The Correlates and Consequences of Incongruence in Parents' and Teens' Reports of Teens' Sexual Activity

Research evidence suggests that parents frequently have inaccurate knowledge of whether their children are sexually active, and the accuracy of their knowledge has consequences for future sexual activity (Yang et al. 2006).[1] In particular, parents are quite likely to underestimate their adolescent 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. Overestimation (teens reporting not having had sex while parents report that they have), on the other hand, is more rare and tends to be a "self-fulfilling prophecy" in which adolescents are more likely to start having sex than if their parents had accurate knowledge of their lack of experience. Past evidence on congruence and incongruence in parents' and teens' reports of sexual activity has several limitations: (1) It is based on relatively small, nonrepresentative samples, (2) the set of possible correlates used is quite limited, and (3) the consequences of incongruence for sexual behaviors beyond subsequent sexual intercourse has not been explored. Using data from the National Longitudinal Study of Adolescent Health (Add Health), our study addresses these shortcomings, providing a theoretical discussion and a more complete empirical picture of the correlates and consequences of incongruence.

Is accurate parental knowledge of teens' sexual experience beneficial or problematic in terms of subsequent sexual risk behaviors? Two alternative hypotheses seem plausible. *Hypothesis 1A:* Accurate parental knowledge of teens' sexual activity reduces sexual risk behaviors because it allows parents to provide information and support that is appropriate to the adolescent's situation. For example, if a teenager is having sex and the parent knows it, then the parent can give the teen proper contraception and advice to avoid risky sexual situations. *Hypothesis 1B:* Parental expectations of sexual inexperience reduce sexual risk behaviors because teenagers will be motivated to live up to these expectations by abstaining from future sex and risky sexual experiences. In other words, parental overestimation will be worse than knowledge of the teen's inexperience, while parental underestimation will be better than knowledge of the teen's experience. There are two possible social psychological mechanisms explaining why teenagers would be motivated to bring their behavior in line with what their parents believe it to be. The first is to resolve cognitive dissonance because behaving in ways that do not align with one's own expectations, which are likely to be influenced by parents' expectations, causes cognitive discomfort (Aronson 1967).[2] The second is to fulfill parental expectations of behavior. Past research on educational outcomes has shown that parental expectations can be more powerful than past behavior in determining young people's future behavior (Yee and Eccles 1988).[3] Adjudicating between these explanations is only useful if Hypothesis 1B is supported by our results.

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[1] Yang, H., B. Stanton, et al. (2006). "Parental awareness of adolescent risk involvement: Implications of overestimates and underestimates." *Journal of Adolescent Health* 39(3):353-361.

[2] Aronson, E. (1969). The theory of cognitive dissonance: A current perspective. In L. Berkowitz (Ed.). Advances in Experimental Social Psychology, Volume 4, pp1-34. New York: Academic Press.

[3] Yee, Doris K. and Jacquelynne S. Eccles. 1988. "Parent Perceptions And Attributions For Childrens Math Achievement." *Sex Roles* 19:317-333.

DATA

We use data from the National Longitudinal Study of Adolescent Health ("Add Health"), a nationally representative survey of students that began in the mid-1990s (Bearman, Jones and Udry 1997). Probability weights included with the data set allow researchers to represent accurately the national population of adolescents in grades 7-12. Response rates for the three waves ranged from 77% to 88%. We use data from the Wave 1 in-home interview and parent interview, conducted in 1995, and the Wave 2 in-home interview, completed a year later. The number of cases varies across outcomes; for descriptive information N=10,407.

Incongruence is measured by comparing teenage respondents' reports of having had heterosexual vaginal intercourse by Wave 1 with primary parents' (almost always mothers) answers to the question, "Do you think that (he/she) has ever had sexual intercourse?" Potential predictors of incongruence are displayed in the table (see below). We measure a number of subsequent sexual behaviors in the one-year period between Waves 1 and 2 to capture the consequences of incongruence: sexual intercourse between waves, risky and protective sexual practices (condom use, contraception, sex while drinking alcohol, sex while on illegal drugs, sex outside an established romantic relationship), and problematic sexual health outcomes (sexually transmitted infection diagnosis and, for girls only, pregnancy). Nearly all of the potential predictors of incongruence described in the table are included as covariates when predicting subsequent sexual behaviors. All of our analyses, whether univariate, bivariate, or multivariate logistic regression, account for probability weighting and complex survey design using Stata. Multivariate analyses split teenage respondents by their sexual experience at Wave 1, comparing parental overestimation to knowledge of inexperience and parental underestimation to knowledge of sexual experience.

FINDINGS AND IMPLICATIONS

Predictors of incongruence. All variables in the table below are associated with either parental overestimation or underestimation in bivariate analyses (not shown), and only parental employment loses significance in all of the multivariate models reported in the table. The table shows that a wide variety of teen-level and parent-level factors are involved in predicting parents' knowledge of teenagers' sexual experience. In short, the primary parent's own attitudes about teenage sex, parent-teen communication about sex and contraception, and characteristics of the adolescent that are probably perceived as increasing the likelihood of sexual activity all influence parents' knowledge about teens' sexual activity.

Consequences of incongruence. Three of the outcomes measuring risky and protective sexual practices, condom use, contraception, and sex while drinking alcohol, were not significantly associated with either parental overestimation or underestimation of the teenager's sexual experience. The other five outcomes, including sexual intercourse between waves, two risky sexual behaviors (sex while using illegal drugs and sex outside an established romantic relationship), and both problematic sexual health outcomes (STI diagnosis and pregnancy) were all predicted by one or both types of incongruence. These results are quite consistent, both internally and externally with past research that analyzed only subsequent sexual intercourse (Yang et al. 2006). The figure below reveals a clear pattern: Parental overestimation of teens' sexual activity increases risk across several outcomes, while underestimation decreases risk. Effect sizes are frequently quite large. The protective influence of underestimation is overshadowed by the detrimental influence of overestimation on teens' subsequent sexual behaviors. For example, in models including all control variables, teenagers whose sexual

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experience is underestimated by their parents are half as likely to be diagnosed with an STI as those who parents know of their past sexual activity, but teenagers whose lack of sexual experience is overestimated by their parents are almost 5 times as likely to become pregnant as those whose parents have accurate knowledge of their inexperience.

     Implications. The results provide support for Hypothesis 1B, which states that parental belief in their sexual inexperience will reduce teenagers' sexual risk behaviors. We do not have clear evidence to adjudicate between the cognitive dissonance and parental expectations explanations. Bivariate comparisons of depression levels by incongruence categories (not reported) provide suggestive evidence for the parental expectations explanation. Other supplementary analyses combining the accuracy of parents' guesses about the age at which the teens lost their virginity with the sexual knowledge quiz scores of teenagers who are sexually experienced and their parents know it, as well as analyses of their communication about sex with their parents, suggest that some people in this group have accurate two-way communication about sex. This communication may be beneficial for sexual outcomes, but numbers are too small for rigorous tests. Overall, our findings suggest that to the extent that parents' reports of their teens' sexual experience reflect the expectations about sex that they communicate to their children, these expectations have important effects on adolescents' behaviors and sometimes outweigh the potential benefits of accurate knowledge. In the longer version of this study, we explore these implications in depth.
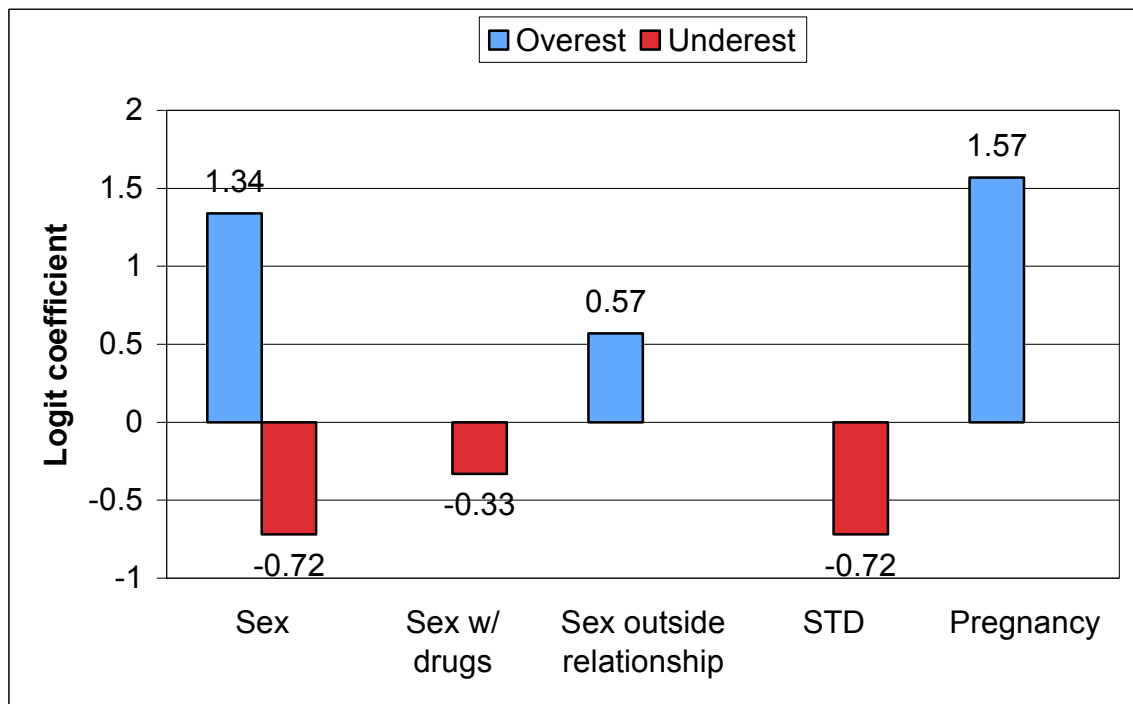
Logistic regression	Sexually inexperienced teens, predicting overestimation compared to accurate knowledge			Sexually experienced teens, predicting underestimation compared to accurate knowledge		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Teen Age (years)	0.649 **	0.613 **	0.567 **	-0.481 **	-0.486 **	-0.466 **
Teen Gender (female)	-0.944 **	-0.992 **	-0.96 **	0.028	0.05	0.078
Race						
Non-Hispanic Black	0.348	0.409	0.284	0.315 *	0.128	0.298 *
Hispanic	0.017	0.09	0.081	0.409 +	0.378 +	0.246
Non-Hispanic Asian	-0.833	-0.462	-0.266	1.251 **	1.202 *	0.924
Other race	0.438	0.534	0.495	0.113	0.135	0.161
Parent Age (years)	-0.037 +	-0.035	-0.024	0.041 **	0.038 **	0.023 *
Family Structure						
Other Two Parent	1.395 **	1.209 **	1.143 **	-0.907 **	-0.806 **	-0.712 **
Single Parent	1.641 **	1.55 **	1.438 **	-0.817 **	-0.709 **	-0.535 **
Other Family	1.635 **	1.02 +	0.952	-1.076 **	-1.096 **	-0.984 **
Parent Employment						
Full time	0.092	0.095	0.07	0.046	0.067	0.054
Part time	-0.332	-0.259	-0.336	0.103	0.123	0.236
Missing	0.563	0.621	0.499	-0.556	-0.653	-0.431
Parent Education (years)	-0.1 *	-0.093 +	-0.08	0.048 +	0.038	0.054 *
Parent Church Attendance						
No Attendance		0.144	0.105		-0.519 **	-0.434 **
Once a Month		0.109	0.071		-0.632	-0.569 **
< 1 a month, > 1 a Wk		-0.495	-0.427		-0.3 +	-0.21
Missing					0.12	-0.19
Teen in a romantic relationship		1.306 **	1.233 **		-0.372 **	-0.354 **
Teen Grade Point Average						
0 to 1.9		0.321	0.234		-0.488 +	-0.336
2 to 2.9		0.666 +	0.628 *		-0.317 +	-0.245
3 to 3.49		0.025	-0.028		-0.063	-0.044
Missing		0.606	0.52		-0.408 *	-0.294
Par. Satisf. w/ teen relationship		-0.336 **	-0.351 **		0.138 *	0.229 **
Parental control over teen		0.278 *	0.235 +		0.104	0.098
Parent Dissaproval of Sex			-0.251 **			0.261 **
Parent contraception advice			0.219 **			-0.358 **
Parent sex communication			0.382 **			-0.512 **
Constant	-11.813	-10.992 **	-11.351	6.039 ***		7.771 **
N	7,256	7,256	7,256	3,151	3,151	3,151

+ p<.10 * p<.05 ** p<.01