

Contraceptive Use Patterns across Teens' Sexual Relationships

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Child Trends

Background and Research Question

Although teen pregnancy and birth rates in the United States have been declining over the past decade, teenagers still have high rates of unintended pregnancy and STIs. Among sexually experienced teens, unintended pregnancies are the result of either contraceptive non-use or contraceptive failure. However, minimal national-level research has assessed factors associated with contraceptive consistency within sexual relationships. Understanding patterns of contraceptive use among teens will help policymakers to develop strategies for preventing unintended pregnancies and STIs.

Our project examines contraceptive use patterns across *all* sexual relationships teens report. Our primary goal is to enhance our understanding of the factors that influence teens' choices regarding contraceptive use or non-use so that teens can become more consistent contraceptive users. Our specific research questions are: 1) What are the patterns of partner and relationship characteristics, and contraceptive use and consistency, across teens' sexual relationships?, and 2) What characteristics of teens' current and previous sexual relationships and partners are associated with contraceptive use and consistency across teens' relationships? We answer these questions using a nationally representative, longitudinal sample of adolescents from the National Longitudinal Study of Adolescent Health (Add Health).

The unique contribution of our research is that we have sequentially ordered all of teens' sexual relationships, from first to most recent. This provides us with a wealth of information about previous relationships that we examine to see how they influence subsequent relationships.

We hypothesize that the following factors are associated with contraceptive use and consistency across all sexual relationships a teen has:

1. characteristics of current and previous sexual relationships
2. characteristics of current and previous sexual partners
3. individual and family background factors

More specifically, we hypothesize there is some continuity in contraceptive patterns at the individual level. Thus, we expect that contraceptive patterns established in a first sexual relationship influence patterns in subsequent relationships. In addition, we hypothesize more consistent contraceptive patterns among women who have used an effective female method in past relationships. We also hypothesize that certain factors have a greater effect on early contraceptive use patterns than later in the respondent's sexual history. For example, we hypothesize that sex education and family characteristics will lose significance with the number of relationships or duration of time that occurs between the first sexual relationship and the current sexual relationship.

Data and Sample

We are using data from Waves 1 and 2 of the Add Health study. The Add Health data offer a nationally representative sample of males and females in grades 7-12 in 1994-95 (wave 1). These teens were followed-up in 1996 (wave 2). The survey provides retrospective information on sexual partners and relationships, and includes measures of consistency of contraceptive use within relationships. This data source has the advantage of allowing us to measure contraceptive use at multiple time points both *within* a relationship and *across* relationships. For our analyses, we have identified 3,175 adolescents who had at least one sexual relationship and who reported relationship and partner characteristics for all sexual partners. These adolescents reported a total of 6,247 sexual relationships.

Measures

Dependent Variables. We have created two dependent variables for each relationship: 1) contraceptive use and 2) contraceptive consistency. The first measure compares teens who *ever* used contraception with those who never used contraception at any point during the relationship. The second measure compares teens who *always* used contraception within the relationship with those who only sometimes or never did.

Independent Variables. For each sexual relationship, we measure relationship and partner characteristics, including relationship type (comparing those in romantic relationships to those in “liked” and non-romantic relationships), relationship length, non-monogamous relationships, age difference from partner, partner race/ethnicity, partner education, contraceptive method choice, and dual method use. We also include measures of previous sexual relationship experiences, such as: number of previous sexual partners, percent of previous relationships in which they never (or always) used contraception, percent of previous relationships with a non-romantic partner, percent of previous relationships that were short-term (i.e., one-time sexual relationships), percent of previous relationships that were long-term, number of months of previous sexual experience, time since last relationship, and ever used a hormonal method in previous relationships.

Measures of individual characteristics include gender, race/ethnicity, age at first sex, cognitive ability, religious attendance, pregnancy/AIDS education, and virginity pledge signing. Family background indicators include family structure and parent education.

Methodology

Our analysis file consists of a separate observation for each sexual relationship that a teenager had. This relationship-level file allows us to examine multiple sexual relationships for adolescents who had more than one relationship (up to 9 partners).

In the first stage of analyses, we use bivariate analyses to describe patterns in relationship and partner characteristics, and contraceptive use and consistency, across relationships. Characteristics for comparison also include individual and family background factors. These

analyses will be based upon our sample of all sexually experienced teens (n=3,175 respondents with 6,247 relationships).

In the second stage of our project, we will conduct multivariate analyses. Using logistic models, we will examine the effects of the current and previous sexual relationships (partner characteristics, sexual activity, etc.) on contraceptive use and consistency in the current relationship, controlling for individual and family background. We plan to use GEE models to control for the fact that some teens contribute multiple relationships to our relationship file, while others contribute only one.

In addition, we expect that unobserved respondent-specific characteristics may be associated with a teen's choice of partner as well as with their contraceptive use patterns. Where our data and time allow, we will work with our statistical consultant, Stan Panis, to control for unobserved heterogeneity across sexual relationships, using aML (a statistics package that allows multi-level multi-process models). Because our model will include measures of previous relationships, we will limit our sample to those teens who had at least two sexual relationships. This will yield a sample size of 1,735 teens, with 4,807 relationships.

All analyses will be conducted separately for males and females, and will be weighted and adjusted for the survey design.

Preliminary Findings

To date, we have sequentially ordered all sexual relationships, created our relationship-level file, and completed some bivariate analyses.

Table 1 presents characteristics of relationships and respondents, for all relationships aggregated together and by number of relationships. Column 1 shows information for all 6,247 relationships. In 60% of all relationships, teens always used contraception; however, in almost one-quarter (23.3%) of sexual relationships, teens never used any contraception. On average, teen sexual relationships last almost 7 months, although more than twenty percent of teens' relationships were one-time sexual relationships. Eighteen percent of sexual relationships were described by teens as being non-romantic in nature, compared to 72% described as romantic. Teens used a hormonal method of contraception in over one-quarter of their relationships.

Forty-six percent of all relationships occurred to males, almost two-thirds to whites, 20% to blacks, 11% to Hispanics, 2% to Asians, and 3% to teens of other race/ethnicities. The average age at first sex was 15.1 years old. Across all relationships, the average teen had a cognitive ability score (as measured by a picture vocabulary test) of 100.4 (compared to a national average of 100) and attended religious services 1.8 times per week. Eighty-five percent had had pregnancy/AIDS education and almost 7% had taken a virginity pledge. Less than half (42.2%) of the teens lived with both biological or adoptive parents and 46.8% had at least one parent with more than a high school degree.

Looking across the columns in Table 1, we see differences in relationship and individual/family characteristics depending upon the number of relationship teens had. For

example, contraceptive consistency declines with a greater number of relationships. Sixty-two percent of teens who had only one sexual relationship always used contraception within that relationship, but, for teens who had at least five relationships, only 56% of them always used contraception in all of their relationships. Teens with more relationships were more likely to have reported having non-romantic relationships and less likely to have reported romantic relationships. Among all the relationships reported by those with at least five relationships, one-third were non-romantic, compared to only 10% of relationships occurring to those with only one partner.

In Table 2, we include teens who had two or more relationships and examine whether the characteristics of their first relationship differ from their most recent one. There is only a marginally significant improvement in consistent contraceptive use between the first and last sexual relationship. Fifty-eight percent of teens always used contraception in their first relationship and a slightly higher proportion (62%) were consistent users in their last relationship. Similar proportions reported never using contraception in their first and last relationships. Thus, we see little improvement in contraceptive behavior across relationships. The only significant difference between first and last relationships was relationship length. Last relationships are shorter, on average, than first relationships. But, this may be explained in part by the fact that some of the most recent relationships may have still been ongoing at the time of the data collection.

Tables 3 and 4 show information on contraceptive use and consistency across successive relationships. Looking across Table 3, we see an overall pattern of improvement in contraceptive consistency for teens who had three or more sexual relationships. As teens move from their first to subsequent relationships, they are more likely to always use contraception within those latter relationships. But, this may be due to the fact that the latter relationships tend to be shorter relationships and it is easier to be consistent contraceptive users in shorter relationships. In Table 4, there is no clear pattern of change across relationships in the proportion who never used contraception. It is concerning to note, however, that a substantial proportion (20-35%) of teens reported never using contraception in their sexual relationships.

Teens who eventually had a greater number of sexual relationships started off as worse contraceptive users in their first relationship. Looking down column 1 in Table 3, we see that 62% of teens who had only one sexual relationship always used contraception in their first relationship, compared to 50% of teens who went on to have 5 or more sexual relationships. Twenty-three percent of teens who had one relationship never used contraception in their first relationship, compared to 28% of those with 5 or more relationships (column 1, Table 4). Thus, teens who eventually have a greater number of sexual relationships display riskier behavior even during their first relationship.

Table 1. Characteristics of relationships, by number of relationships teens had.

	<i>All relationships</i>	<i>Teens w/ 1 relationship</i>	<i>Teens w/ 2 relationships</i>	<i>Teens w/ 3 relationships</i>	<i>Teens w/ 4 relationships</i>	<i>Teens w/ 5+ relationships</i>
Relationship Characteristics						
% always used contraception	59.8%	61.7%	60.1%	60.5%	58.4%	55.9%
% never used contraception	23.3%	23.0%	21.8%	21.0%	28.2%	24.9%
Average length of relationship	6.9	5.6	8.2	7.3	6.5	6.5
% 1-time relationships	21.5%	20.9%	17.5%	18.9%	28.5%	27.5%
% in non-romantic relationships	17.6%	10.3%	10.2%	16.3%	30.5%	33.6%
% in romantic relationships	71.5%	82.4%	80.9%	70.2%	55.8%	51.8%
% used hormonal method	25.6%	23.8%	28.2%	29.4%	22.0%	21.5%
Individual Characteristics						
Male	46.1%	48.1%	43.4%	47.4%	44.7%	48.4%
Race/ethnicity						
White	63.3%	63.1%	61.3%	57.6%	65.1%	74.4%
Black	20.4%	17.5%	21.1%	22.7%	23.4%	17.4%
Hispanic	10.9%	13.6%	12.2%	13.5%	6.8%	4.1%
Asian	2.0%	2.3%	1.7%	2.1%	1.8%	2.4%
Other race	3.3%	3.5%	3.8%	4.0%	2.9%	1.7%
Age at first sex	15.1	15.7	15.2	15.0	14.7	14.5
Cognitive ability (PVT score)	100.4	100.1	98.2	99.0	102.8	105.0
Religious attendance	1.8	2.0	1.8	1.8	1.7	1.5
Had pregnancy & AIDS education	85.7%	84.4%	86.5%	84.0%	90.2%	83.9%
Virginity pledge	6.6%	13.1%	6.6%	3.5%	2.7%	4.4%
Family Characteristics						
Two bio/adoptive parents	42.2%	48.0%	42.5%	44.1%	38.4%	33.1%
Parent had more than a high school degree	46.8%	47.4%	44.6%	45.9%	44.5%	54.2%
# of relationships	6247	1440	1930	1230	920	727
# of respondents	3175	1440	965	410	230	130

Table 2. Comparison of relationship characteristics in first and last relationships.

	<i>1st Relationship</i>	<i>Last Relationship</i>	<i>Sig.</i>
Relationship Characteristics			
% always used contraception	58.2%	61.8%	+
% never used contraception	23.5%	21.1%	
Average length of relationship	10.4	5.4	*
% 1-time relationships	21.0%	19.1%	
% in non-romantic relationships	15.9%	16.0%	
% in romantic relationships	74.1%	72.0%	
% used hormonal method	26.9%	27.1%	
# of respondents	1735	1735	
# of relationships	1735	1735	

Table 3. Percent who always used contraception, by order of relationship.

	<i>Sequential order of each relationship teen had</i>					<i>N</i>
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	
<i>Total # of sexual relationships teen had</i>						
1	61.7%	--	--	--	--	1440
2	61.1%	59.1%	--	--	--	965
3	57.9%	60.1%	63.4%	--	--	410
4	51.8%	54.2%	58.0%	68.7%	--	230
5 or more	50.0%	54.2%	54.1%	52.3%	64.7%	130

Table 4. Percent who never used contraception, by order of relationship.

	<i>Sequential order of each relationship teen had</i>					<i>N</i>
	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	
<i>Total # of sexual relationships teen had</i>						
1	23.0%	--	--	--	--	1440
2	21.3%	22.2%	--	--	--	965
3	24.0%	20.2%	18.8%	--	--	410
4	28.5%	30.2%	35.1%	19.7%	--	230
5 or more	27.8%	24.6%	21.0%	29.9%	21.0%	130