio-economic differences in households and confirm research showing lower odds of sexual experience among teens from families with greater socio-economic resources.[29]

Peer environments and teen sex

Our analyses found independent effects of both positive and negative peer environments on the transition to sex. Among males and females, those who associated with peers involved in risk or problem behaviors, such as substance use or absenteeism, had higher odds of first sex, as has been found in previous research.[3,30] Among males, having peers with more positive attributes, including college aspirations, volunteerism and church attendance was also associated with reduced odds of sex, highlighting the potential protective influence of peer environments.[3,6]

Individual factors and teen sex

As has been found in other research, teens involved in dating behaviors – particularly those who date frequently – have higher odds of sexual initiation than teens who are not

dating.[29,45] Based on our sample of teens before they had sexual intercourse, only about one in ten dated regularly (more than once a month) at ages 12-14, but this percentage increased through the teen years to about one-third at ages 15-16 and more than 40 percent by ages 17-18. Thus, it's important for parents to monitor and discuss appropriate dating relationships with their children across the pre-teen and teen years. Interestingly, higher levels of dating were associated with a greater likelihood that males and females had first sex within a steady relationship versus with a more casual partner, and was associated with reduced odds that females would have sex with a much older or younger partner. Alternatively, those who transition directly from not dating in one year to a sexual relationship in a following year have higher odds of having a casual relationship or one with a much older or younger partner. These findings highlight the association between dating relationships and sexual relationships and the potential window of opportunity for parents and programs to help inform their children's decision making once they have begun dating.

An earlier timing of puberty or menarche is also associated with higher odds of sexual experience, as has been found in other research.[45] Among males, having entered puberty is associated with higher odds of having a first sexual experience within a steady vs. more casual relationship. Alternatively, males who had not reached puberty in the year before their sexual relationship – generally those males who were younger -- had higher odds of a casual first sexual partner, suggesting potential problems associated with transitioning to sexual relationships before dating.

Among males, there are racial/ethnic differences in the transition to sex and characteristics of the first sexual relationship and partner. African American males had higher odds of sexual experience than white males and lower odds of having a first sexual experience

within a romantic relationship or with a similar-aged partner. Hispanic males also had higher odds of transitioning to sex than white males. These findings confirm other research identifying early sexual experiences among racial and ethnic minorities and more casual or uncommitted relationships among African Americans.[2]

Age is also associated with first sexual relationships. As hypothesized, among males and females, a younger age is associated with reduced odds of first sex. However, there are gender differences in the association between age and having a much older or younger first sexual partner. Among males, a younger age at first sex is associated with increased odds that their partner will be similar in age to themselves. However, among females, a younger age at first sex is linked to increased odds of having an older or younger partner, which confirms other research highlighting the especially high risks that young teens will have sex with older partners.[34]

Limitations.

This research has some limitations due, in part, to the structure of the data file. For example, we would ideally examine the role of parent-teen communication in our analyses; however, no measures of communication are available in the NLSY97 data. Some research also suggests that the combination of positive relationships and appropriate monitoring may be associated with especially positive outcomes.[26,43] We will explore potential interactions in future research. In addition, the current analyses examine the role of teens' relationships with and monitoring/awareness by their *mothers,* but other research suggests an independent role for father involvement.[16,44] Father-teen relationships may be especially important for the development of healthy adolescent relationships. Thus, in future research, we plan to examine the independent effects of father-teen relationships and monitoring. Finally, we had chosen to

focus upon categories denoting "healthy" first sexual relationships and partners for these analyses. For example, we focused on teens who were "going steady" with their first sexual partner as distinguished from those in more casual relationships. However, other research suggests that there is a good deal of heterogeneity in casual relationships, and that many teens desire more intimacy with their casual partners.[36] Future research will further explore categories of casual relationships. We also chose to use an age difference of three or more years between partners to define having a much older or younger partner. However, few males in our sample had much older partners, and we may further explore these categories in future research.

Conclusions / Implications

This research suggests that parents can have a role in teens' development of more healthy sexual relationships, including delaying very early sexual activity, as well as helping teens avoid very risky casual sexual relationships or relationships with much older partners. We recognize that not all teens' first sexual experiences are voluntary;[1] however, parents may also help their children avoid coercive sexual relationships.

Our research findings reinforce research and program approaches highlighting the potential influence of parental involvement and parenting in adolescent's transition into sexual relationships. Despite public perceptions that relationship quality between children and their parents deteriorate across the teen years, we found that children's perceptions of their relationships with their parents were fairly stable across the time period for this study. Thus, it's important for parents to foster healthy relationships with their children across their life-course.

Appropriate parenting practices vary across childhood, pre-teen and teen years, and our data show that measures of parental monitoring and awareness of their children's activities (as

reported by teens themselves) and of family routine activities together decline as their children enter their middle and later teens. Despite this decline, strong parental monitoring and awareness of their teens' friendship and school networks and regular family activities are protective against early sex and, among females, against having a first sexual relationship with an older partner. These findings suggest that parents may allow appropriate autonomy among their children but that it's still important for parents to maintain high-quality relationships with their children and to be aware of important influences on their teens' lives (including peer influences).

Pregnancy and STI-prevention programs may help parents foster positive relationships with their teens, provide developmentally-appropriate monitoring of their activities and thus help teens delay early sexual activity and avoid risky relationships and partners. Parents and programs can also help teens make appropriate decisions about friendship networks and dating partners in order to help them foster healthy romantic and sexual relationships.

References

[1] Abma, J. C., Driscoll, A., & Moore, K. A. (1998). Young women's degree of control over first intercourse: An exploratory analysis. *Family Planning Perspectives, 30*(1), 12-18.

[2] Abma, J. C., Martinez, G. M., Mosher, W. D., & Dawson, B. S. (2004). *Teenagers in the United States: Sexual activity, contraceptive use, and childbearing, 2002.* Vital Health Stat 23(24). Hyattsville, MD: National Center for Health Statistics.

[3] Bearman, P., & Brückner, H. (1999). *Power in numbers: Peer effects on adolescent girls' sexual debut and pregnancy.* Washington, DC: The National Campaign to Prevent Teen Pregnancy.

[4] Bengston, V. L., & Allen, K. R. (1993). The life course perspective applied to families over time. In P. G. Boss, Doherty, W.J., LaRossa, R., Schumm, W.R., Steinmetz, S.D. (Ed.), *Sourcebook of family theories and methods: A contextual approach* (pp. 469-504). New York: Plenum Press.

[5] Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge: Harvard University Press.

[6] Cavanagh, S. E. (2004). The sexual debut of girls in early adolescence: The intersection of race, pubertal timing, and friendship group characteristics. *Journal of Research on Adolescence, 14*(3), 385-312.

[7] Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 125-147). New York: Cambridge University Press.

[8] Darroch, J. E., Landry, D. J., & Oslak, S. (1999). Age differences between sexual partners in the United States. *Family Planning Perspectives, 31*(4), 160-167.

[9] Davis, E. C., & Friel, L. V. (2001). Adolescent sexuality: Disentangling the effects of family structure and family context. *Journal of Marriage and Family, 63*, 669-681.

[10] DiClemente, R., Wingood, G., Crosby, R., Cobb, B. K., Harrington, K., & Davies, S. (2001). Parent-adolescent communication and sexual risk behaviors among African American adolescent females. *The Journal of Pediatrics, 139*(3), 407-412.

[11] DiClemente, R., Wingood, G., Crosby, R., Sionean, C., Cobb, B. K., Harrington, K., et al. (2001). Parental Monitoring: Association with Adolescents' Risk Behaviors. *Pediatrics, 107*, 1363-1368.

[12] Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of problem behavior: A conceptual and empririical reformulation. *Clinical Child and Family Psychology Review, 1*, 61-75.

[13] Dittus, P. J., & Jaccard, J. (2000). Adolescents' perceptions of maternal disapproval of sex: Relationship to sexual outcomes. *Journal of Adolescent Health, 26*(4), 268-278.

[14] Donovan, P. (1997). Can statutory rape laws be effective in preventing adolescent pregnancy? *Family Planning Perspectives, 29*(1), 30-34, 40.

[15] Dutra, R., Miller, K. S., & Forehand, R. (1999). The process and content of sexual communication with adoelscents in two-parent families: Associations with sexual risk-taking behavior. *AIDS & Behavior, 3*(1), 59-66.

[16] Feldman, S., & Brown, N. (1993). Family influences on adolescent male sexuality: the mediational role of self-restraint. *Social Development, 2*(1), 15-21.

[17] Ford, K., Sohn, W., & Lepkowski, J. (2001). Characteristics of adolescents' sexual partners and their association with use of condoms and other contraceptive methods. *Family Planning Perspectives, 33*(3), 100-105, 132.

[18] Frisco, M. L. (2005). Parental involvement and young women's contraceptive use. *Journal of Marriage and Family, 67*, 110-121.

[19] Glei, D. A. (1999). Measuring contraceptive use patterns among teenage and adult women. *Family Planning Perspectives, 31*(2), 73-80.

[20] Guzman, B., Schlehofer-Sutton, M., Villanueva, C., Stritto, M., Casad, B., & Feria, A. (2003). Let's talk about sex: How comfortable discusssions about sex impact teen sexual behavior. *Journal of Health Communication, 8*(6), 583-598.

[21] Hair, E. C., Moore, K. A., Garrett, S., Kinukawa, A., Lippman, L., & Michelson, E. (2005). Psychometric Analyses of the Parent-Adolescent Relationship Scale in the National Longitudinal Survey of Youth - 1997. In K. A. Moore, & L. Lippman (Eds.), *What do Children Need to Flourish: Conceptualizing and Measuring Indicators of Positive Development*. New York: Kluwer Academic/Plenum Publishers.

[22] Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511-524.

[23] Holtzman, D., & Rubinson, R. (1995). Parent and peer communication effects on AIDS-related behavior among U.S. high school students. *Family Planning Perspectives, 27*(6), 235-240, 268.

[24] Hutchinson, S., Jemmott, J. B., III, Braverman, P., & Fong, G. T. (2003). The role of mother-daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: A prospective study. *Journal of Adolescent Health, 33*(2), 98-107.

[25] Inazu, J. K., & Fox, G. L. (1980). Maternal influence on the sexual behavior of teenage daughters. *Journal of Family Issues, 1*, 81-102.

[26] Jaccard, J., Dittus, P. J., & Gordon, V. V. (1996). Maternal correlates of adolescent sexual and contraceptive behavior. *Family Planning Perspectives, 28*(4), 159-165, 185.

[27] Jaccard, J., Dodge, T., & Dittus, P. (2002). Parent-adolescent communication about sex and birth control: A conceptual framework. *New Directions in Child and Adolescent Development, 97*, 9-41.

[28] Kaestle, C. E., Morisky, D. E., & Wiley, D. J. (2002). Sexual intercourse and the age difference between adolescent females and their romantic partners. *Perspectives on Sexual and Reproductive Health, 34*(6), 304-309.

[29] Kirby, D., Lepore, G., & Ryan, J. (2005). *Sexual risk and protective factors: Factors affecting teen sexual behavior, pregnancy, childbearing, and sexually transmitted disease: Which are important? Which can you change?* Washington, DC: The National Campaign to Prevent Teen Pregnancy.

[30] Kowaleski-Jones, L., & Mott, F. L. (1998). Sex, contraception and childbearing among high-risk youth: do different factors influence males and females? *Family Planning Perspectives, 30*(4), 163-169.

[31] Manlove, J., Moore, K. A., Liechty, J., Ikramullah, E., & Cottingham, S. (2006). *Sex between young teens and older individuals: A demographic portrait*. Washington, D.C.: Child Trends.

[32] Manlove, J., Ryan, S., & Franzetta, K. (2003). Patterns of contraceptive use within teenagers' first sexual relationships. *Perspectives on Sexual and Reproductive Health, 35*(6), 246-255.

[33] Manlove, J., Ryan, S., & Franzetta, K. (Forthcoming). Risk and protective factors associated with the transition to a first sexual relationship with an older partner. *Journal of Adolescent Health*.

[34] Manlove, J., Terry-Humen, E., & Ikramullah, E. (2006). Young teens and older sexual partners: Correlates and consequences for males and females. *Perspectives on Sexual and Reproductive Health, 38*(4), 197-207.

[35] Manlove, J., Terry, E., Gitelson, L., Papillo, A. R., & Russell, S. (2000). Explaining demographic trends in teenage fertility, 1980-1995. *Family Planning Perspectives, 32*(4), 166-175.

[36] Manning, W. D., Giordano, P. C., & Longmore, M. A. (2006). Hooking up: The relationship contexts of 'Nonrelationship' sex. *Journal of Adolescent Research, 21*(5), 459-483.

[37] Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives, 32*(3), 104-110.

[38] Marin, B. V., Coyle, K. K., Gomez, C. A., Carvajal, S. C., & Kirby, D. B. (2000). Older boyfriends and girlfriends increase risk of sexual initiation in young adolescents. *Journal of Adolescent Health, 27*(6), 409-418.

[39] Marin, B. V., Kirby, D., Hudes, E. S., Coyle, K., & Gomez, C. A. (2006). Boyfriends, girlfriends and teenagers' risk of sexual involvement. *Perspectives on Sexual and Reproductive Health, 38*(2), 76-83.

[40] McLanahan, S., & Sandefur, G. D. (1994). *Growing up with a single parent: What hurts, what helps*. Cambridge, MA: Harvard University Press.

[41] McLanahan, S. S., Astone, N. M., & Marks, N. F. (1991). The role of mother-only families in reproducing poverty. In A. C. Huston (Ed.), *Children in Poverty: Child Development and Public Policy*. Cambridge, Australia: Cambridge University Press.

[42] Meschke, L. L., Bartholomae, S., & Zentall, S. R. (2000). Adolescent sexuality and parent-adolescent processes: Promoting healthy teen choices. *Family Relations, 49*(2), 143-155.

[43] Miller, B. (1998). *Families matter: A research synthesis of family influences on adolescent pregnancy*. Washington, DC: The National Campaign to Prevent Teenage Pregnancy.

[44] Miller, B., Benson, B., & Galbraith, K. (2001). Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental Review, 21*(1), 1-38.

[45] Miller, B., Norton, M. C., Curtis, T., Hill, E. J., Schvaneveldt, P., & Young, M. H. (1997). The timing of sexual intercourse among adolescents: Family, peer, and other antecedents. *Youth & Society, 29*(1), 54-83.

[46] Miller, K. S., Forehand, R., & Kotchick, B. A. (1999). Adolescent sexual behavior in two ethnic minority samples: The role of family variables. *Journal of Marriage & the Family, 61*(1), 85-90.

[47] Miller, K. S., Levin, M. L., Whitaker, D. J., & Xu, X. (1998). Patterns of condom use among adolescents: The impact of mother-adolescent communication. *American Journal of Public Health, 88*(10), 1542-1544.

[48] Moore, K. A., Morrison, D. R., & Glei, D. A. (1995). Welfare and adolescent sex: The effects of family history, benefit levels, and community context. *Journal of Family & Economic Issues, 16*(2-3), 207-237.

[49] Moore, K. A., Vandivere, S., & Kinukawa, A. (2004). *Turbulence During Childhood.* Paper presented at the Population Association of America, Boston, MA.

[50] Noar, S. M., Zimmerman, R. S., & Atwood, K. A. (2004). Safer sex and sexually transmitted infections from a relationship perspective. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The handbook of sexuality in close relationships*. Mahwah, NJ: Lawrence Erlbaum.

[51] Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA: Journal of the American Medical Association, 278*(10), 823-832.

[52] Rodgers, K. B. (1999). Parenting processes related to sexual risk-taking behaviors of adolescent males and females. *Journal of Marriage and the Family, 61*, 99-109.

[53] Scaramella, L. V., Conger, R. D., Simons, R. L., & Whitbeck, L. B. (1998). Predicting risk for pregnancy by late adolescence: A social contextual perspective. *Developmental Psychology, 34*, 1233-1245.

[54] Sheeran, P., Abraham, C., & Orbell, S. (1999). Psychosocial correlates of heterosexual condom use: A meta-analysis. *Psychological Bulletin, 125*(1), 90-132.

[55] Smith, C. A. (1997). Factors associated with early sexual activity among urban adolescents. *Social Work, 42*(4), 334-346.

[56] Stepp, L. S. (2003, January 19). The buddy system. *The Washington Post*.

[57] Stepp, L. S. (Forthcoming). *Unhooked: How young women pursue sex, delay love and lose at both.* Riverhead Books.

[58] Thornton, A., & Camburn, D. (1987). The Influence of the Family on Premarital Sexual Attitudes and Behavior. *Demography, 24*, 323-340.

[59] Velez, M. C., Gonzalez-Rodriguez, R. A., & Borges-Hernandez, A. (2006). Family functioning and early onset of sexual intercourse in Latino adolescents. *Family Therapy, 33*(2), 63-77.

[60] Whitaker, D. J., & Miller, K. S. (2000). Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behavior. *Journal of Adolescent Research, 15*(2), 251-273.

[61] Whitaker, D. J., Miller, K. S., May, D. C., & Levin, M. L. (1999). Teenage partners' communication about sexual risk and condom use: The importance of parent-teenager discussions. *Family Planning Perspectives, 31*(3), 117-121.

[62] Young, A. M., & d'Arcy, H. (2005). Older boyfriends of adolescent girls: The cause or a sign of the problem? *Journal of Adolescent Health, 36*(5), 410-419.

[63] Young Pistella, C. L., & Bonati, F. A. (1999). Adolescent women's recommendations for enhanced parent-adolescent communication about sexual behavior. *Child and Adolescent Social Work Journal, 16*(4), 305-315.

Table 1. Sample Characteristics, by gender, for the respondent-level file and the person-round file

	Males		Females	
	Respondent-level file[a]	Person-round file[b]	Respondent-level file[a]	Person-round file[b]
	Mean(%)	Mean(%)	Mean(%)	Mean(%)
Dependent variables				
R has had sex	81.0%	21.7%	82.2%	22.4%
Relationship type[c]				
Steady partner	57.7%	57.7%	74.6%	74.6%
Casual partner	42.3%	42.3%	25.4%	25.4%
Partner age difference[c]				
Similar age	87.2%	87.2%	70.2%	70.2%
3+ years older/younger	12.8%	12.8%	29.8%	29.8%
Parent-teen Relationships				
Parent-adolescent relationship quality (range 0-12)	9.04	9.05	9.27	9.22
Parental monitoring/awareness (range 0-16)	10.22	9.82	10.81	10.59
Family routines (range 0-28)	15.29	9.94	15.11	9.78
Family Structure and Stability				
Current family structure				
Two biological / adoptive parents	60.2%	61.7%	55.8%	58.8%
One biological and one other parent	14.2%	13.7%	13.9%	12.2%
Single biological parent	22.8%	19.8%	27.5%	24.5%
Other	2.8%	4.7%	2.9%	4.6%
Changes in family structure since previous round				
No changes	--	66.9%	--	66.1%
Change	--	6.4%	--	6.7%
Other Family Environments				
Parent religious attendance (range 1-7)	4.13	4.32	4.14	4.36
Parent education (range 1-20)	13.91	14.22	13.73	13.94
Enriching environment index (range 0-3)	1.83	1.90	1.90	1.95
Physical environment risk index (range 0-7)	1.08	1.03	1.09	1.04
R's mom was a teen mom	20.9%	22.5%	22.2%	23.6%
Peer Environments				
Postive Peer Characteristics (range 0-4)	1.83	1.95	1.92	2.01
Negative Peer Characteristics (range 0-5)	2.00	1.71	2.39	2.09
Youth Controls				
Age (12-16)	13.27	15.59	13.31	15.59
Age				
12-14	89.3%	33.3%	89.2%	33.4%
15-16	10.7%	34.2%	10.8%	34.8%
17-18	--	22.6%	--	21.8%
19+	--	9.9%	--	10.0%
Race/ethnicity				
White / other	74.5%	78.1%	72.5%	73.5%
Black	12.8%	10.3%	15.2%	14.2%
Hispanic	12.7%	11.6%	12.2%	12.4%
R was born outside of the US	5.5%	5.6%	5.3%	6.1%
R has started puberty	71.8%	90.9%	75.6%	92.0%
Number of dates in last year				
No dating	61.9%	40.5%	70.2%	44.4%
Once a month	28.2%	32.6%	20.2%	28.3%
More than once a month	9.9%	27.0%	9.6%	27.3%
N=	**2,283**	**8,207**	**2,305**	**8,326**

[a] Independent variables measured in Round 1

[b] Independent variables measured across rounds

[c] Among those who had sex

Table 2. Changes in time-varying measures among the person-round sample, by age and gender

	Males					Females				
	Age at Round					Age at Round				
	12-14	15-16	17-18	19+		12-14	15-16	17-18	19+	
Dependent variables										
R had first sexual intercourse	14.4%	21.4%	30.5%	26.7%	***	14.9%	23.6%	30.8%	25.1%	***
Relationship type[a]					**					**
Steady partner	53.0%	59.1%	62.3%	44.0%		67.0%	77.5%	77.0%	72.1%	
Casual partner	47.0%	41.0%	37.7%	56.0%		33.1%	22.5%	23.0%	27.9%	
Partner age difference[a]					***					***
Similar age	81.8%	86.5%	92.0%	84.3%		57.8%	76.4%	72.7%	61.7%	
3+ years older/younger	18.2%	13.5%	8.1%	15.7%		42.3%	23.7%	27.3%	38.4%	
Parent-teen Relationships										
Parent-adolescent relationship quality (range 0-12)	9.05	9.00	9.08	9.17		9.22	9.15	9.24	9.48	+
Parental monitoring/awareness (range 0-16)	10.21	9.74	9.49	9.54	***	10.79	10.56	10.41	10.37	***
Family routines (range 0-28)	13.68	8.56	7.40	7.79	***	13.47	8.24	7.43	7.81	***
Family Structure and Stability										
Current family structure					***					***
Two biological / adoptive parents	60.2%	62.7%	64.7%	56.7%		56.7%	58.9%	61.8%	58.9%	
One biological and one other parent	14.4%	14.4%	12.6%	11.5%		14.2%	12.3%	11.1%	7.6%	
Single biological parent	22.4%	20.0%	18.5%	13.4%		26.2%	25.9%	22.4%	18.2%	
Other	3.0%	2.9%	4.1%	18.3%		2.9%	2.9%	4.7%	15.4%	
Changes in family structure since previous round[b]					***					***
No changes	90.4%	93.4%	92.5%	82.8%		88.9%	92.2%	92.6%	84.5%	
Change	9.6%	6.6%	7.5%	17.2%		11.1%	7.8%	7.4%	15.6%	
Youth Controls										
R has started puberty	75.5%	97.5%	99.5%	100.0%	***	78.5%	98.0%	99.3%	99.3%	***
Number of dates in last year					***					***
No dating	58.9%	33.8%	26.8%	32.7%		67.9%	38.5%	25.7%	27.4%	
Once a month	28.1%	36.9%	31.7%	34.6%		21.2%	30.0%	32.3%	37.4%	
More than once a month	13.0%	29.3%	41.4%	32.8%		10.9%	31.5%	42.0%	35.2%	
N=	**2,791**	**2,840**	**1,805**	**771**		**2,806**	**2,910**	**1,806**	**804**	

*p<.05 **p<.01 ***p<.001 +p<.1

[a]Among those who had sex

[b]Among those who had at least 1 previous person-years

Table 3. Parent, family, peer, and youth characteristics, by relationship type and gender

	Males					Females				
	Steady Relationship	Casual Relationship[a]		No Sex[a]		Steady Relationship	Casual Relationship[a]		No Sex[a]	
Parent-teen Relationships										
Parent-adolescent relationship quality	8.96	8.50	***	9.12	+	9.03	8.49	**	9.31	**
Parental monitoring/awareness	9.46	8.92	**	9.98	***	10.29	9.48	***	10.73	***
Family routines	8.63	8.70		10.26	***	8.23	8.15		10.21	***
Family Structure and Stability										
Current family structure										
Two biological / adoptive parents	54.7%	54.9%		63.9%	***	50.4%	42.5%	*	61.9%	***
One biological and one other parent	17.9%	15.5%		12.9%	***	16.0%	16.3%		11.3%	***
Single biological parent	23.6%	24.0%		18.9%	**	27.9%	34.3%	*	23.1%	**
Other	3.8%	5.6%		4.2%		5.6%	6.9%		3.7%	**
Changes in family structure since previous round										
No changes	73.2%	69.0%	+	66.0%	***	72.7%	65.5%	*	64.8%	***
Change	6.5%	7.3%		5.9%		7.4%	6.2%		6.2%	
Other Family Environments										
Parent religious attendance (range 1-7)	3.98	3.94		4.40	***	4.03	3.81	+	4.46	***
Parent education (range 1-20)	13.79	13.53	+	14.34	***	13.52	13.82	+	14.04	***
Enriching environment index (range 0-3)	1.82	1.74	+	1.93	***	1.88	1.83		1.98	***
Physical environment risk index (range 0-7)	1.09	1.24	**	1.00	*	1.11	1.14		1.01	**
R's mom was a teen mom	26.7%	29.7%		21.1%	***	29.3%	30.6%		22.0%	***
Peer Environments										
Postive Peer Characteristics (range 0-4)	1.85	1.71	*	1.99	**	1.94	1.77	*	2.04	*
Negative Peer Characteristics (range 0-5)	2.00	2.16	+	1.61	***	2.46	2.52		1.98	***
Youth Controls										
Age	16.00	15.91		15.44	***	15.97	15.66	*	15.45	***
Age										
12 - 14	20.6%	24.9%	*	36.4%	***	20.4%	29.6%	***	36.6%	***
15 - 16	36.9%	34.9%		34.3%		40.2%	34.2%	*	34.2%	***
17 - 18	37.0%	30.6%	*	20.0%	***	33.4%	29.3%		19.5%	***
19+	5.5%	9.6%	**	9.3%	***	6.0%	6.8%		9.7%	***
Race/ethnicity										
White / other	75.5%	67.7%	***	79.7%	**	71.9%	72.4%		73.9%	
Black	12.4%	17.0%	**	9.2%	**	15.3%	17.1%		13.8%	
Hispanic	12.1%	15.2%	+	11.1%		12.8%	10.5%		12.3%	
R was born outside of the US	5.5%	4.5%		5.7%		4.8%	4.1%		6.4%	*
R has started puberty	97.0%	94.1%	**	89.6%	***	96.4%	95.2%		90.8%	***
Number of dates in last year										
No dating	17.0%	23.8%	**	46.0%	***	19.6%	32.4%	***	50.6%	***
Once a month	33.8%	37.9%		31.6%		30.4%	37.4%	*	26.9%	*
More than once a month	49.2%	38.4%	***	22.4%	***	49.9%	30.3%	***	22.5%	***
N=	**943**	**772**		**6,322**		**1,311**	**432**		**6,407**	

*p<.05 **p<.01 ***p<.001 +p<.1

[a] Significance is measured relative to a steady relationship

Table 4. Parent, family, peer, and youth characteristics, by partner age difference and gender

	Males					Females				
	Similar-age partner	Partner is 3+ years older or younger[a]		No sex[a]		Similar-age partner	Partner is 3+ years older or younger[a]		No sex[a]	
Parent-teen Relationships										
Parent-adolescent relationship quality	8.73	8.89		9.12	***	8.94	8.81		9.31	***
Parental monitoring/awareness	9.15	9.27		9.98	***	10.09	9.89		10.73	***
Family routines	8.28	10.12	***	10.26	***	7.80	8.92	***	10.21	***
Family Structure and Stability										
Current family structure										
Two biological / adoptive parents	56.8%	46.3%	**	63.9%	***	50.4%	44.4%	*	61.9%	***
One biological and one other parent	16.5%	13.0%		12.9%	**	15.7%	16.6%		11.3%	***
Single biological parent	23.0%	31.6%	*	18.9%	**	29.1%	30.2%		23.1%	***
Other	3.7%	9.2%	*	4.2%		4.8%	8.8%	**	3.7%	
Changes in family structure since previous round										
No changes	74.6%	55.0%	***	66.0%	***	76.0%	60.1%	***	64.8%	***
Change	6.6%	8.5%		5.9%		6.2%	9.3%	+	6.2%	
Other Family Environments										
Parent religious attendance (range 1-7)	3.95	3.98		4.40	***	3.96	3.95		4.46	***
Parent education (range 1-20)	13.83	12.90	***	14.34	***	13.67	13.50		14.04	***
Enriching environment index (range 0-3)	1.82	1.59	***	1.93	***	1.90	1.79	*	1.98	**
Physical environment risk index (range 0-7)	1.12	1.27	+	1.00	***	1.08	1.18		1.01	+
R's mom was a teen mom	26.7%	31.2%		21.1%	***	29.3%	30.2%		22.0%	***
Peer Environments										
Postive Peer Characteristics (range 0-4)	1.82	1.61	*	1.99	***	1.96	1.72	***	2.04	+
Negative Peer Characteristics (range 0-5)	2.01	2.39	**	1.61	***	2.38	2.70	**	1.98	***
Youth Controls										
Age	16.03	15.55	**	15.44	***	15.95	15.62	**	15.45	***
Age										
12 - 14	20.3%	30.9%	**	36.4%	***	18.5%	31.9%	***	36.6%	***
15 - 16	36.4%	38.7%		34.3%	***	43.1%	31.4%	***	34.2%	***
17 - 18	36.7%	22.0%	***	20.0%	***	33.7%	29.9%		19.5%	***
19+	6.6%	8.4%	+	9.3%	**	4.7%	6.8%		9.7%	***
Race/ethnicity										
White / other	75.0%	57.4%	***	79.7%	***	72.9%	69.4%		73.9%	
Black	12.6%	24.3%	***	9.2%	***	14.9%	17.9%		13.8%	
Hispanic	12.4%	18.4%	*	11.1%		12.2%	12.7%		12.3%	
R was born outside of the US	4.8%	5.7%		5.7%		4.4%	5.1%		6.4%	**
R has started puberty	96.3%	93.4%	+	89.6%	***	96.5%	95.4%		90.8%	***
Number of dates in last year										
No dating	18.9%	25.4%	*	46.0%	***	20.6%	27.7%	**	50.6%	***
Once a month	34.4%	41.5%	+	31.6%	+	31.4%	33.7%		26.9%	**
More than once a month	46.7%	33.0%	***	22.4%	***	48.0%	38.6%	**	22.5%	***
N=	**1,336**	**231**		**6,322**		**1,136**	**495**		**6,407**	

*p<.05 **p<.01 ***p<.001 +p<.1

[a] Significance is measured relative to a similar-age partner

Table 5. Odds ratios from logistic regression analyses predicting sexual experience, among males and females

	Males		Females	
Parent-teen Relationships				
Parent-adolescent relationship quality	0.97	*	0.98	
Parental monitoring/awareness	0.97	**	0.98	+
Family routines	0.98	**	0.96	***
Family Structure and Stability				
Current family structure				
Two biological / adoptive parents	(1.00)		(1.00)	
One biological and one other parent	1.29	**	1.57	***
Single biological parent	1.15		1.38	***
Other	1.36	*	2.17	***
Changes in family structure since previous round				
No changes	(1.00)		(1.00)	
Change	1.00		0.82	+
Other Family Environments				
Parent religious attendance	0.92	***	0.94	***
Parent education	0.96	**	0.96	**
Enriching environment index	0.89	**	0.92	*
Physical environment risk index	1.09	**	1.09	**
R's mom was a teen mom	1.19	*	1.33	***
Peer Environments				
Postive Peer Characteristics	0.93	**	1.02	
Negative Peer Characteristics	1.09	***	1.08	***
Youth Controls				
Age - categorical				
12 - 14	0.55	***	0.63	***
15 - 16	(1.00)		(1.00)	
17 - 18	1.50	***	1.14	
19+	1.24		0.63	**
Race/ethnicity				
White / other	(1.00)		(1.00)	
Black	2.02	***	1.12	
Hispanic	1.28	**	0.97	
R was born outside of the US	0.94		0.80	+
R has started puberty	1.49	**	1.42	*
Number of dates in last year*				
No dating	(1.00)		(1.00)	
Once a month	2.57	***	2.38	***
More than once a month	5.03	***	4.09	***
Log likelihood	**-3851.49**		**-3876.68**	
rho	**9.30E-08**		**9.30E-08**	
Likelihood ratio test of Rho	**0**		**0**	
Chi-square	**823.47**	***	**783.07**	***
DF	**30**		**30**	
N=	**8207**		**8326**	

*p<.05 **p<.01 ***p<.001

Table 6. Relative risk ratios from multinomial logistic regression analyses predicting relationship type and partner age difference, among males and females

	Steady relationship vs. casual				Similar-aged partner vs. much older or younger partner			
	Males		**Females**		**Males**		**Females**	
Parent-teen Relationships								
Parent-adolescent relationship quality	1.07	**	1.03		0.98		1.02	
Parental monitoring/awareness	1.02		1.06	*	0.98		1.00	
Family routines	1.00		1.02		0.99		0.99	
Family Structure and Stability								
Current family structure								
Two biological / adoptive parents	(1.00)		(1.00)		(1.00)		(1.00)	
One biological and one other parent	1.33	+	0.92		1.13		0.94	
Single biological parent	1.22		0.74	+	0.80		0.98	
Other	0.94		0.64		0.36	**	0.61	+
Changes in family structure since previous round								
No changes	(1.00)		(1.00)		(1.00)		(1.00)	
Change	0.94		1.35		0.85		0.66	+
Other Family Environments								
Parent religious attendance	1.00		1.03		0.96		0.99	
Parent education	0.99		0.92	**	1.05		0.98	
Enriching environment index	1.06		1.04		1.20		1.13	
Physical environment risk index	0.97		0.95		0.91		1.02	
R's mom was a teen mom	0.92		1.00		1.10		1.10	
Peer Environments								
Postive Peer Characteristics	1.07		1.09		1.12		1.12	*
Negative Peer Characteristics	0.96		1.00		0.96		0.93	+
Youth Controls								
Age - categorical								
12 - 14	0.83		0.78		1.63	*	0.59	*
15 - 16	(1.00)		(1.00)		(1.00)		(1.00)	
17 - 18	1.11		0.85		1.22		0.74	+
19+	0.54	+	0.57		0.58		0.44	+
Race/ethnicity								
White / other	(1.00)		(1.00)		(1.00)		(1.00)	
Black	0.72	*	1.15		0.59	*	0.94	
Hispanic	0.74	+	1.20		0.70		1.03	
R was born outside of the US	1.45		1.01		0.83		0.85	
R has started puberty	1.70	*	0.87		0.90		0.81	
Number of dates in last year								
No dating	(1.00)		(1.00)		(1.00)		(1.00)	
Once a month	1.18		1.43	*	0.89		1.12	
More than once a month	1.54	**	2.82	***	1.17		1.40	*
F(DF)	**14.05(60)**	***	**14.45(60)**	***	**14.61(60)**		**13.42(60)**	
N=	**8,037**		**8,150**		**7,889**		**8,038**	

*p<.05 **p<.01 ***p<.001