



FEDERAL
RESERVE
BANK
of ATLANTA

**Does It Take Two? The Effect of Partners'
Characteristics on Teenage Pregnancy**

Madeline Zavodny

Working Paper 99-9a
September 2000

Working Paper Series

Does It Take Two? The Effect of Partners' Characteristics on Teenage Pregnancy

Madeline Zavodny

Federal Reserve Bank of Atlanta
Working Paper 99-9a
September 2000

Abstract: Although the determinants of whether a teenage woman has a nonmarital pregnancy and how such a pregnancy is resolved have been widely investigated, little is known about the joint influence of both partners' characteristics on nonmarital teenage pregnancy. This paper uses data from the 1995 National Survey of Family Growth to examine whether the characteristics of teenage women and their partners affect the likelihood of a nonmarital pregnancy and whether a pregnancy ends in abortion, marriage, or a nonmarital birth. The results indicate that several attributes of both men and women appear to play a role in nonmarital teenage pregnancy and its outcome. The estimated relationships between one partner's attributes and the probability of a nonmarital pregnancy and its resolution are generally little affected by whether the other partner's characteristics are also taken into account.

JEL classification: J12, J13

Key words: teenage pregnancy

The author thanks Jonah Gelbach and Weiyi Shi for helpful discussions and Negasi Beyene of the National Center for Health Statistics for assistance with the National Survey of Family Growth data. The views expressed here are the author's and not necessarily those of the Federal Reserve Bank of Atlanta or the Federal Reserve System. Any remaining errors are the author's responsibility.

Please address questions regarding content to Madeline Zavodny, Research Department, Federal Reserve Bank of Atlanta, 104 Marietta Street, N.W., Atlanta Georgia 30303-2713, 404-521-8977, 404-521-8058 (fax), madeline.zavodny@atl.frb.org.

The full text of Federal Reserve Bank of Atlanta working papers, including revised versions, is available on the Atlanta Fed's Web site at http://www.frbatlanta.org/publica/work_papers/index.html. To receive notification about new papers, please use the publications order form, or contact the Public Affairs Department, Federal Reserve Bank of Atlanta, 104 Marietta Street, N.W., Atlanta, Georgia 30303-2713, 404-521-8020.

Does It Take Two? The Effect of Partners' Characteristics on Teenage Pregnancy

Teenage pregnancy and childbearing have received widespread attention in recent years. Although the birth rate among women aged 15-19 fell during the period 1991-1998 after rising during 1986-1991, policy makers continue to express concern about teenage childbearing because of the potential negative effects for both the mothers and their children (Ventura, Mathews, and Curtin, 1999). Such concern has motivated research on the underlying determinants of teenage women's sexual activity, contraceptive use, and fertility. Studies have investigated, for example, the role of young women's family background, welfare generosity, and abortion provider availability on the likelihood of nonmarital teenage pregnancy and whether such pregnancies result in abortion, marital birth, or nonmarital birth (e.g., Cooksey, 1990; Lundberg and Plotnick, 1995).

Researchers have also examined men's role in nonmarital teenage pregnancy and its resolution. Using data from surveys of adolescent males, studies have explored the effects of young men's family background, education, and other characteristics on whether they became a father or had a partner become pregnant (Hanson, Morrison, and Ginsburg, 1989; Ku, Sonenstein, and Pleck, 1993; Robbins, Kaplan, and Martins, 1985; Thornberry, Smith, and Howard, 1997). However, adolescent males do not cause all teenage pregnancies, and little is known about older sexual partners of teenaged women (Darroch, Landry, and Oslak, 1999). In addition, some men may not know whether their partner becomes pregnant, particularly if the pregnancy is terminated. Such data limitations have prevented researchers from using data from surveys of men to examine the role of men's characteristics in whether a pregnancy ends in abortion instead of birth.

Previous research on the joint effect of both partners' backgrounds on the probability that a teenage woman has a nonmarital pregnancy and on how the pregnancy is resolved has been limited to examining age and educational differences. Age differences appear to influence pregnancy rates and whether a pregnancy ends in an abortion or a birth (Darroch, Landry, and Oslak, 1999). In addition, differences in partners' educational attainment appear to affect the likelihood that a nonmarital pregnancy leads to marriage (Testa et al., 1989). Age differences and both partners' educational attainment also appear to affect contraceptive usage, further suggesting the importance of examining the role of both women's and men's characteristics in nonmarital pregnancy (Forste and Morgan, 1998; Manning, Longmore, and Giordano, 2000). Studies have been limited in their ability to examine the role of other characteristics in nonmarital teen pregnancy because most surveys include questions about the background of spouses, and occasionally cohabiting partners, but not about other sexual partners.

The effect of both partners' characteristics on the likelihood of nonmarital teenage pregnancy and its resolution is of interest for several reasons. Except for the studies noted above, previous research has examined the role of only one partner's background in nonmarital teenage pregnancy. Little is known about the joint effect of both partners' characteristics on whether a teenage woman becomes pregnant and how the pregnancy is resolved. In addition, assessing the role of male partners in teenage pregnancy may help design policies intended to lower the number of teenage pregnancies or the number of nonmarital births.

This article examines the role of the characteristics of teenage women and their first sexual partner in nonmarital pregnancy and its resolution. Data from a nationally representative survey are used to first examine the determinants of whether a teenage woman becomes pregnant during her first sexual relationship. The effect of women's characteristics and those of

their first partner on whether such pregnancies result in abortion, marital birth, or nonmarital birth is then assessed.

Data and Methods

Data

The data are from the 1995 National Survey of Family Growth (NSFG), which asked women about their own characteristics and about the background of current and former nonmarital sexual partners. The NSFG surveyed 10,847 women aged 15-44 living in the U.S. on their background and fertility history. The survey included questions about women's pregnancy history, including whether each pregnancy ended in a live birth or an abortion.

The NSFG is unique in the number of question it asked women about their sexual partners. The survey asked about the background of women's first sexual partner, up to 20 new partners since January 1991, and current and former cohabitators and husbands. Women were asked about these partners' age, education, race, Hispanic ethnicity, religious denomination, and importance of religion. The survey also asked the month and year when sexual activity began and ended with each of these partners.

This analysis examines whether women's first voluntary sexual relationship resulted in a nonmarital teenage pregnancy and how the pregnancy was resolved. Only women's first sexual relationship is investigated because all women were asked questions about that relationship; the survey did not ask about other teenage sexual relationships unless a woman had married or cohabited with the partner or the woman was a teenager in the four years prior to the survey. Limiting the analysis to the first partner may still encompass a substantial proportion of nonmarital teenage pregnancies because many teenage pregnancies occur soon after first

intercourse. About one-fifth of all first nonmarital teenage pregnancies occur within one month of women's first intercourse, and one-half within the first six months (Zabin, Kantner, and Zelnik, 1979).

The sample used here is restricted to women who were not married and between the ages of 14 and 19 when they first had voluntary sex. This narrows the sample to 6,452 women. Because sexual behavior may have changed after abortion became legal nationwide in 1973, the sample is further restricted to women who first had sex in 1975 or later and turned age 14 after 1974 (3,968 women); women who turned age 14 before 1975 are not included because these women could have become pregnant before the beginning of the sample period. The sample is also limited to women who are at least 20 years old at the time of the interview (3,362 women). Females who are age 19 or younger at the time of the survey interview are not included here because some of these teens are still at risk of having a nonmarital teenage pregnancy with their first partner.

The NSFG includes questions about the background of sexual partners but not about the background of fathers. The survey asks only the age of the father at the time a woman became pregnant, and that question is asked only of women who had ever used birth control. I determine whether the first partner was responsible for a woman's pregnancy based on the reported date of conception and the dates of the woman's first and last sexual encounters with the first partner. If conception occurred during the interval when the couple was sexually active, I generally assume the first partner was the father. An observation is dropped from the sample if I can identify that the woman became pregnant during an interval when she had sex with another partner as well as with her first partner.¹ Women who became pregnant and report

¹ The dates of all sexual relationships may not be observed, so some women may have had multiple partners at the time they became pregnant. Women were not asked about partners with whom they had not had sex in the last five

that the father was more than two years older or younger than their first partner is estimated to have been at the time of conception are also dropped from the sample.² These restrictions reduce the sample to 3,203.

About 21 percent of women did not report at least one of the characteristics of their first voluntary sexual partner. Women who became pregnant were considerably more likely than women who did not become pregnant to report all of the characteristics of their first partner (84 percent versus 76 percent). Women who did not report their first partner's characteristics are kept in the sample because dropping these observations would result in an underestimate of the likelihood that a nonmarital teenage pregnancy occurs. As discussed below, missing characteristics of the partner are imputed based on the characteristics of the female.³ Dropping these observations had little effect on the results but increased the proportion of women in the sample who become pregnant and the proportion that have a marital birth.

The final sample includes 3,183 women who had complete records on their own background as well as their first partner's background; 20 women are dropped because they did not report their mother's educational attainment and work history. All races and ethnicities are combined into one sample, and race and ethnicity are controlled for in the empirical analysis.

About 17 percent of women in the sample became pregnant during their first teenage sexual relationship (Table 1). This fraction is lower than the proportion of all women who have a nonmarital teenage pregnancy because this analysis examines only women's first sexual

years, with the exception of their first former husband and their first partner, and the dates of such sexual relationships are unknown.

² Women are asked the age of their first partner at the time the couple first had sex. The man's approximate age at the time of conception is calculated as the age at first intercourse plus one-twelfth of the difference in months between conception and first intercourse.

³ Dichotomous variables that indicate whether a partner's characteristics are missing are not included because they are highly correlated with outcomes. For example, only women who did not become pregnant did not report the male partner's age, and all women who became pregnant and had a marital birth report all of the partner's characteristics.

relationship; another study finds that about 24 percent of white women and 48 percent of black women report having had a nonmarital teenage pregnancy (Lundberg and Plotnick, 1995).

Almost 10 percent of nonmarital teen pregnancies in the sample are reported to have ended in a fetal loss (miscarriage, stillbirth, or ectopic pregnancy). These observations are excluded from the analysis of whether a pregnancy ends in an abortion, a marital birth, or a nonmarital birth but are included in the analysis of whether a teenager becomes pregnant. The sample used to examine the determinants of how a nonmarital teenage pregnancy is resolved includes 573 women whose nonmarital teenage pregnancy led to either an abortion or a live birth.

Over one-fourth of pregnancies in the sample result in an abortion (Table 1). This number may be an undercount of the fraction of nonmarital teenage pregnancies that end in an abortion because women tend to underreport abortions in surveys (Jones and Forrest, 1992). In the 1995 NSFG, women reported about 64 percent of the number of abortions that the Alan Guttmacher Institute estimates occurred over 1976 to 1994 (Fu et al., 1998). However, the reporting rate is higher in the 1995 NSFG than in many other surveys because the 1995 NSFG included a self-administered survey on abortions and other sensitive topics and because respondents were paid \$20 for completing the survey (Fu et al., 1998).

The majority of nonmarital teen pregnancies result in a nonmarital birth. Over 7 percent of women in the sample have a nonmarital birth, and almost three-fourths of teens whose nonmarital pregnancy results in a birth are not married at the time of the birth (Table 1). About 27 percent of teens whose nonmarital pregnancy results in a birth marry before the birth, or almost 4 percent of the total sample.

Measures

The empirical analysis below examines whether the characteristics of teenage women and their partners are related to the probability that a nonmarital pregnancy occurs and how the pregnancy is resolved. Whether an unmarried teenaged woman becomes pregnant and how she resolves such a pregnancy is likely to depend on the costs and benefits to her of a pregnancy and possible outcomes. Similarly, if male partners affect the likelihood that a nonmarital teenage pregnancy occurs and its outcome, their economic resources and opportunities are expected to play a role. Variables that reflect the costs and benefits of a teenage nonmarital pregnancy and birth include both partners' age, race, ethnicity, and religious background, women's family background, and men's educational attainment. Measures of these factors are included in a model of whether a teenager becomes pregnant during her first sexual relationship and in a model of whether such a pregnancy results in an abortion, a marital birth, or a nonmarital birth.

Older individuals may be more likely to recognize the costs of a nonmarital teenage pregnancy, but they may also have greater resources for supporting a child and a spouse. One study of young women suggests that age does not significantly affect the likelihood of nonmarital pregnancy (Yamaguchi and Kandel, 1987). However, age differences between teenagers and their partners appear to affect pregnancy and abortion rates (Darroch, Landry, and Oslak, 1999). Previous research also indicates that the likelihood of a nonmarital birth instead of a marital birth, given a nonmarital pregnancy, decreases with age (Cooksey, 1990; Parnell, Swicegood, and Stevens, 1994).

The models estimated here include measures of women's age, their partner's age, and the difference between their ages. A linear variable that measures each partner's age at first

intercourse is included in the nonmarital teenage pregnancy model, and the pregnancy resolution model includes linear variables that measure each partner's age at conception. The male partner's age was imputed for 20 observations, or 0.6 percent of the sample.⁴

Dichotomous variables that indicate whether a woman is older or younger than her partner are also included, with same age as the omitted category. The majority of women are younger than their first sexual partner (Table 2).

Race and ethnicity may reflect the economic opportunities available to teenaged women. Vital statistics data indicate that pregnancy rates are lower among non-Hispanic white teens than among blacks or Hispanics, and the fraction of pregnancies that end in abortion is lower among Hispanic teens than among white or black teens (Ventura et al., 1995). Previous research indicates that, given a nonmarital pregnancy, black and Hispanic young women are more likely to have a nonmarital birth than are whites (Yamaguchi and Kandel, 1987; Cooksey, 1995). The empirical analysis below includes indicator variables for whether women are black, Hispanic, or other, with white non-Hispanics as the omitted group.

Men's race and ethnicity may also have an indirect influence on nonmarital teenage pregnancy and its outcome. Controlling for other characteristics, one study found that black teens appear more likely to have a partner become pregnant and to have a child than are other teenaged males (Ku et al., 1993). In addition, Hispanic and black teenage fathers are less likely to marry the mother of the child than are whites (Marsiglio, 1987). However, other previous findings indicate that race is not significantly associated with the likelihood that an adolescent male has a partner become pregnant (Robbins et al., 1985). In the sample used here, almost 90 percent of women are the same race and ethnicity as their first partner (Table 2), although a

⁴ Men's ages were imputed using linear prediction. The variables were the woman's age at first intercourse and a constant.

sizable minority of Hispanic women have a non-Hispanic partner. Part of the empirical analysis includes indicator variables for whether the male partner is black, Hispanic, another race and ethnicity, with white non-Hispanics as the omitted group.⁵ Indicator variables for both women's and men's race and ethnicity cannot be included in the same regression because of collinearity problems, so some of the analysis below includes a dichotomous variable that indicates whether a woman is a different race or ethnicity than her first sexual partner instead of variables that control for the man's race and ethnicity.

Women's religious affiliation and church attendance may play a role in nonmarital teenage pregnancy and its outcome, although previous findings are mixed (Cooksey, 1990; Plotnick, 1992; Lundberg and Plotnick, 1995). One study of teenaged males finds that being raised Catholic is positively associated with the probability that a nonmarital pregnancy results in marriage (Marsiglio, 1987). The NSFG includes the religious affiliation of women and their first partners, frequency of women's church attendance at age 14, and women's reports of the importance of religion to their first partner. The analysis here includes three indicator variables for the denomination in which a woman was raised (Catholic, Baptist, and other, with none as the omitted group) and two indicator variables of the frequency of young women's church attendance (very frequently and frequently, with infrequently as the omitted group). Two indicator variables for the male partner's religion (Catholic, Protestant, with other as the omitted group) and an indicator variable for whether the partner was very religious are also included.⁶

⁵ If the man's race and ethnicity were not reported (85 observations), they were imputed as the race and ethnicity of the woman.

⁶ If the partner's religious affiliation was not reported (581 observations), it was imputed as the woman's religion. Observations missing the importance of religion to the partner (362 observations) had religion imputed as very important if the woman attended church very frequently at age 14. These imputation procedures correctly predicted the partner's religious affiliation and importance of religion for over 60% of observations with known values.

The models also include variables that capture women's family background. The employment status and educational attainment of young women's mothers appear to affect the probability of a nonmarital pregnancy and its resolution (Cooksey, 1990; Plotnick, 1992; Parnell, Swicegood, and Stevens, 1994; Lundberg and Plotnick, 1995). Previous research also suggests that family structure affects the likelihood that a young woman has a nonmarital pregnancy and the pregnancy outcome (Cooksey, 1990; Plotnick, 1992; Lundberg and Plotnick, 1995). Indicator variables equal to one if a young woman's mother worked during most of her childhood and if she lived in an intact two-parent family until age 14 are included in the models. The majority of women in the sample grew up in an intact two-parent family and had a mother who worked during most of their childhood (Table 2). A linear variable that measures the educational attainment of a teen's mother is also included in the models.

The male partner's educational attainment is likely to influence the costs and benefits of a nonmarital pregnancy and birth. Previous research indicates that more educated teenage fathers are more likely than their less educated peers to marry the mother within 12 months of conception (Marsiglio, 1987). A linear variable that measures the male partner's educational attainment at the time the couple first has intercourse is included in the regressions below. Education was imputed for 120 observations, or less than 4 percent of the sample.⁷

Methods

A logistic model is used to examine the determinants of the likelihood that a teenaged woman becomes pregnant during her first nonmarital sexual relationship. Three separate regressions are estimated: women's characteristics only, men's characteristics only, and both

⁷ Education was imputed using linear prediction, where the variables were age at first intercourse, race, ethnicity, and a constant.

partners' characteristics. Separate regressions are estimated in order to determine whether the influence of one partner's characteristics on the likelihood of a nonmarital teenage pregnancy changes when controlling for the other partner's characteristics. Observations are weighted using the NSFG weights to make the sample representative of the U.S. female population. Odds ratios, which give the estimated change in the likelihood of a nonmarital teenage pregnancy for a one-unit change in an independent variable, are presented.

A multinomial logit model is used to investigate the role of both partners' characteristics in whether a nonmarital teenage pregnancy leads to an abortion, a marital birth, or a nonmarital birth. Multinomial logit models estimate the relationship between independent variables and the likelihood that one outcome occurs relative to the likelihood that another outcome occurs. In the regressions estimated here, marital births are the base category, so the models estimate the likelihoods that an abortion or a nonmarital birth occur relative to the likelihood that a marital birth occurs. Odds ratios that give the change in the relative likelihood of an outcome occurring for a one-unit change in the independent variables are presented, and observations are weighted using the NSFG weights.

Results

Pregnancy model

Several of both partners' characteristics appear to affect the likelihood that a teenage woman becomes pregnant during her first nonmarital sexual relationship. The likelihood of pregnancy falls with the woman's age at first intercourse, while the male partner's age does not appear to have a significant effect (Table 3). Model 3 indicates that women who are younger than their first partner are not significantly more likely to become pregnant than women who are the same age or older than their first partner.

There are sizeable racial and ethnic differences in the probability of a nonmarital teenage pregnancy. Models 1 and 3 report that black and Hispanic teens are about twice as likely as whites to become pregnant. Model 2 indicates that white men are at least one-half as likely to have their teenaged partner become pregnant as men in other racial or ethnic groups. When both partners' characteristics are included in the regression, whether the male partner is a different race or ethnicity than the teenaged woman does not significantly affect the likelihood of pregnancy.

The religious variables are generally not significantly associated with the likelihood of a nonmarital teenage pregnancy. Although women who report being raised with a religious affiliation appear slightly less likely to become pregnant than young women who were not raised in any religion, the results are not significant. The likelihood of pregnancy is slightly higher among women who attended church at least once a week at age 14 than among teens who attended church less frequently, but these results are also not significant. Controlling for both partners' characteristics, the likelihood of pregnancy is about 1.3 times higher among women who report their first partner was very religious than among other women.

The likelihood of pregnancy declines with the educational attainment of teenaged women's mother, and women who lived with both of their parents until at least age 14 are less likely to have become pregnant during their first sexual relationship than young women raised in other family structures. Men's educational attainment is negatively associated with the likelihood that a pregnancy occurs.

The results indicate that not controlling for one partner's characteristics generally does not significantly change the estimated effect of the other partner's characteristics on the likelihood of a nonmarital teenage pregnancy. The coefficients in Models 1 and 2 of Table 1

are similar to those in Model 3. This finding suggests that previous research that was unable to examine the joint effect of both partners' characteristics has not reached erroneous conclusions when only controlling for one partner's characteristics.

Pregnancy resolution model

Several of both partners' characteristics also appear to influence the outcome of a nonmarital teenage pregnancy. The likelihood that a nonmarital teenage pregnancy leads to an abortion instead of a marital birth decreases with both the woman's and the man's age, although only the result for the man's age is significant (Table 4). Neither partners' age has a significant effect on whether they marry, given a nonmarital pregnancy that lead to birth, although the results suggest that older women may be slightly more likely to marry. Model 3 indicates that the odds of a nonmarital birth are higher if the woman is older than the man.

Race and ethnicity also appear to play a large role in the resolution of nonmarital teenage pregnancies. Hispanic teens who become pregnant are considerably less likely than whites to have an abortion instead of a marital birth. Black teens who become pregnant while unmarried and give birth are about 7 to 8 times as likely as whites to not be married at the time of the birth. Model 2 indicates that the partners of black men are more likely to have either an abortion or a nonmarital birth than to have a marital birth, given a nonmarital teenage pregnancy. Hispanic men's partners are less likely than white men's partners to have an abortion, relative to the likelihood of a marital birth, and more likely to have a nonmarital birth. Racial and ethnic differences between partners do not have an independent effect on the outcome of a teenage pregnancy when controlling for the woman's race and ethnicity.

Religious beliefs appear to influence whether a nonmarital teenage pregnancy leads to an abortion but not influence whether a birth occurs outside of marriage. Women raised as Catholics are about 4 times more likely to have an abortion instead of a marital birth than are women raised without a religious affiliation. Having a Catholic male partner is also positively associated with the likelihood of an abortion, although the relationship is not significant at conventional levels. Teenaged women who attended church at least once a month but less than once a week at age 14 are less likely to have an abortion instead of a marital birth than women who attended church less frequently. Frequency of church attendance does not significantly affect whether a birth occurs outside of marriage.

The male partner's education appears to influence whether a pregnancy is aborted, with the likelihood of an abortion relative to a marital birth increasing with the man's education. The educational attainment of women's mothers also appears to influence the outcome of a nonmarital teenage pregnancy, with the mother's education positively associated with the likelihood of an abortion instead of a marital birth.

Looking across the three models reported in Table 4, the estimated coefficients of one partner's characteristics are generally little affected by controlling for the other partner's characteristics. This suggests that the partners' characteristics exert independent influence on how a nonmarital pregnancy is resolved.

Discussion

During the period 1979-1995, over one-sixth of teenaged women who had nonmarital sexual intercourse became pregnant during their first sexual relationship. The majority of these

pregnancies resulted in a nonmarital birth, with slightly over one-fourth ending in an abortion and about one-fifth leading to marriage before the birth.

The data set used here, the 1995 National Survey of Family Growth, provides more extensive coverage of the characteristics of nonmarital sexual partners than previous surveys. This allows for an examination of how both partners' characteristics as well as differences in attributes influence nonmarital teenage pregnancy and its resolution. The findings indicate that several of the characteristics of both teenaged women and their partners appear to influence the likelihood of pregnancy and whether a pregnancy results in an abortion, a marital birth, or a nonmarital birth. As suggested by previous research that examined age differences between adolescent women and their partners, the majority of women are younger than their first partner, and age differences appear to influence pregnancy outcomes. However, when other characteristics are controlled for, the likelihood of a pregnancy is not higher among women who are younger than their partner.

Some of the estimated relationships between partners' characteristics and the probability of a nonmarital teenage pregnancy and its outcome reported here differ from previous findings using other data sets. For example, the results indicate that teenaged women who are older at first intercourse are less likely to become pregnant than teens who are younger, but women's age does not significantly affect how a pregnancy is resolved. Previous research, in contrast, finds that age is not significantly associated with the likelihood of a nonmarital pregnancy but affects how a pregnancy is resolved. Family structure affects the likelihood of pregnancy, as in a previous study; however, family structure does not appear to significantly influence how a nonmarital teenage pregnancy is resolved, contrary to previous findings.

For the demographic characteristics examined here, the results indicate few differences between controlling for only one partner's attributes and both partners' attributes. This finding suggests that partner's characteristics have an independent influence on nonmarital teenage pregnancy and its resolution and that previous research that focused on one partner's characteristics has not reached erroneous conclusions.

The results here provide a starting point for examining both partners' role in pregnancy probabilities and outcomes. This study focuses on nonmarital pregnancies that occur during teenage women's first sexual relationship, but many women in their twenties also have nonmarital pregnancies. Indeed, both the number and the rate of nonmarital births was higher among women aged 20 to 24 than among women aged 15 to 19 during the early 1990s (Bachu, 1995). The effect of a man's attributes may change as a woman becomes older, and a man may play a larger role in a couple's decision making if the woman is not a teenager. Further research using data sets that include the characteristics of both partners is needed to fully understand the joint effects of women's and men's background on reproductive choices.

This study relies on data reported by women. Many women did not report all of the characteristics of their first partner, and the likelihood that a woman remembers the man's background appears to depend on whether she became pregnant and whether the pregnancy led to marriage. Self-reported data from both partners might give different results on the relationship between partners' characteristics and the likelihood of nonmarital pregnancy and its outcome.

Another limitation of the data that indicates the need for further research is the lack of policy variables available in the NSFG. The data set does not include women's place of residence during their adolescence, so the effects of the availability of contraceptive and

abortion providers cannot be examined. In addition, the influence of welfare benefits and other public policy variables as well as labor market conditions cannot be investigated using this data.

The findings suggest several potential roles for public policy. Teens who are older at first intercourse are less likely to have a nonmarital pregnancy, suggesting policies that persuade women to delay intercourse may lower nonmarital teenage pregnancy rates. Controlling for age, male partner's education is negatively associated with the likelihood of a nonmarital pregnancy, indicating that policies that encourage men to remain in school may also lower nonmarital teenage pregnancy rates.

References

- Bachu A (1995), Fertility of American women: June 1994, *Current Population Reports*, Series P-20, No. 482.
- Cooksey EC (1990), Factors in the resolution of adolescent premarital pregnancies, *Demography*, 27(2):207-218.
- Darroch JE, Landry DJ and Oslak S (1999), Age differences between sexual partners in the United States, *Family Planning Perspectives*, 31(4):160-167.
- Forste R and Morgan J (1998), How relationships of U.S. men affect contraceptive use and efforts to prevent sexually transmitted diseases, *Family Planning Perspectives*, 30(2):56-62.
- Fu H et al. (1998), Measuring the extent of abortion underreporting in the 1995 National Survey of Family Growth, *Family Planning Perspectives*, 30(3):128-133.
- Hanson SL, Morrison DR and Ginsburg AL (1989), The antecedents of teenage fatherhood, *Demography*, 26(4):579-596.
- Jones EF and Forrest JD (1992), Underreporting of abortion in surveys of U.S. women: 1976 to 1988, *Demography*, 29(1):113-126.
- Ku L, Sonenstein FL and Pleck JH (1993), Neighborhood, family, and work: influences on the premarital behaviors of adolescent males, *Social Forces*, 72(2):479-503.
- Lundberg S and Plotnick RD (1995), Adolescent premarital childbearing: do economic incentives matter? *Journal of Labor Economics*, 13(2):177-200.
- Manning WD, Longmore MA and Giordano PC (2000), The relationship context of contraceptive use at first intercourse, *Family Planning Perspectives*, 32(3): 104-110.
- Marsiglio W (1987), Adolescent fathers in the United States: their initial living arrangements, marital experience and educational outcomes." *Family Planning Perspectives*, 19(6):240-251.
- Parnell AM, Swicegood G and Stevens G (1994), Nonmarital pregnancies and marriage in the United States, *Social Forces*, 73(1):263-287.
- Plotnick RD (1992), The effects of attitudes on teenage premarital pregnancy and its resolution, *American Sociological Review*, 57(6):800-811.
- Robbins C, Kaplan HB and Martin SS (1985), Antecedents of pregnancy among unmarried adolescents, *Journal of Marriage and the Family*, 47:567-583.

Testa M et al. (1989), Employment and marriage among inner-city fathers, *Annals of the American Academy of Political and Social Science*, 501:79-91.

Thornberry TP, Smith CA and Howard GJ (1997), Risk factors for teenage fatherhood, *Journal of Marriage and the Family*, 59(3):505-522.

Ventura SJ et al. (1995), Trends in pregnancies and pregnancy rates: estimates for the United States, 1980-92, *Monthly Vital Statistics Report*, 43.

Ventura SJ, Mathews TS and Curtin SC (1999), Declines in teenage birth rates, 1991-98: update of national and state trends, *National Vital Statistics Reports*, 47(26):1-10.

Yamaguchi K and Kandel D (1987), Drug use and other determinants of premarital pregnancy and its outcome: a dynamic analysis of competing life events, *Journal of Marriage and the Family*, 49(2):257-270.

Zabin LS, Kantner JF and Zelnik M (1979), The risk of adolescent pregnancy in the first months of intercourse, *Family Planning Perspectives*, 11(4):215-222.

Table 1. Pregnancy, abortion and marital outcomes of sample of teenage women from 1995 National Survey of Family Growth

	Number	Percent of sample
Women in sample	3183	--
Nonmarital teenage pregnancies	634	17.1
Stillbirths and miscarriages	61	1.8
Pregnancies to be resolved by choice	573	15.3
Abortions	148	4.6
Live births	425	10.7
Marital birth	113	3.5
Nonmarital birth	312	7.2

Note: Number of women is unweighted; percentages are weighted.

Table 2. Percentage distributions and means (and standard deviations) of characteristics of teenage women and their first sexual partner, full sample and pregnancy sample

Characteristic	Full sample (N=3,183)	Pregnancy sample (N=573)
Woman's characteristics		
Age at first intercourse	16.5 (1.4)	na
Age at conception	na	16.9 (1.4)
Race and ethnicity (%)		
Black, non-Hispanic	13.9	23.5
Hispanic	9.6	19.1
Other race, non-Hispanic	2.8	2.8
Non-Hispanic white (omitted category)	73.6	54.6
Religious affiliation (%)		
Catholic	33.7	36.6
Baptist	24.2	30.8
Other denomination	33.5	23.3
None (omitted category)	8.5	9.3
Frequency of church attendance (%)		
Very frequent	16.3	17.3
Frequent	52.0	51.8
Infrequent or never (omitted category)	31.7	31.0
Mother worked (%)	66.3 (47.3)	63.5 (48.2)
Mother's education	12.0 (3.1)	11.1 (3.6)
Intact two-parent family (%)	62.5 (48.4)	54.0 (49.9)
Partner's characteristics		
Age at first intercourse	19.0 (3.3)	na
Age at conception	na	19.5 (4.1)
Race and ethnicity (%)		
Non-Hispanic black	14.9	23.3
Hispanic	9.3	20.4
Other race, non-Hispanic	2.9	3.9
Non-Hispanic white (omitted category)	72.8	52.4
Religious affiliation (%)		
Catholic	33.8	37.6
Protestant	46.6	44.8
Other or none (omitted category)	19.6	17.6
Importance of religion (%)		
Very important	46.5	50.6
Not very important (omitted category)	53.5	49.4
Education at first intercourse	11.5 (1.7)	11.0 (1.8)
Joint characteristics		
Different race or ethnicity (%)	10.0	10.6
Age difference (%)		
Woman is older than partner	5.4	2.6
Woman is younger than partner	77.0	88.2
Same age (omitted category)	17.5	9.2

Note: Observations are weighted using the sample weights; Ns are unweighted.

Table 3. Logistic regression results of determinants of probability of a nonmarital pregnancy among teenage women, odds ratios (N=3,183)

Variable	Model 1	Model 2	Model 3
Woman's characteristics			
Age at first intercourse	0.790**		0.812**
Black, non-Hispanic	2.096**		2.191**
Hispanic	2.616**		2.300**
Other race, non-Hispanic	1.293		1.358
Catholic	0.952		0.907
Baptist	0.951		0.956
Other denomination	0.662		0.667
Very frequent church attendance	1.176		1.117
Frequent church attendance	1.086		1.069
Mother worked	0.844		0.834
Mother's education	0.932**		0.941**
Intact two-parent family	0.768*		0.780*
Partner's characteristics			
Age at first intercourse		0.987	1.013
Non-Hispanic black		2.496**	
Hispanic		3.696**	
Other race, non-Hispanic		2.184*	
Catholic		0.984	1.089
Protestant		0.898	0.922
Very religious		1.191	1.308*
Education at first intercourse		0.832**	0.879**
Joint characteristics			
Different race or ethnicity			1.086
Woman is older than partner			1.528
Woman is younger than partner			1.095
Log likelihood	-1357.170	-1365.461	-1342.923

* p≤ .05; ** p≤ .01

Table 4. Multinomial logit regression results of determinants of whether nonmarital pregnancy outcome is abortion or nonmarital birth instead of marital birth, odds ratios (N=573)

Variable	Model 1		Model 2		Model 3	
	Abortion	Nonmarital birth	Abortion	Nonmarital birth	Abortion	Nonmarital birth
Woman's characteristics						
Age at first intercourse	0.815	0.971			0.825	0.902
Black, non-Hispanic	1.937	7.179**			2.048	8.567**
Hispanic	0.266**	0.827			0.232**	0.957
Other race, non-Hispanic	0.249	0.331			0.358	0.403
Catholic	4.577*	1.968			3.951*	2.175
Baptist	1.146	1.101			1.263	1.142
Other denomination	2.145	1.547			2.419	1.943
Very frequent church attendance	0.476	1.007			0.479	0.988
Frequent church attendance	0.440*	0.689			0.409**	0.632
Mother worked	0.768	0.754			0.760	0.770
Mother's education	1.144*	0.936			1.126*	0.932
Intact two-parent family	0.905	0.804			0.801	0.737
Partner's characteristics						
Age at first intercourse			0.856**	0.999	0.860**	1.036
Non-Hispanic black			2.234	12.051**		
Hispanic			0.277**	2.059*		
Other race, non-Hispanic			0.477	1.655		
Catholic			2.592	1.221	2.091	1.271
Protestant			0.837	0.899	0.945	1.292
Very religious			0.656	0.650	0.647	0.624
Education at first intercourse			1.345**	0.963	1.434**	1.005
Joint characteristics						
Different race or ethnicity					0.943	1.193
Woman is older than partner					0.039**	3.560**
Woman is younger than partner					0.795	0.383
Log likelihood	-528.006	-528.006	-525.874	-525.874	-492.302	-492.302

* p≤ .05; ** p≤ .01