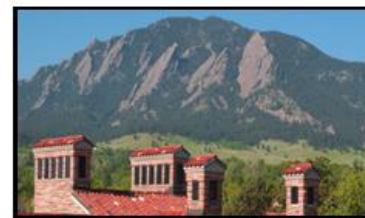


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***WORKING PAPER***

## **The Correlates and Consequences of Parent-Teen Discordance in Reports of Teens' Sexual Experience**

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Population Program POP2008-07

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Acknowledgements: This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 ([www.cpc.unc.edu/addhealth/contract.html](http://www.cpc.unc.edu/addhealth/contract.html)). We thank Richard Rogers and Jeff Dennis for their helpful comments.

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Word count in text, references, and notes: 4,761

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RUNNING HEAD: Parent-Teen Discordance in Reporting Teen Sex

## **The Correlates and Consequences of Parent-Teen Discordance in Reports of Teens' Sexual Experience**

Using national survey data, we investigate factors associated with incongruence in parents' and adolescents' reports of teens' past sexual experience and explore the consequences of inaccurate parental knowledge on subsequent sexual behaviors. Most parents of teens who have not had vaginal intercourse accurately report their lack of experience, while most parents of teens who have had intercourse inaccurately report that the adolescent has not had sex. A wide variety of adolescent-, parent-, and family-level factors predict the accuracy of parents' knowledge. The consequences of incongruence in parent-teen reports of adolescents' sexual experience differ between under- and overestimation. Teenagers whose parents overestimate their sexual experience are subsequently more likely to have vaginal intercourse, have sex outside a romantic relationship, and (for girls) have a pregnancy. Teenagers whose parents underestimate their sexual experience are less likely to have vaginal intercourse, have sex while using drugs, and have a sexually transmitted infection diagnosis.

## **The Correlates and Consequences of Parent-Teen Discordance in Reports of Teens' Sexual Experience**

A large body of literature examines parent-teen communication about sex (see Devore and Ginsburg (2005) and Miller (2002) for reviews). There are many differences in the amount and content of such communication, which may explain why evidence on its importance for adolescents' sexual outcomes is mixed (Clawson & Reese-Weber, 2003; Miller, 2002). While research typically focuses on the information provided by parents to teens, the information that teens provide to parents about their sexual experiences may also be an important aspect of parent-teen communication. We investigate what predicts parents' awareness of their children's sexual activities and whether this awareness influences teens' sexual behaviors.

Past research on parent-teen communication about sex suggests that as with other behaviors parents may consider problematic (Barker *et al.*, 2007; Fisher *et al.*, 2006; Yang *et al.*, 2006), parents frequently have inaccurate knowledge of teenagers' and young adults' sexual experience (Bylund *et al.*, 2005; J. Jaccard *et al.*, 1998; Yang *et al.*, 2006; Zimet *et al.*, 2003). These inconsistencies have been associated with consequences for future sexual activity (Yang *et al.*, 2006). In particular, parents are quite likely to *underestimate* their children's sexual experience; i.e., teens report having had sex while their parents report that the teen has not had sex. This underestimation has been found to be associated with a lower likelihood of continued sexual activity than when parents know the teens have sexual experience (Yang *et al.*, 2006). Overestimation (teens reporting not having had sex while parents report the opposite), on the other hand, is relatively rare and tends to be a "self-fulfilling prophecy" in which adolescents are more likely to start having sex compared to when their parents are aware of their lack of

experience (Yang et al., 2006). Past evidence on congruence and incongruence in parents' and teens' reports of teens' sexual activity has several limitations: (1) It is based on regional, nonrepresentative samples, (2) it uses a set of potential correlates that is fairly limited, and (3) it does not explore the consequences of incongruence for sexual behaviors beyond subsequent sexual intercourse. Using data from the National Longitudinal Study of Adolescent Health (Add Health), our study addresses these shortcomings, providing a more complete empirical picture of the correlates and consequences of incongruent reports about teens' sexual activity.

## **Background and Arguments**

Evidence shows that parent-teen communication about sex can be difficult. Jaccard, Dittus, and Gordon (2000) found that many adolescents were concerned that their mothers would ask them personal questions, implying a desire to keep their mothers "in the dark" about their sexual experience. Similarly, many mothers expressed a wish to avoid "prying" into the teen's sexual life. This implies a mutual aspiration among some parent-teen dyads to withhold accurate knowledge of the teen's sexual behaviors from the parent. Despite such processes that may hinder the transfer of information from adolescent to parent, Jaccard, Dittus, and Gordon (1998) found that the more discussions the pair have about sex, the more likely congruent reports of teens' sexual behavior are; Yang et al. (2006), on the other hand, find no such relationship. The effect of parent-teen communication about sex or contraception on young people's actual sexual behaviors is not always consistent (Clawson & Reese-Weber, 2003; Fingerson, 2005; Miller *et al.*, 2001), but it has been found to be protective in some research (DiClemente *et al.*, 2001; DiIorio, 1999; Hutchinson, 2002; Hutchinson *et al.*, 2003). Furthermore, parent-teen communication may mitigate peer influences (Fasula & Miller, 2006; Whitaker & Miller, 2000)

and amplify the dampening effect of parental disapproval on sexual behavior (J. Jaccard, & Dittus P. J., 1991). There is evidence that parents' comfort and skill in discussions influences the relationship between communication and sexual behaviors (Whitaker *et al.*, 1999). Among boys in particular, feeling self-efficacious in communicating about sex with parents is associated with condom use (Halpern-Felsher *et al.*, 2004). These findings suggest that it is worthwhile to study the relationship between bidirectional parent-teen communication and sexual outcomes.

This study takes the view that because engaging in sexual intercourse does not have negative consequences for all teens, to fully understand the consequences of parental knowledge we should move beyond simply studying sex itself to analyzing whether adolescents are engaging in a range of healthier or riskier sexual behaviors (Bearman & Bruckner, 2001; see Clawson & Reese-Weber, 2003; Henrich *et al.*, 2006; J. Jaccard & Dittus, 2000 for examples). We examine several behaviors that add dimensions of protection or risk to sexual activity, including consistent contraception, condom use, sex outside an established romantic relationship, and having sex while under the influence of alcohol or other drugs. We also analyze two negative consequences of risky involvement in sex, teenage pregnancy and sexually transmitted infections (STIs). This broader view of sexual behaviors and consequences does not assume that sex is bad for all teenagers, but rather quantifies specific risks and consequences.

We ask two primary research questions. *First*, what factors are associated with incongruence in parents' and adolescents' reports of teens' past sexual experience? We partition incongruence into parental overestimation and underestimation of teenagers' sexual experience because past evidence suggests that these two types of discordance differ in important ways (Yang *et al.*, 2006). It is likely to matter for subsequent sexual outcomes that teenagers have had sex in the case of underestimation but not overestimation, and that parents think teens have had

sex in the case of overestimation but not underestimation. *Second*, is accurate parental knowledge of teens' sexual experience beneficial or problematic for subsequent sexual behaviors? We partition accurate reports by teens' sexual experience for similar reasons.

In answering what the effects of incongruent reports are on teens' sexual behaviors, two alternative hypotheses seem plausible. Parents who have open communication with their teenage children and accurate knowledge of their sexual experiences may be able to provide information and advice to minimize sexual risks and negative future consequences. As Bylund et al. (2005) write, parents not knowing about their children's sexual activities "may inhibit parent-student conversations about ... risky health behavior, ultimately putting the student at greater health risk" (31). Additionally, Jaccard, Dittus, and Gordon (1998) write, when "parents anticipate [that] their children will become sexually active," they "can ensure that teens are well informed about the consequences of an unintended pregnancy, sexually transmitted diseases, and strategies for practicing either abstinence or 'safer' sex" (248). Raffaelli, Bogenschneider, and Flood (1998) support this idea, linking parent-teen discussions of contraception to the parent's belief that the adolescent is sexually active. Therefore, we hypothesize that although accurate parental knowledge may not change teens' likelihood of having sex in the future, it may help them avoid problematic sexual behaviors and outcomes. *Hypothesis 1A*: Accurate parental reports of teens' sexual activity reduce future sexual risk behaviors and negative outcomes.

The alternative perspective on the potential effects of parental knowledge about teens' sexual experience focuses on parental expectations. In this view, if parents expect that their teenage children are not having sex, then teenagers will be motivated to live up to these expectations by abstaining from or minimizing future sex and risky sexual experiences. This perspective suggests that the relationship between incongruent reports and sexual behaviors is

complex, as detailed in *Hypothesis 1B*: Parental overestimation is associated with a higher likelihood of future sexual activity, risk behaviors, and negative outcomes as compared to awareness of the teen's inexperience, while accurate parental reports of teens' sexual experience are associated with a higher likelihood of these outcomes as compared to underestimation. Yang et al. (2006) found support for this hypothesis in the case of subsequent sexual intercourse, but previous research has not explored the effect of congruence in parent-teen reports of teens' sexual experience on any other sexual behaviors.

Why might parents' expectations trump "hard" knowledge and facts in affecting adolescents' sexual behaviors? Social psychological research has demonstrated the influence of norms and expectations on behavior. In the sexual realm, embarrassment at the prospect of using contraceptives, which is thought to reflect discomfort at the prospect of violating social expectations (Goffman, 1967), has been linked to decreased use of contraception (Herold, 1981). Similarly, teenagers who would feel embarrassed if they got pregnant are less likely subsequently to experience a pregnancy (author citation 2006). More broadly, evidence on educational outcomes has shown that parental expectations can be even more powerful than past behavior in determining young people's future behavior (Yee & Eccles, 1988).

## **Method**

### ***Data***

Data come from the National Longitudinal Study of Adolescent Health, a nationally representative survey of students begun in the mid-1990s (Bearman *et al.*, 1997). Investigators chose a sample of 80 U.S. high schools and 52 middle schools with an unequal probability of selection. More than two thirds of selected schools took part in the study, and those who refused

were replaced by schools from within the same community. While some populations of students were oversampled and dropouts were not interviewed, probability weights included with the data set allow researchers to accurately represent the national population of adolescents in grades 7-12. Data for this analysis come from the first two waves of the study. In Wave I, a subsample of students from each school and a primary parent or parent-like figure completed extensive in-home interviews in 1995. Students who were not in grade 12 at Wave I were re-interviewed roughly a year later in 1996. In about 94% of cases, the parent completing the interview is the mother, who may more accurately report the teen's level of sexual experience because previous research has found that teenagers are more likely to talk about sex with mothers than fathers (DiIorio, 1999; Raffaelli et al., 1998). Student response rates were 79% for Wave I and 88% for Wave II, and approximately 85% had a parent complete the survey in Wave I. There were 11,369 eligible cases for congruency analyses (student interviewed at both waves, parent interviewed, and not missing data for weight, clustering, or stratification variables), 4,054 eligible cases for risky sexual outcome and behaviors (respondents who had sex by Wave II), and 2,018 eligible females for the analysis of teen pregnancy. The number of cases included in our analyses is further restricted to those persons with information on all covariates included in the analysis and therefore varies across outcomes and is reported in the table; for descriptive information, N=10,407.

### ***Variables***

The dependent variable in the first analysis is designed to capture congruence and incongruence between teens' self-reports of sexual intercourse and parental reports of the teens' sexual behavior. Respondents were coded into one of four categories based upon their own

responses about whether they had engaged in sexual intercourse (“a male inserts his penis into a female’s vagina”) and the parent’s response to the question, “Do you think that he/she has ever had sexual intercourse?” These Wave I variables combine to form four categories: yes-yes congruency, in which both teen and parent report that the teen has had sexual intercourse; no-no congruency, in which both report that the teen has not engaged in sexual intercourse; overestimation, in which parents report that their teen has had sex and the teen reports not; and underestimation, in which parents report that their teen has not had sex and the teen reports the opposite. Even though just 2.4% of parents overestimate their child’s sexual experience, the 176 cases in this category make it sufficiently sized for multivariate analysis. This study assumes that the teen’s report of past sexual intercourse is more accurate and judges the correctness of parental reports based on the teen’s report. All other variables are described in Table 1, and descriptive statistics are reported in Table 2.

TABLES 1 AND 2 HERE

## **Results**

### ***Prevalence of incongruence***

The column headings in Table 2 report basic information about the prevalence of incongruent parent-teen reports of adolescents’ sexual experience using weighted analyses. Sixteen percent of parents reported that their teens had a level of sexual experience that was different from the adolescent’s report. This incongruence was unevenly distributed depending on the teen’s sexual experience. Parents overwhelmingly had accurate knowledge among teenagers who had not had sexual intercourse, with 98% congruent reports. Among sexually experienced teens, however, 54% of parents reported inaccurately that their children had not had

sex. The finding that parents have more accurate knowledge of their teenage children's sexual experience when they are virgins suggests that parents' awareness of their children's sexual activity is influenced by societal norms against teenage sex. This could occur either through social desirability bias in the information teens provide to parents, or through parents' assumption that their children will conform to their own and society's expectations, which may influence the information they seek and the ways in which they perceive this information.

### *Predictors of incongruence*

Our first research question asks what factors are associated with incongruence in parents' and adolescents' reports of teens' past sexual experience. Table 2 reports weighted means and bivariate significance tests comparing congruent to incongruent parent reports within each category of teens' Wave I sexual experience. In other words, among adolescents who had not had sexual intercourse by Wave I, teen-parent dyads where parents confirm this lack of experience are compared to those where parents overestimate teens' sexual experience. Similarly, among teenagers who had sexual intercourse by Wave I, teen-parent dyads where parents corroborate this experience are compared to those where parents underestimate teens' sexual experience. At least one category of each of the selected correlates is significantly associated with parental over- and/or underestimation of teens' sexual experience.

Table 3 combines potential predictors of incongruence in multivariate logistic regression models using the same comparison groups. Across both categories of Wave I sexual experience, a number of factors are consistently related to parental estimates of teens' sexual experience. Adolescents' older age and involvement in a romantic relationship; single-parent and other two-parent families compared to two biological parents; and parent level variables including parents'

lower satisfaction with their relationship with the teen, greater disapproval of the teen having sex, increased advice about contraception, and increased communication about sex are all positively associated with overestimation of teens' sexual experience. Conversely, these factors are all negatively associated with parental underestimation of teens' sexual experience.

Other factors are related to either overestimation or underestimation of sexual experience, but not both. Overestimation of adolescents' sexual experience is more likely among parents of girls compared to boys and parents with more control over decisions about their teen's life. Underestimation is more likely among older, more educated parents, more frequent churchgoers, parents of Black and Asian adolescents, and teens in "other" (typically, not living with a parent) family structures compared to two biological parents. Some of these findings confirm past evidence on the predictors of congruence (J. Jaccard et al., 1998; Yang et al., 2006), others differ from past results, and many others have not previously been tested as predictors.

#### TABLE 3 HERE

In sum, a wide variety of teen-level, parent-level, and family-level factors are involved in predicting parents' knowledge of teenagers' sexual experience. Characteristics of adolescents that may have a perceived link to the likelihood of engaging in sexual activity, such as being older, in a relationship, and male, predict parents' likelihood of estimating that the teen has had sex. Parental attitudes and parent-teen communication also influence parents' reports of teens' sexual activity. This suggests that parents' objective estimation of their children's sexual experience is not solely based on firm knowledge, but rather is influenced both by their own attitudes and by a probabilistic assessment of the kinds of adolescents who are likely to have sex. It is also interesting that most of the correlates of incongruence that were identified in bivariate

analyses operate independently of other measures in multivariate analyses: The only variable not related to either over- or underestimation is parental employment.

### *Consequences of incongruence*

Our second research question asks how incongruence between teens' sexual activity and parental reports influences adolescents' subsequent sexual behaviors. Guided by our perspective that sexual activity can be conducted in healthier or riskier ways, we chose a series of sex-related adolescent outcomes, reported in Table 4. Each outcome is measured during the one-year interval between Waves I and II of the survey. Models include most of the variables from Table 2 as controls and split teens by their Wave I sexual experience. We consider splitting the models necessary because if the four categories of congruence and incongruence were included together in the same model, they would conflate the effects of teens' Wave I sexual experience and parental reports.

#### TABLE 4 HERE

We first analyze subsequent sexual intercourse, replicating Yang et al.'s (2006) analysis on a larger, nationally representative sample with a wider variety of covariates. Second, we analyze five measures of protective or risky sexual practices: consistent condom use, consistent contraception, sex while drinking alcohol, sex while using drugs, and sex outside an established romantic relationship. The first three of these five measures were not found to be related to incongruent reporting of sexual experience, so they are not presented in the table. Third, we analyze two problematic sexual health outcomes for teens: sexually transmitted infection (STI) diagnosis and (for girls only) pregnancy.

Table 4 shows that teenagers whose parents overestimated their sexual experience at Wave I were 3.8 times as likely as those whose parents had accurate knowledge to have sexual intercourse between waves ( $p < .01$ ).<sup>1</sup> In contrast, adolescents whose parents underestimated their sexual experience were 51% less likely than those whose parents were aware of their experience to have sex between waves ( $p < .01$ ). In past analyses of this relationship using nonrepresentative data, Yang et al. (2006) found a similar relationship between underestimation and subsequent sex, but they did not find a significant relationship for overestimation.

We also examined other outcomes beyond sexual intercourse. Underestimation decreased teens' probability of having sex while on drugs by 28% compared to experienced teens with congruent reports ( $p < .10$ ). Parental overestimation increased the likelihood of having sex outside of a romantic relationship by 77% compared to inexperienced teens with congruent reports ( $p < .10$ ). In terms of problematic sex-related health outcomes, parental underestimation of teens' sexual experience decreased their probability of being diagnosed with a sexually transmitted infection (STI) in the year following Wave I by 51% compared to sexually experienced teens with congruent reports ( $p < .01$ ). Finally, adolescent girls whose parents overestimated their sexual experience were 13.9 times as likely as inexperienced girls with congruent reports to get pregnant in this same time period ( $p < .01$ ).<sup>2</sup> Such large effects of

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<sup>1</sup> Odds and percentages here and below were calculated using odds ratios by exponentiating the logistic regression coefficients from Table 4 (in this case,  $\exp[1.337]=3.81$ ).

<sup>2</sup> Because there is no significant relationship between incongruence and contraception or condom use, these variables could logically not mediate the relationship between parental overestimation of teenage girls' sexual experience and their likelihood of getting pregnant. Supplemental

overestimation raise the possibility that this rare circumstance, teenage virgins whose parents think they have had sex, may be part of a constellation of problematic teen behaviors or troubled relationship dynamics between parent and adolescent.

Figure 1 synthesizes Table 4's findings about the relationship between incongruent reports of teens' sexual experience and their subsequent sexual behaviors. While some coefficients are not significant, the results for the five outcomes that were found to be significantly related to incongruence are consistent across outcomes. Figure 1 reveals a clear pattern: Parental overestimation of teens' sexual experience increases subsequent risk across several outcomes, while underestimation decreases risk. *These findings provide partial support for Hypothesis 1B*, which states that parental reports of teenagers' lack of sexual experience, whether accurate or inaccurate, will reduce risky sexual behaviors and outcomes. This support is partial because three sexual behaviors were not significantly associated with incongruence in parental and teen reports of sexual experience: consistent contraception, consistent condom use, and having sex while drinking alcohol. It is important to note that parents' reports in the survey cannot tell us whether they truly believe their teenagers are not sexually active, or whether they are simply taking a guess that is unrelated to their deeper convictions. Despite these limitations, the findings identify several strong relationships. The size of the associations between incongruence and the various sexual outcomes is frequently quite large, and parental overestimation of teenagers' sexual experience is usually much more detrimental to their sexual outcomes than underestimation is protective.

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models (not shown) confirm that these variables do not alter the relationship between incongruence and pregnancy.

FIGURE 1 HERE

## **Discussion**

Using nationally representative data from the Add Health survey, we find that the overwhelming majority of parents of teens who have not had vaginal intercourse accurately report their lack of experience. In contrast, more than half of parents whose children had intercourse inaccurately report that the adolescent has not had sex. A wide variety of adolescent-, parent-, and family-level factors are involved in predicting parents' knowledge of teenagers' sexual experience. Incongruence in parent-teen reports of adolescents' sexual experience has consequences for their sexual outcomes. Teenagers whose parents overestimate their sexual experience are subsequently more likely to have vaginal intercourse, have sex outside an established romantic relationship, and (for girls) have a pregnancy. Teenagers whose parents underestimate their sexual experience are subsequently less likely to have vaginal intercourse, have sex while using drugs, and have a sexually transmitted infection diagnosis. There is no significant relationship between incongruent reports of sexual experience and consistent contraception, consistent condom use, or having sex while drinking alcohol. These results provide partial support for Hypothesis 1B, which states that parents' awareness that their teenage children are sexually inexperienced reduces teens' subsequent sexual risk behaviors.

Overall, our findings suggest that to the extent that parents' reports of their teens' sexual experience reflect the expectations about sexual activity that they communicate to their children. These expectations have important effects on adolescents' behaviors and may frequently outweigh the potential benefits of advice and information that parents may convey if they are aware of teens' sexual activity. Therefore, improving parental knowledge of teens' sexual

activity may not be a panacea for improving adolescents' sexual outcomes. Results imply that decoupling parent-teen communication about sex from an assumption that the teen is sexually active and communicating high parental expectations of the teen staying safe from sexual risk may be promising routes for policy. The former goal might be achieved through early discussions about sex and contraception, prior to an age when it is likely that the teen may be sexually active. If parents combined concrete information with a clearly expressed expectation that the teen will stay safe from sexual risk, then the latter goal could be reached as well. Future research should examine whether this type of communication is effective for reducing sexual risk.

This study has other limitations that should be addressed in future research. For congruent pairs it would be useful to know when parents are guessing and when they have actual knowledge of the adolescent's sexual experience. The implications of congruence may be different for this latter group than what we found in this study. In particular, when teenagers have explicitly communicated to parents that they are sexually active, then parents may providing information and support that could reduce sexual risk. A qualitative study could address this question and articulate the processes through which parents' expectations and knowledge of teens' sexual experience are translated into influences on adolescents' sexual outcomes. Subsequent survey research could then assess these processes in a larger sample. Both mothers and fathers should be included in future research, since these processes may differ by parents' gender and may interact with the teen's gender. Finally, social desirability bias may influence parents' reports of teens' sexual activity. Community norms discouraging adolescent sex may disproportionately influence some parents to report less sexual experience on the part of the teen in order to prove themselves as "good parents," in which case it may be the norms

themselves and not parents' expectations that actually influence some adolescents' sexual behaviors in our study. Future studies should work to reduce this potential for bias.

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**Table 1. Variable Information**

Variable	Wave	Measurement	Source
<i>Teen-Level Independent Variables</i>			
Teen Age (years)	I	Continuous	What is your birthdate (month and year)?
Teen Gender (female)	I	Continuous	Respondent is male or female
Race/Ethnicity	I	Polytomous	Are you of Hispanic or Latino origin? If no, then what is your primary race?
Family Structure	I	Polytomous	Respondents asked to list household members and their relationship. Grouped by number and type of parent figures present, married and cohabiting collapsed together (Harris, 1999).
Teen in a Romantic Relationship	I	Dichotomous	In the last 18 months have you had a romantic relationship with anyone? Is your romantic relationship still going on?
Teen Grade Point Average	I	Polytomous	At the most recent grading period, what was your grade in English or language arts, mathematics, history or social studies, science? (A=4.0, B=3.0, C=2.0, D=1.0, F=0.0)
Teen Satisfaction with Parent Relationship	I	Continuous	Overall, are you satisfied with your relationship with your mother/father?
Teen Reports of Parental Control	I	Continuous	Do your parents let you make decisions about the time you must be home on weekend nights, the people you hang around with, what you wear, how much television you watch, what time you go to bed on week nights, what you eat?
Teen Reports of Parent Disapproval of Sex	I	Polytomous	How would parent feel about your having sex at this time in your life?
Church Attendance	I	Polytomous	In the past 12 months, how often did you attend religious services?
<i>Parent-Level Independent Variables</i>			
Parent Age	I	Continuous	How old are you?
Parent Employment	I	Polytomous	Do you work outside the home? Are you employed full time?
Parent Education (years)	I	Continuous	How far did you go in school? How far did your current spouse/partner go in school? If missing, student report: How far did your mother go in school? How far did your father go in school?
Parent Church Attendance	I	Polytomous	How often have you gone to religious services in the past year?
Parental Satisfaction with Teen Relationship	I	Continuous	Overall, you are satisfied with your relationship with respondent.
Parent Communication about Sex	I	Continuous	How much have you and [teen] talked about [his/her] having sexual intercourse and the negative things that would happen if [he got someone/she got] pregnant; the dangers of getting a sexually transmitted disease? How much have you talked to [teen] about birth control; about sex?
Parent Gave Contraception Advice	I	Continuous	You have recommended a specific method of birth control to [respondent].
Parent Disapproval of Sex	I	Polytomous	You disapprove of respondent having sexual intercourse at this time in [his/her] life.
<i>Dependent Variables</i>			
Had Sex between Waves I and II	II	Dichotomous	In what month and year did you most recently have sexual intercourse (insert penis into vagina)? (n=4,213)
Recently Had Sex while Drinking	II	Dichotomous	The most recent time you had sexual intercourse, had you been drinking? (n=217)
Recently Had Sex while Using Drugs	II	Dichotomous	The most recent time you had sexual intercourse, had you been using drugs? (n=346)
Sex outside a Relationship	II	Dichotomous	Not counting the people you have described as romantic relationships, since month of last interview, have you had a sexual relationship with anyone? (n=1,187)
STI Diagnosis between Waves I and II	II	Dichotomous	Since month of last interview, have you ever been told by a doctor or a nurse that you had chlamydia, syphilis, gonorrhea, HIV or AIDS, genital herpes, genital warts, trichomoniasis, or hepatitis B? If female, add bacterial vaginosis and non-gonococcal vaginitis. (n=237)
Pregnancy between Waves I and II	II	Dichotomous	(Girls only) Have you ever been pregnant? If so, what month and year? (n=141)

**Table 2. Weighted Descriptive Statistics and Means Comparisons**

	Range		Mean					
	Total Population		No sex at Wave 1		Sex at Wave I			
	N=10,407		No/No	Overest	Yes/Yes	Underest		
	100%	97.57%	2.43%	45.67%	54.33%			
<b>Teen-Level Independent Variables</b>								
<i>Age (years)</i>	11.42-21.17	16.14	15.50	**	16.58	16.78	**	16.14
<i>Gender (female)</i>		0.50	0.53	**	0.31	0.46		0.51
<i>Race/Ethnicity</i>								
Non-Hispanic White		0.68	0.71	*	0.62	0.70	*	0.64
Hispanic		0.12	0.12		0.16	0.11		0.11
Non-Hispanic Black		0.17	0.13	**	0.18	0.18		0.21
Non-Hispanic Asian		0.02	0.02		0.01	0.01	**	0.02
Other Race		0.02	0.02		0.04	0.01		0.02
<i>Family Structure</i>								
Two Biological Parents		0.47	0.52	**	0.26	0.35	**	0.54
Single Parent		0.31	0.29	**	0.62	0.33	**	0.25
Other Two Parent		0.21	0.18	**	0.23	0.27	*	0.17
Other Family		0.04	0.02	†	0.04	0.05	*	0.04
<i>In a Romantic Relationship</i>		0.49	0.38	**	0.52	0.58	**	0.51
<i>Grade Point Average</i>								
0 to 1.9		0.07	0.05		0.06	0.09	†	0.06
2 to 2.99		0.34	0.35	**	0.45	0.32		0.33
3 to 3.49		0.20	0.19	*	0.13	0.18	*	0.22
3.5 to 4		0.38	0.41		0.36	0.40		0.39
Missing		0.21	0.18	**	0.27	0.28	**	0.23
<i>Satisfaction with Parent Relationship</i>	1 to 5	4.35	4.23		4.2	4.19		4.16
<i>Reported Parental Control</i>	0 to 8	0.72	0.72	**	0.78	0.80	**	0.77
<i>Reported Parent Disapproval of Sex</i>								
Strongly Approve		0.01	0.01		0.02	0.01	**	0.00
Approve		0.03	0.01	**	0.01	0.06	**	0.02
Neither Disapprove nor Approve		0.22	0.09	**	0.18	0.40	**	0.19
Disapprove		0.28	0.28		0.26	0.29		0.28
Strongly Disapprove		0.41	0.55	**	0.34	0.19	*	0.47
Missing			0.05	**	0.19	0.06		0.03

<i>Church Attendance</i>								
None		0.30	0.28	**	0.34	0.37	**	0.25
< Once a month		0.21	0.17		0.21	0.25	**	0.20
≥ Once a Month, < Once a Week		0.19	0.19		0.15	0.18	+	0.20
Once a Week or More		0.28	0.34	**	0.25	0.19	**	0.32
Missing		0.02	0.01		0.05	0.02		0.01
<b>Parent-Level Independent Variables</b>								
<i>Parent Age</i>	20-89	41.22	41.11		40.51	40.61	**	41.94
<i>Parent Employment</i>								
Full time		0.59	0.61		0.51	0.57		0.60
Part time		0.13	0.13	*	0.09	0.13		0.13
Unemployed		0.27	0.24		0.37	0.28		0.26
Missing		0.02	0.02		0.03	0.02		0.01
<i>Parent Education (years)</i>	0 to 18	12.81	13.42	*	12.53	12.59	**	12.88
<i>Parent Church Attendance</i>								
None		0.24	0.22		0.23	0.29	**	0.22
< Once a Month		0.27	0.27	†	0.30	0.31	**	0.24
≥ Once a Month, < Once a Week		0.18	0.18	*	0.12	0.17		0.20
Once a Week or More		0.30	0.32		0.34	0.23	**	0.35
Missing		0.00	0.00		0.00	0.00		0.00
<i>Parental Satisfaction with Teen Relationship</i>								
	1 to 5	4.21	4.33		4.05	4.13		4.2
<i>Parent Communication About Sex</i>	1 to 4	3.13	2.95	***	3.31	3.4	**	3.04
<i>Parental Contraception Advice</i>	1 to 5	2.78	2.54	***	3.39	3.80	**	2.94
<i>Parent Disapproval of Sex</i>								
Strongly Approve		0.00	0.00		0.00	0.00		0.00
Approve		0.05	0.02	**	0.08	0.09	**	0.03
Neither Disapprove nor Approve		0.09	0.03	**	0.11	0.19	**	0.06
Disapprove		0.24	0.22	**	0.28	0.29	**	0.22
Strongly Disapprove		0.57	0.69	**	0.43	0.38	**	0.62
Missing		0.00	0.00	**	0.00	0.00	*	0.00
<b>Dependent Variables</b>								
<i>Had Sex between Waves I and II</i>		0.38	0.17	**	0.65	0.95	**	0.86
<i>Recently Had Sex while Drinking</i>		0.11	0.08	**	0.10	0.14	**	0.11
<i>Recently Had Sex while Using Drugs</i>		0.06	0.05	*	0.04	0.09	**	0.06
<i>Sex Outside a Relationship</i>		0.34	0.27	**	0.40	0.38		0.39
<i>STI Diagnosis</i>		0.05	0.04		0.04	0.07	**	0.04
<i>Pregnancy</i>		0.03	0.03	**	0.06	0.04	*	0.03

Source: National Longitudinal Study of Adolescent Health (1995-96). N=10,407.

Notes: + p<.10 \*p<.05 \*\*p<.01, design-based F-test, within-row comparisons.

Weighted means account for sample design effects (stratification and clustering).

**Table 3. Logistic Regression Analyses of Incongruence in Reports of Sexual Experience**

	Sexually Inexperienced Teens, Overestimation vs. Accurate Knowledge			Sexually Experienced Teens, Underestimation vs. Accurate Knowledge		
	Beta		SE	Beta		SE
<i>Teen Age (years)</i>	0.53	**	(0.07)	-0.42	**	(0.05)
<i>Teen Gender (female)</i>	-0.93	**	(0.24)	0.06		(0.13)
<i>Race/Ethnicity (white)</i>						
Non-Hispanic Black	0.3		(0.32)	0.32	*	(0.14)
Hispanic	0.04		(0.31)	0.28		(0.20)
Non-Hispanic Asian	-0.28		(0.60)	0.8	†	(0.48)
Other Race	0.54		(0.58)	0.08		(0.45)
<i>Parent Age (years)</i>	-0.03		(0.02)	0.02	*	(0.01)
<i>Family Structure (2 biological)</i>						
Other Two Parent	1.08	**	(0.29)	-0.69	**	(0.13)
Single Parent	1.37	**	(0.30)	-0.54	**	(0.14)
Other Family	0.9		(0.60)	-0.96	**	(0.31)
<i>Parent Employment (not working)</i>						
Full-time	0.04		(0.25)	0.03		(0.11)
Part-time	-0.38		(0.34)	0.26	†	(0.16)
Missing	0.55		(0.72)	-0.13		(0.99)
<i>Parent Education (years)</i>	-0.07		(0.05)	0.05	*	(0.03)
<i>Parent Church Attendance (≥ 1/week)</i>						
No Attendance	0.01		(0.31)	-0.33	*	(0.15)
< Once a Month	-0.01		(0.24)	-0.5	**	(0.14)
≥ 1/month, < 1/week	-0.52		(0.32)	-0.17		(0.17)
Missing	--		--	-0.28		(0.19)
<i>Teen in a romantic relationship</i>	1.25	**	(0.19)	-0.33	**	(0.10)
<i>Teen Grade Point Average (≥ 3.5)</i>						
0 to 1.9	0.24		(0.61)	-0.35		(0.27)
2 to 2.9	0.64	†	(0.37)	-0.24		(0.17)
3 to 3.49	-0.04		(0.44)	0		(0.19)
Missing	0.54		(0.44)	-0.3		(0.19)
<i>Parental Satisfaction with Teen Relationship</i>	-0.36	**	(0.12)	0.23	**	(0.06)
<i>Parental Control over Teen</i>	0.23	†	(0.13)	0.09		(0.12)
<i>Parent Disapproval of Sex (strongly approve)</i>						
Approve	0.7		(0.60)	-1.2	**	(0.35)
Neither Disapprove nor Approve	0.55		(0.51)	-0.92	**	(0.29)
Disapprove	0.09		(0.48)	-0.23		(0.24)
Strongly Disapprove	-0.62		(0.43)	0.24		(0.23)
Missing						
<i>Parental Contraception Advice</i>	0.19	*	(0.07)	-0.33	**	(0.04)
<i>Parent Communication about Sex</i>	0.45	**	(0.15)	-0.56	**	(0.09)
<i>Constant</i>	-11.42	**	(1.50)	8.21	**	(1.06)
	N=7256			N=3151		

Source: National Longitudinal Study of Adolescent Health (1995-96)

Notes: Reference categories and standard errors in parentheses.

+p<.10 \*p<.05 \*\*p<.01; two-tailed tests.

Analyses account for sample design effects (weighting, stratification, and clustering).

**Table 4. Logistic Regression Analyses of Teens' Sexual Behaviors between Waves**

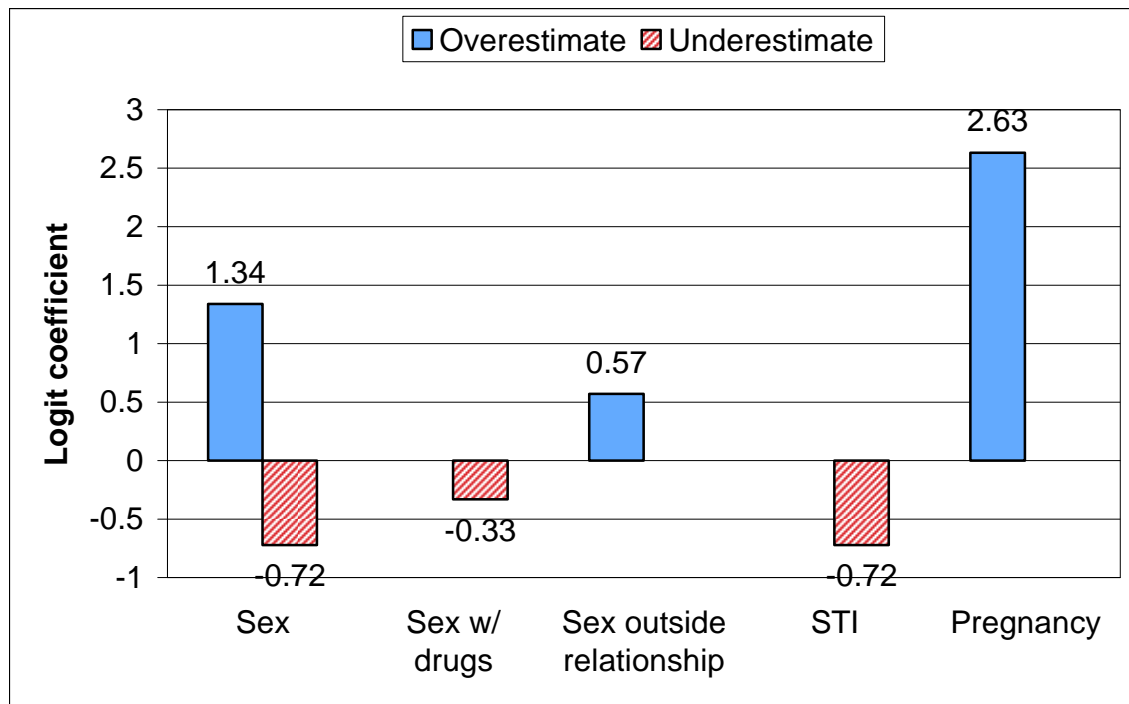
	Had Sex at Wave II		Recent Sex w/ Drugs		Sex Outside a Relationship		STI		Pregnancy											
	No Sex, W1	Sex, W1	No Sex, W1	Sex, W1	No Sex, W1	Sex, W1	No Sex, W1	Sex, W1	No Sex, W1	Sex, W1										
<i>Congruency</i>																				
Overestimation	1.337	**		-0.251		0.57	+	-0.921		2.63	**									
Underestimation			-0.717	**	-0.333	+	-0.04		-0.723	**	-0.33									
Teen Age (Years)	0.189	**	0.171	*	-0.192		-0.148	*	-0.124	*	0.237	-0.018	0.07	-0.08						
Teen Gender (Female)	0.087		0.695	**	-0.262		-0.744	**	-0.509	*	-0.43	**	0.805	+	1.193	**				
<i>Race/Ethnicity (White)</i>																				
Non-Hispanic Black	0.052		-0.462	*	-1.471		-0.099		0.553	*	0.516	**	0.822		0.346		-0.38	0.05		
Hispanic	-0.079		-0.351		0.242		0.613	*	-0.729	*	-0.077		0.766		-0.111		0.59	0.42		
Non-Hispanic Asian	-0.195		-0.215		1.486	+	-0.618		-0.931		-0.13		-0.054		1.111			1.26	+	
Other Race	-0.058		0.379		---		-1.702		0.316		-0.005		3.339	**	1.29	+	1.78	*	0.24	
<i>Family Structure (2 bio.)</i>																				
Other Two Parent	0.206	+	-0.176		-0.082		0.039		0.066		0.101		0.579		-0.199	+	0.06		0.52	
Single Parent	0.339	**	0.241		0.199		0.295		-0.485	*	0.004		-0.598		-0.382		1.24	*	-0.14	
Other Family	1.196	**	0.534		---		0.07		-0.662		0.188		-0.312		0.835		2	*	0.85	
<i>Parent Employment (None)</i>																				
Full time	0.314	**	0.262		0.2		0.383		0.049		0.29	*	-0.1		-0.071		-1.16	*	-0.12	
Part time	-0.113		-0.043		0.552		-0.014		-0.203		0.103		-0.319		-0.331		-4.43	**	-0.1	
Missing	0.139		0.352		---		-0.16		0.335		-0.057		-0.857		-0.332				-1	
Parent Education (Years)	-0.077	**	0.017		-0.002		0.119	*	-0.063		0.014		0.137		-0.095		-0.04		-0.12	
<i>Church Attendance (≥ 1/wk)</i>																				
No Attendance	0.455	**	0.235		0.27		0.632	+	0.102		0.369	*	0.673		0.02		0.63		-0.7	+
< Once a Month	0.285	*	0.467	+	0.123		0.507		0.401		0.254		0.401		-0.227		0.15		-0.06	
≥ 1/Month, < 1/Week	0.208		0.178		0.128		-0.149		0.106		-0.177		0.635		-0.575		0.33		-0.15	
Missing	-0.443		-0.031		---		0.821		-0.201		0.892	+	---		---		-1.19			
In a Romantic Relationship	0.945	**	0.344	*	-0.41		-0.199		-0.225		-0.175	+	-1.24	**	0.152		-0.94	*	0.18	

<i>Grade Point Average (<math>\geq 3.5</math>)</i>																		
0 to 1.9	0.541	*	0.483	-2.555	+	0.82	*	1.202	**	-0.041	-1.537	+	0.018	-0.49	0.16	+		
2 to 2.9	0.539	**	0.437	-0.535		0.259		0.667	**	0.06	-0.898		0.444	-0.69	0.65			
3 to 3.49	0.031		0.424	-0.066		-0.724		0.298		-0.162	-0.774		0.389	0.05	-0.13			
Missing	0.471	**	0.531	*	-0.152	0.414		0.503	+	0.088	-0.975		0.447	-0.04	0.41			
<i>Teen Satisfaction with Parent Relationship</i>	-0.25	**	0.182	+	-0.345	+	-0.269	**	-0.125	-0.032	-0.631	*	-0.056	-0.01	-0.22	+		
<i>Parental Control over Teen Parent Disapproval of Sex (Strongly Approve)</i>	0.366	+	0.428		0.507	0.426		0.387		-0.834	**	-1.537	+	0.018	0.06	2.39	**	
Approve	0.367	**	0.164		0.495	-0.519	+	0.007		-0.099	-0.264		-0.51	-0.14	0.08			
Neither	0.659	**	0.679	*	0.578	-0.254		0.213		-0.226	0.446		-0.002	-0.4	-0.16			
Disapprove	1.035	**	-0.126		1.239	0.55		-1.207		-0.059			-1.231	+	0.16	0.19		
Strongly disapprove	0.619		-0.838		2.684	*	-1.281		-0.898	0.358	1.453		0.709					
Missing	0.375		-0.679		1.835	*	0.245		0.793	+	-0.454		-3.59	*	0.955	*	0.68	0.65
<i>Communication about Sex</i>	0.223		0.186	+	0.303	0.074		0.065		-0.013	-0.411		0.169	-0.08	0.09			
<i>Constant</i>	-4.418	**	-3.15	*	-0.095	-1.992		2.033		2.202	*	-1.403		-1.61	-2.91	-1.31		
N	7,256		3,151		1,245	2,378		1,259		2,366		888		2,147	694	1,133		

Source: National Longitudinal Study of Adolescent Health (1995-96)

Notes: Coefficients, not odds ratios, are reported. Reference categories and standard errors in parentheses. + $p < .10$  \* $p < .05$  \*\* $p < .01$ ; two-tailed tests. Analyses account for sample design effects (weighting, stratification, and clustering). All models but the first are restricted to those who had sex between waves; the last is further restricted to females.

**Figure 1. Summary of Significant Incongruence Predictions of Sexual Behaviors**



Source: National Longitudinal Study of Adolescent Health (1995-96)

Notes: Logistic regression coefficients are drawn from Table 4; N varies.

Solid bars compare overestimation to accurate knowledge of no sexual experience at Wave I;

striped bars compare underestimation to accurate knowledge of sexual experience at Wave I.

Analyses account for sample design effects (weighting, stratification, and clustering).