Explaining Trends In Contraceptive Use Among Teen Females, 1995-2002

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Child Trends

Background and Research Question

Rates of unintended pregnancy and STIs are high in the United States, and they are highest among teens and young adults. Among sexually experienced teens and young adults, unintended pregnancies are the result of either contraceptive non-use or contraceptive failure. Understanding factors associated with contraceptive use among teens will help policymakers to develop strategies for preventing unintended pregnancies and STIs.

In the past decade, analyses of high school aged teens suggest that contraceptive use at most recent sex has increased (Santelli et al., 2004). While there have been up-to-date trend estimates of sexual activity and contraceptive use among high school populations, the most recent nationally representative estimates for teens aged 15-19 are from the 1995 National Survey of Family Growth (NSFG). In October, we will have access to 2002 NSFG data for historical comparisons of adolescent sexual activity and contraceptive use. The goal of the proposed paper is to examine trends in contraceptive use among teen females. We will examine whether similar family, individual, relationship and partner characteristics are associated with contraceptive use at most recent sex and contraceptive consistency in the past 3 months, using both the 1995 and 2002 data files. We will also test whether the characteristics of sexually active teens have changed over time and examine whether trends in family background, individual characteristics, and relationship and partner characteristics of sexually active teens help to explain trends in their contraceptive experiences over historical time.

We hypothesize that family, individual, relationship and partner characteristics will be associated with contraceptive use during both time periods. Our research, along with that of other researchers, has found several relationship, partner, individual, and family characteristics associated with *better* contraceptive use, including an older age at first sex, being in a steady or romantic relationship, receiving formal sex education and having discussions with parents about how pregnancy occurs, living with two biological/adoptive parents, and higher parental education (Manlove, Ryan, & Franzetta, 2003; Manlove & Terry-Humen, Under Review; Manning, Longmore, & Giordano, 2000). Family religiosity has also been shown to be associated with delayed sexual activity, however, not with increased contraceptive use (Moore, Hair, Bridgers, & Garrett, Under review). Other factors associated with *lower* contraceptive use include having a recent non-voluntary sexual experience, a larger age difference between teens and their sexual partners, and having a more religious partner (Glei, 1999; Manlove & Terry-Humen, 2004; Manning et al., 2000).

There have been several demographic shifts in the population of adolescents that may contribute to recent and future trends in adolescent childbearing. Many of these changes have been in positive directions, but some of them are more negative. For example, parents and families have increased their educational attainment and socioeconomic status, and reduced poverty rates; however, adolescents are also more likely to grow up in single-parent families. In

the past decade, high school completion rates have increased, and religious attendance has also increased among teens. Teens are less likely to be sexually experienced, and they report fewer sexual partners; however, there is limited data available on whether teens' are choosing the same types of sexual partners (e.g., whether or not they are more likely to choose casual partners or much older partners). Some media attention has been focused on increases in more casual "hang-out" sexual encounters among teens. We hypothesize that changes in family environments, individual characteristics, and relationship and partner characteristics among teens will help explain trends in contraceptive use (see specific hypotheses below).

Data and Measures

We will use data from two nationally representative cohorts of sexually experienced and sexually active teen females from the 1995 and 2002 NSFG surveys in order to assess factors associated with contraceptive use at last sex. The NSFG data are nationally representative of U.S. women of childbearing ages (15-44). These data provide event histories with information on timing of sexual experiences, month-by-month reports of contraceptive method use, and partner characteristics linked with sexual activity.

Using NSFG data, we will analyze sexually active (had sexual intercourse in the past three months) respondents aged 14-19. Our primary dependent variable will measure the use of *any* contraceptive method at most recent sex. In addition, among teens reporting sole use of birth control pills or coitus-dependent methods, we will also measure contraceptive consistency in the past three months as a second dependent variable. Among pill users, those who missed two or more pills will be coded as inconsistent contraceptive users (17% in 1995), and among those using only coitus dependent methods, we will examine those who did not use a method every time they had sexual intercourse in the past three months (38% in 1995).

Based on analyses of 1995 NSFG data, we have a sample of 372 unmarried sexually active female teens who reported information on their most recent sexual relationship. This sample includes 150 teens aged 17 and younger and 222 teens aged 18-19. Among these sexually active teens, 118 reported that their most recent sexual relationship was their first sexual relationship and 251 reported that it was their second or later relationship. Based on preliminary sample information from NCHS on the 2002 data, we anticipate a similar sample size for female teens in 2002.

Family background indicators include family structure (living with two biological/adoptive parents versus some other parental situation), whether or not the teen is a daughter of a teenage mother, parent education, and discussions with parents on how pregnancy occurs.

Measures of individual characteristics include age, race/ethnicity, educational performance, age at first sex, number of months since first sexual intercourse, number of partners, and religious attendance. We also include the type of sex education received (birth control methods, STDs, safe sex, and abstinence).

Relationship characteristics include information on sexual activity patterns, frequency of sex, respondent's familiarity with partner (going steady, just friends, or just met when they first had sex), duration of the most recent relationship, length of time since last sexual relationship, and whether or not the teen ever had a nonvoluntary sexual experience. Partner characteristics include age difference between the teen and her most recent sexual partner, partner education, and partner's race/ethnicity.

Methodology

Bivariate analyses. We will assess trends over time in contraceptive use at last sex and consistency of contraceptive use in the past three months by comparing outcomes among sexually active teens in 1995 and 2002. Bivariate analyses will also compare how predictor variables, including family, individual, relationship and partner characteristics have changed over time among sexually active teens. These analyses will allow us to document the changing context of sexually active adolescents over time. In addition, for each data file, we will examine differences in predictor variables by whether or not teens used a contraceptive method at last sex, and whether or not they used contraception consistently in the past three months. For these analyses, we will incorporate chi-square and Generalized Linear Model analyses to test whether the characteristics differ by contraceptive use for categorical and continuous variables, respectively.

Multivariate analyses. Logistic regression models will assess factors associated with contraceptive use at last sex and contraceptive consistency in the past three months. For each data file, we will assess family, individual, relationship and partner characteristics associated with contraceptive use and consistency. We will compare whether similar factors are associated with contraceptive use and consistency among sexually active teens in both time periods.

We will use a framework from this study team's prior research (Manlove et al., 2000) to assess whether changes in the context of family, individual, relationship and partner characteristics are associated with changing contraceptive use and consistency. One way to interpret the results of multivariate logistic regression analyses is to provide predicted probabilities of contraceptive use and consistency, based on the 1995 and 2002 multivariate models. Predicted probabilities allow us to 1) assess the likelihood of contraceptive use at most recent sex and contraceptive consistency in the past three months for each cohort of teens and to 2) test whether changes in the characteristics and experiences of adolescents and their environments help explain trends in contraceptive use and consistency. Once we have generated predicted probabilities based on 1995 and 2002 models, we can estimate how changes in family, individual, relationship, and partner characteristics influenced contraceptive use and consistency. In this way, we can show how positive changes in the context of adolescence (for example, increases in maternal education and improvements in adolescent educational attainment) may have improved adolescent contraceptive use and consistency. However, we also anticipate that those positive changes may have been accompanied by negative changes (such as the increasing proportion of teens growing up in single-parent families). Overall, we plan to show how offsetting and complementary changes in multiple domains of teens' lives have contributed to trends in contraceptive use and consistency.

Hypotheses

We hypothesize that family background characteristics (including growing up in a single-parent family, lower socioeconomic status, and fewer parent-teen discussions about reproductive health) will be associated with reduced contraceptive use at most recent sex. In addition, we hypothesize that individual characteristics (including receipt of sex education, higher educational performance, and an older age at first sex) will be associated with greater contraceptive use. Finally, we hypothesize higher contraceptive use among teens who are going steady with their most recent partner, and lower contraceptive use among those who were younger at first sex and among those who have had a non-voluntary sexual experience.

We hypothesize that changes in family environments, individual characteristics, and relationship and partner characteristics among teens will help explain trends in contraceptive use. Specifically, we hypothesize that reductions in the proportion of adolescents who were born to a teen mother, increases in parental education, and increases in parent-teen discussions about reproductive health will be associated with improvements in contraceptive use. However, these trends will be counter-balanced by an increasing percentage of children growing up in a single-parent family.

Among individuals, we hypothesize that recent reductions in dropout rates, and improvements in educational performance will be associated with improved contraceptive use. In addition, while potential increases in religious attendance will be associated with reduced sexual experience, they may be negatively associated with contraceptive use.

Among relationships and partners, we hypothesize that potential declines in abuse and neglect, including potential declines in nonvoluntary sexual experiences, will be associated with improved contraceptive use. If, however, teens are more likely to have more casual partners (or "hang out" sexual partners), they may not show as dramatic a reduction in sexual experience and adolescent childbearing.

Increased access to sexuality education across time may be associated with improvements in contraceptive use. However, changes in the composition of sexuality education, including increases in abstinence education, may be associated with less dramatic improvements in contraceptive use.

Author's note:
We expect that the NSFG 2002 data will be available in October 2004, which will give us enough time to run the proposed analyses. In preparation for the NSFG 2002 arrival, we have been setting up variables using the 1995 NSFG and planning models so that work may move forward at a rapid pace once data are available.

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