7-1-2002

The Effects of Family Structure, Education, and Religion on Contraceptive Decisions by Women in Their Early Twenties

Brigid K. Howard
University of Nebraska at Omaha

The Effects of Family Structure, Education, and Religion on Contraceptive Decisions by Women in Their Early Twenties.

A Thesis Presented to the
Department of Sociology
and the
Faculty of the Graduate College
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Sociology
University of Nebraska at Omaha

by

Brigid K. Howard
July 2002

THESIS ACCEPTANCE

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts in Sociology, University of Nebraska at Omaha.

Committee

Name	Department
Mary Ann Leonard	Sociology + Anthropology
David E. Cook	HPER

Chairperson Mary Ann Powell Sociology and Anthropology

Date July 16, 2002

The Effects of Family Structure, Education, and Religion on Contraceptive Decisions by Women in Their Early Twenties.

Briqid K. Howard, MA
University of Nebraska at Omaha, 2002
Advisor: Dr. Mary Ann Powell

Using the 1995 National Survey of Family Growth, this study investigates the effects of family structure, education, and religion on contraceptive use by never-married women aged 20-24 years.

Included in the sample are sexually active women aged 20-24 who had never been married and were not cohabitating, who were not intending to become pregnant or were not pregnant, postpartum, or infertile for reasons other than for contraception at the time of the interview.

Results indicate that Hispanic origin is related to use of less effective methods of contraception by sexually active women. Conversely, family structure influences contraceptive decisions in that women raised by both parents from birth to age 14 are likely to use more effective methods of contraception. Additionally, any family structure that is unchanging has this effect

implying it is the stability of the structure rather than of whom it consists that created the effect.

Current religious denomination also influences contraceptive decisions in that Mormons are less likely to use effective methods of contraceptives. However, this effect is based on a small number of Mormons in the sample whose behavior is markedly different from the mean of the sample.

Education variables, including the education of the mother and the respondent, appear to have little effect on the contraceptive decisions of this selective sample.

Other factors, it is apparent, affect contraceptive decisions by the women in my sample than were indicated by the previous literature. It is possible that this is due to other studies' concentration on adolescent behavior. It is also possible that the selection criteria, by design, produced a very homogeneous sample with regard to the variables included in the analysis.

Future research should focus on determining social correlates to contraceptive use by women of this age group, as many of those expected to be important were not in this analysis, so that the predictors of use of effective contraceptive use might be determined.

ACKNOWLEDGEMENTS

I would like to thank Dr. Mary Ann Powell, my advisor, whose knowledge of statistical methods was immeasurably important to the completion of this project. Thanks to Dr. Mary Ann Lamanna for helping me to discern my topical area and for serving on my committee. Thanks, as well, to Dr. David Corbin, School of Health, Physical Education, and Recreation for serving on my committee.

Sincere gratitude is due to all of the Sociologists, both professional and amateur, who have contributed in many ways to this project. Thank you to the Department of Social Sciences at Wayne State College (1993-1996), students, faculty, and staff of the Department of Sociology/Anthropology at UNO (1997-2002), and to the many authors and casual observers who have contributed to and challenged my thought processes in this discipline.

Thank you to my friends, especially the ones who let me talk endlessly about the specifics of this project even if they had no idea what any of it meant or why it mattered.

Finally, thank you to my family, especially Mom for her example and Norine for her support.

TABLE OF CONTENTS

INTRODUCTION

As a possible outcome of sexual activity, pregnancy has the potential to drastically alter the course of a woman's life. Becoming pregnant and having children can and very often is considered a valuable option, but it can also be very costly, especially if it was not planned or intended. For this reason, the prevention of pregnancy is an important issue for women.

Three quarters of American women spend at least fifteen years during a lifetime at risk for unintended pregnancy (Williams, 1991) and more than half of all pregnancies in the United States are unintended (Murphy et al, 1995). Although it seems likely that some of these women experienced failure with their contraceptive method of choice, many of these women chose to use a less effective method or did not use a contraceptive method despite the fact that they did not intend to become pregnant.

By investigating which social factors are associated with the use of effective contraceptives, it will be easier to determine who is at risk of unintended pregnancy. Much research has focused on the contraceptive decisions of teenage women (Cooksey, 1990;

Cooksey et al, 1996; Durant and Pendergrast, 1990; Manlove et al, 2000; Mosher and McNally, 1991). Although teen pregnancy is a social issue worth investigating, it is women in their twenties who are most often sexually active, and nearly half of these women have never been married (Collins and Coltrane, 1995). Furthermore, the age group with the highest rate of unintended pregnancy is women aged 20-24 (Henshaw, 1998). Also, women aged 20-24 are more likely to be sporadic users of contraceptives and less likely to be uninterrupted effective users of contraceptives than women aged 25-35 and their patterns of use are not much different from adolescent women (Glei, 1999).

Therefore, unmarried women in their early twenties are a population whose contraceptive decisions are also worthy of investigation, yet, despite the importance of this issue, this age group is often overlooked by researchers and policymakers (Glei, 1999).

Very little information on the contraceptive patterns of the population of women aged 20-24 exists. For this reason, many of the studies included in the literature review describe contraceptive patterns of

adolescent women rather than women just a few years older.

THEORETICAL GUIDANCE

Kristin Luker outlined different theoretical frameworks from which women base their contraceptive decisions (1990). These decisions, according to Luker, are based on the relative presence or absence of two things: rationality and information. This creates distinct decision making processes and also creates the foundation for distinct theories.

The first of these theories is Contraceptive Ignorance Theory. As the name implies, information regarding contraceptives is not available to these women, although it is assumed they are rational in their decision making. The second, Decision Making Theory, presumes that women have both information regarding contraceptives as well as rationality to make decisions. The third combination, the absence of both information and rationality, does not have an existing theory or example. The final theoretical framework is called Intrapsychic Conflict Theory. This theory presumes that

women have information regarding contraception but do not make rational decisions based on this information.

Both Contraceptive Ignorance and Intrapsychic theories are problematic because of contradictions in application and value-laden assumptions. The former, although applicable prior to and during the early part of the 20th century and perhaps applicable to specific facets of the population today, is basically refuted by clinic populations who appear to be knowlegable of contraceptive methods.

The Intrapsychic Theory, according to Luker, is problematic because of questions regarding the intent of women and lack of a definition of key terms, for example, "wanted" when referring to a pregnancy. This theory also "qualifies women who fail to protect themselves as different from any other behaviors without regard to consequences"(pg.28).

Luker explains that the Decision Making Theory, then, is the foundation from which to investigate contraceptive decisions due to problems inherent in the other theories' assumptions (pg. 33):

> Because it is assumed either that the individual is not aware of contraceptive information that exists within the system, or that she is unwilling to use that information for idiosyncratic reasons, her unwanted pregnancy is viewed primarily as an individual and psychological problem rather than as a structural and social problem.

Contraceptive decisions, then, can be investigated within the context of risk-taking behavior without overly value-laden assumptions, similar to cigarette smoking or nonuse of seat belts, both of which are known to be risky to the individuals who continue to make these decisions. For the purposes of this study, both information and rationality will be assumed of the population under investigation.

LITERATURE REVIEW

Family Structure

One characteristic that I investigate in this research study is family structure. Specifically, this entails the living arrangement of the individuals through the childhood and teen years. Previous

research, cited below, shows that the contraceptive decisions of a young woman appear to be influenced by her family background, that is the living arrangement. Living arrangements that included both parents and their daughter appear to increase her chances of using contraception and, therefore, decrease her chances of a premarital pregnancy (Bumpass and McLanahan, 1989; Cooksey, 1990; Mosher and McNally, 1991).

Lawrence Wu and Brian Martinson developed three hypotheses as to why women who had grown up in a nonintact family were significantly more likely to have a premarital birth. These include:(1) childhood socialization theory whereby women in single parent families are socialized into behavior patterns that put them at risk for a premarital birth; (2) social control hypothesis, which states it is more difficult for a single parent to supervise the activities of adolescent children; (3) instability and change hypothesis whereby stress in the living situation elicits a response from the individual, a premarital birth, as an attempt to create stability. The second of these two theories is not applicable to my analysis, as I intend to investigate women beyond their teen years and,

presumably, not under the supervision of parents.

Childhood socialization, however, could be a reasonable explanation. Exposure to single motherhood, for example, may lead a young woman to believe said status is more acceptable than her counterparts from intact families would believe. "Living with a single mother may have an especially strong influence on the child's acquisition of social norms, values, and sense of self," (Wu and Martinsen, 1993, pg. 211).

Instability and change, as well, could be an explanation for the eventuality of a premarital birth. The authors note, as well, that the effects of stressors like these could be short or long term, perhaps reaching beyond a woman's teen years.

Wu and Martinson (1993) designed a study to test these theories regarding the association of family structure and the risk of premarital birth. Their study included a dynamic measure of family structure, allowing for measurement of timing and number of changes in living situation throughout a respondent's childhood and adolescence. Separate analyses for White, Hispanic, and Black women determined that the risk for premarital birth was increased when a woman from any of these

groups had been exposed to a non-intact family at age 14. The authors tested different categories of non-intact families, such as mother only and stepparent, and found no significant difference in their effects on the risk of premarital birth, indicating that the risk is increased by living in any non-intact family situation.

When testing the effects of number of changes on the risk of premarital birth, Wu and Martinsen found that an increase in the number of changes was positively correlated with the risk for White, Black, and Hispanic women. The possible difference in short and long term effects of these changes was also investigated. For White and Hispanic women, long term effects were highly significant with the risk for premarital birth increasing after two years suggesting that family instability during adolescence could affect contraceptive risk-taking beyond the teen years. The results were opposite for Black women in this model, with risk being more significant at short durations than long.

Other studies have investigated the effects of family structure on contraceptive decisions. Bumpass and McLanahan (1989), for example, using the 1982

National Survey of Family Growth found the risk of premarital birth to be significantly reduced for women who had lived in an intact family environment, with an especially strong effect for White women.

Another study using the 1988 National Survey of Family Growth found women living with both parents at age 14 to be more likely to use a birth control method at first intercourse than those not living with both parents (Mosher and McNally, 1991). In a separate analysis by these authors, the absence of one or both parents was found to negatively affect contraceptive use for both Whites and Blacks after controlling for the time period during which first intercourse occurred, Hispanic origin, religious denomination, and parental education. The authors noted that this effect was especially important for Black women.

Cooksey (1990) investigated the factors associated with choices in the resolution of premarital pregnancy by adolescent women. Residence in female-headed, non-intact family structures at age 14 was found to increase the incidence of out-of-wedlock childbearing, as opposed to abortion or marriage prior to the birth, for White women. This is consistent with childhood socialization

theory presented by Wu and Martinson cited above, that exposure to a single parent family may make this choice seem more legitimate or acceptable to the young woman. Cooksey's study investigated women who had become pregnant, which makes them qualifiably different from the population I have chosen to investigate. However, it seems possible that the same mechanisms affecting decisions regarding pregnancy resolution may also affect contraceptive decisions.

Education

Another characteristic I will investigate is education. The occurrence of an unintended pregnancy certainly has the ability to drastically alter a young woman's educational plans and achievement due to a change in resources. It is less certain whether educational plans have an impact on the contraceptive decisions made by women. For example, if a woman wishes to complete a college degree, she may take measures to avoid pregnancy until this goal has been realized. Furthermore, the more educated a woman's parents, the higher their expectations (Thornton and Camburn, 1987) and, probably, her aspirations for education. For this

reason, parental educational achievement probably has an effect on a woman's educational goals and, quite possibly, her contraceptive decisions.

Thornton and Camburn (1987) investigated the attitudes of adolescents and their mothers regarding premarital sexuality. They measured the correlation between certain demographic variables and more permissive attitudes regarding sexuality, as well as the correlation between these characteristics and actual behaviors of the adolescents. With regard to mothers' education, they found that the more educated mothers were more permissive in their attitudes regarding premarital sexual activity and that their children were more likely to perceive their mothers' attitudes to be more permissive. However, the measured behavior of these adolescents is worth mentioning: children of highly educated mothers were less experienced sexually. The same factor associated with a more permissive attitude toward premarital sexuality also predicts less sexual experience on the part of the adolescent.

Another study investigated the factors associated with the differential timing of initiation of sexual activity as well as contraceptive use upon this debut

(Cooksey, Rindfuss, Guilkey, 1996). The authors hypothesized, in agreement with the study by Thornton and Camburn (1987) mentioned above, that adolescent children of more educated mothers would be more likely to delay sexual intercourse and also to be more effective and consistent users of contraceptives. The results of this study were consistent with the hypothesis. In addition, their model investigated changes over time and found that daughters of better-educated women tended to use more effective means of contraception, such as birth control pills, in the later time period under investigation.

Many other studies have investigated the effect of parental education on contraceptive use and fertility of young women. In a previously cited study by Cooksey (1990), for example, pregnancy resolution was investigated. Cooksey stated that daughters of highly educated parents are less likely to become pregnant through the high school years. Furthermore, Cooksey found that an increased likelihood of abortion as a means of pregnancy resolution was correlated with more educated parents probably because of the connection between parental education and the educational

aspirations of young women which would be threatened by early family formation. Another previously cited study found the risk of a premarital birth to be reduced by parental education, in this case the completion of high school by both parents (Bumpass and McLanahan, 1989).

In a study designed to investigate relative changes in correlates to adolescent fertility, maternal education was found to be a predictor of decreased adolescent fertility across three separate time periods (Manlove et al, 2000). Mosher and McNally (1991) investigated effects of social and demographic factors on contraceptive use and method choice. They found that maternal education influenced contraceptive decisions. Much of the variance by mother's education, according to the authors, was between the lowest of the categories of education, effectively differentiating between high school graduates and non-graduates. Having a mother with twelve or more years of education increased the likelihood of any contraceptive use and this effect was especially strong for White women.

Religion

Religious affiliation has long been believed to

affect attitudes and behavior with regard to contraception. Prohibition of any means of artificial contraception continues for members of the Catholic church, although evidence suggests the attitudes of many Catholic women contradicts this prohibition (Gallup and Castelli, 1987, D'Antonio et al, 1999)). Other religious denominations have moral regulations on sexual and contraceptive behavior for their members. It is likely, as well, that the degree to which a person is affiliated with any denomination will determine the leverage these institutions may have in affecting decisions made by the individuals.

Goldscheider and Mosher (1991) maintained that a trend in secularization of decisions regarding family has occurred in recent decades. However, the authors note that despite a convergence with different denominations in attitudes regarding contraception and family, for example desired family size, there are still differences by denomination. The authors found that, although the percent of women using any form of contraception did not differ significantly as a function of religious denomination, the contraceptive methods of choice were different. Furthermore, these methods of

choice changed depending on the time period investigated.

Looking at data obtained from the National Survey of Family Growth, Goldscheider and Mosher (1991) found distinctive contraceptive patterns for women who were Catholic, Protestant, Jewish, and those not affiliated with a religious organization. Although these groups have similar proportions of contraceptive use, specific methods were preferred by specific denominations. For example, Jewish women were more than three times as likely to use a diaphragm than were Catholics or Protestants. Other general trends were that Protestants were more likely to rely on female sterilization and Catholics on oral contraceptives. These patterns remain even after controlling for education, age, and marital status. However, in a separate analysis by ethnicity, patterned differences were found within the denominational categories as a function of ethnicity. The authors suggested that both religion and ethnicity be taken into consideration when analyzing influences on contraceptive decisions.

These authors also investigated religiosity for possible effects on contraceptive behavior. Regular

church attendance, defined in this particular study as at least once a month, was related to higher rates of abstinence, even after controlling for age, marital status, and education. Furthermore, Catholics who attended services more regularly were less likely to use a contraceptive method and the methods used, interestingly, were often male centered, for example male sterilization and condom. Another measure of religiosity, religious schooling, was included in this analysis. Exposure to Catholic school was not a predictor of different contraceptive patterns when compared with those receiving secular education. The effect of Protestant religious education was primarily on sexual activity, with those exposed to Protestant religious education more likely to abstain from sexual activity.

Thornton and Camburn (1987) investigated how religion and religiosity influenced an adolescent's attitudes and behavior regarding sexuality. Specifically, the authors questioned the power of parental religious involvement in shaping the attitudes and behavior of their adolescent children. They found church attendance to be a strong predictor of attitudes

regarding adolescent sexuality. More frequent church attendance was associated with more restrictive attitudes regarding adolescent sexuality by mothers, heightened perception of these attitudes by their children, and more restrictive attitudes by the adolescents themselves. The influence of church attendance on adolescent attitudes remained after controlling for mothers' attitudes indicating that the power of influence lies not only with the parents, but also with the religious institution. To illustrate, Catholic mothers were believed by their children to have stricter attitudes regarding sexuality; in fact, the mothers' attitudes were believed to be stricter than they were actually measured to be. Interestingly, although church attendance results in less permissive attitudes, it has much less an influence on behaviors reported by the adolescents.

Mosher and McNally (1991) investigated the social and demographic variables associated with contraceptive use at first intercourse and found that these decisions were affected by religious affiliation, among other factors. Specifically, Fundamentalist Protestants were less likely to use any method (39%) when compared with

other Protestants (55.3%) and Catholics (54.4%). Furthermore, Jewish women were much more likely to use any method of contraception at first intercourse (68%) than any of the other denominations.

The contraceptive behavior of adolescent Hispanic women was investigated by Durant and Pendergrast (1990) to determine the factors associated with this group's observed limited use. The authors investigated many demographic variables that were linked to these women's contraceptive decisions. In short, better contraception was practiced by those with more frequent church attendance, more education, urban residence, higher family income, and those who were not Black; less effective contraception was associated with current school enrollment, stable family environment, sex education and parental communication. In light of previous research, some of these outcomes were surprising. For example, church attendance was linked to more effective contraceptive use when the authors had predicted it to be correlated with ineffective contraception. This effect remained even after adjusting for coital frequency.

Surprisingly, stable family environment, which in

previous research has been linked to more effective contraception, was a predictor of less effective contraceptive behavior by Hispanic adolescents. The authors suggest that cognitive dissonance theory might explain these results. These young women may have received stronger reinforcement of the prohibitive sexual values in the Hispanic community and, because their behavior was inconsistent with the family or community values, they opted not to use contraception because that would entail a premeditated dimension to their behavior. This is akin to Luker's Intrapsychic Theory (cited above) and implies a lack of rationality on the part of the adolescent.

The authors noted that previous sexual and contraceptive behavior were better predictors of current behavior than were demographic variables, such as race, family income and education. They suggested that before a young woman practices effective contraception, she must realize she is at risk for pregnancy. For this reason, increased coital frequency, length of time dating, and a previous pregnancy scare were all associated with higher levels of contraceptive use.

Postmenarchial age was found to be positively

correlated with effective contraception, indicating that a level of physical and sexual maturity must be reached in order for a young woman to not only perceive her risk of pregnancy but to accept her role as a sexually active adult and, therefore, practice contraception. With regard to my study, women in their twenties would presumably be more mature, be at a higher postmenarchial age, and have had more time dating so the cognitive dissonance theory is probably less applicable.

Respondents in a study designed to track changes in adolescent fertility from 1980-1995 as a function of the social milieu were divided into three age cohorts (Manlove et al, 2000). Regular church attendance was found to decrease the chance of a teenage birth in all three cohorts. No evidence was presented to suggest whether this is due to increased contraceptive behavior or decreased sexual activity.

Research Questions and Hypotheses

I am interested in learning if family structure has an effect on contraceptive decisions by women aged 20-24 years. I am especially interested to determine if there is an effect of having both parents present from birth

to age 14, or if no change in family structure creates the effect. I am further interested in learning if mother's education has an effect on the contraceptive decisions of her daughter and if there is a point at which this levels off (i.e. if there is a difference between levels of educational credential). Also, I am interested in the effect of the respondent's education and level of credential on her contraceptive decisions. Finally, I am interested in learning if religious denomination and frequency of church attendance influence contraceptive decisions and if this effect is salient for both childhood religion and current religion.

In accordance with previous research, it is hypothesized that family structure, defined in this study as whether or not both parents were present in the respondent's childhood household from birth to age 14, will affect these decisions. Specifically, women who grew up in family structures including both parents, natural or adoptive, from birth until age 14 will be likely to use more reliable contraception. Furthermore, I expect that women raised in unchanging family structures, regardless of whom the structure consisted,

will be users of more effective contraception than will women who experienced a change.

Parental education, for the purposes of this study, will be defined as mother's education. Because prior research suggests that mother's education is often a predictor of effective contraception (with very little mention of paternal education as a factor), I hypothesize that higher maternal education will be associated with use of more effective contraception by the respondent.

The educational achievement of the respondent will also be positively related to use of effective contraception.

Religious denomination will also influence contraceptive use. Different denominations will have distinct patterns of use. Fundamentalist Protestant groups will be less likely to use effective contraception than will the other denominations. This influence will be apparent both for religious denomination at age 14 and for current denomination.

Religiosity, defined in this study as frequency of church attendance, will influence contraceptive decisions: more frequent attendance at religious

services will correspond to lower levels of contraceptive use.

METHODS

Because previous research has suggested the importance of family structure, parental education, and religion on the sexual and contraceptive behavior of young women, this study investigates the influences of these factors on contraceptive decisions made by never-married women in their early twenties.

Description of the Data

Data for this study were obtained from the 1995 National Survey of Family Growth (NSFG) which is a nationally representative sample that is widely used for reports on fertility, family formation, contraception, and related topics and is conducted by the Research Triangle Institute under contract with the US Department of Health and Human Services.

Possible participants were selected from a list of households that had responded in a previous study, the National Health Interview Survey. A total of 13,795 women were selected to participate and were sent a

brochure describing the survey and interview process; a total of 10,847 completed the interview, representing a response rate of about 79%. In order to be considered eligible, a woman needed to be aged 15-44 years on April 1, 1995 and be a member of the civilian, non-institutionalized population (Mosher, 1998).

Personal interviews, averaging 103 minutes in duration, were conducted between January and October of 1995. Computer Aided Personal Interview software was also used, and was employed when collecting sensitive data, such as that regarding nonvoluntary sex and abortion. In order to insure the quality, interviewers were extensively trained and consistency checks were programmed in to the interview so that errors might be determined during the interview while they could be corrected.

Case Selection

My sample includes respondents from the 1995 NSFG who were selected based on age, marital status, and sexual activity, and additionally excludes any other women who were not in a position to make a decision regarding contraception

The first criterion for case selection was respondent's age. Only women aged 20-24 years on April 1, 1995 were included in my sample. A total of 1,518 cases met this criterion.

Marital status was used to eliminate from the sample women who were currently married, separated, divorced, and widowed. I also eliminated from the sample women who were living with a partner. The reason for this is that women who are in committed, permanent relationships and are cohabitating can be presumed to have a support network similar to married women, such as a partner to co-parent, if a pregnancy were to occur. Thus the social impact, and perhaps the personal impact, of an unintended pregnancy for an unmarried woman who is not cohabitating would be different than that of a woman with a partner. Women with partners may exhibit contraceptive behavior that is unlike that of unmarried women. It is possible that some women who cohabit with a partner may not consider it a permanent commitment, but as it was not possible to determine these sorts of attitudes, it is assumed that a woman living with a partner is in a permanent relationship.

Out of the remaining 927 cases, additional cases

were eliminated due to sexual inactivity; while 195 of these were classified as having no voluntary sex since first menses, 103 cases had no sex in the previous three months.

It is important to note that some of these women may have been choosing to abstain from sexual activity as a contraceptive decision. However, the data did not include a way to measure the reason for a respondent's abstinence. Women who abstained from sexual activity, for whatever reason, were not in a position to make a decision regarding contraceptive methods and so were eliminated from the sample.

In addition, women who intended to become pregnant at the time of the interview (2 cases), who were pregnant (26 cases), postpartum (6 cases), or women who were sterile for reasons other than contraception (8 cases) were excluded because these women would have no reason to be using contraception.

After eliminating women who did not fall into the age cohort, had been married or were cohabitating, and those not in a position to make a decision regarding contraceptive methods, 588 cases remained. Missing data for all variables were minimal including 2 responses for

childhood religion, 2 responses for current religion, 6 responses for mother's education, and a response in the dependent variable of "other method" that I qualified as missing because I was not able to discern what method this might be or its effectiveness rate. Listwise deletion of these cases with missing data for key variables in the regression equation made the final sample n=577.

The NSFG was over sampled for Black and Hispanic women. Additionally, the data were adjusted in order to minimize bias due to non-response and further adjusted to reflect US Census Bureau data regarding marital status and parity by age cohort. In order to make my results representative in proportion to the population and therefore generalizable, the final sample has been weighted using a variable provided by the NSFG administrators and included in the data set.

Dependent Variable

My primary interest in this database was with discerning patterns of contraceptive use. A variable in the NSFG describes the respondent's current contraceptive status and which method of contraception,

if any, was being used during the month of the interview. This measure categorizes a respondent as a user of a given method, with no internal measure as to the consistency of use. However, using rates of effectiveness for typical users (explained in detail below) helps to eliminate bias due to this sort of snapshot measure of use.

Respondents were allowed to select up to four methods, but the most effective method (as determined by the study designers based on widely accepted rates of effectiveness) was included first. A respondent could select from more than a dozen methods, as well as having the option to select that she was not using a method, if she was not sexually active, if she or her partner was sterile (and reason for sterility), if she was pregnant, post-partum, or seeking pregnancy. Those who were non-contraceptively sterile, seeking pregnancy, pregnant, postpartum, or not sexually active were eliminated from the sample in the case selection process as mentioned above.

The various methods of birth control were scaled by typical use effectiveness rates. Typical use implies that use of the method is not always consistent or

correct, as opposed to perfect use. These rates were obtained from Planned Parenthood, a well-known and reputed national source (Knowles, 1998).

The rates of effectiveness for specific methods are estimates of the number of women who successfully contracept out of 100 first time users (Trussell, 1998). The list provided by Planned Parenthood appeared to be exhaustive, including nearly two dozen specific methods. For ease of categorization and interpretation, as well as because NSFG did not differentiate between some of them, I have combined methods with very similar effectiveness rates (less than 1% different). For example, Norplant and Depo-Provera each have failure rates of less than .3% and so were combined into one category. I combined male and female sterilization into one category, all types of IUDs together, different types of oral contraceptives together, diaphragm and female condom together, different methods that use fertility prediction and periodic abstinence together, and, comprising the final category are jelly, cream, foam, and other spermicides. The categories I have created and their corresponding effectiveness rates, based on literature mentioned above, can be found in the

Appendix, Table 1.

Contraceptive methods such as the cervical cap were options for the respondents, however there were no respondents that indicated use of that method.

Although I wanted to include rates of effectiveness for multiple methods used simultaneously (as in some instances the effectiveness rate increases, for example when condoms and foam are used in conjunction), I was not able to obtain the information in order to categorize and scale combined methods. For this reason, only the most effective of the methods selected by the respondent (as coded by the interviewer) is included. It is possible, as well, that women who are not married and are using multiple methods, such as the pill in conjunction with condoms, may be making an effort to minimize risk of sexually transmitted infections in addition to pregnancy prevention. It is beyond the scope of this study to determine individual intentions of each respondent with regards to factors like STI protection. It is presumed that if a respondent did not claim to be actively seeking pregnancy, she did not intend to become pregnant; and if she was using a contraceptive method, it was to achieve the end of

pregnancy prevention.

Independent Variables

The literature suggests race and ethnicity to be highly correlated with contraceptive use patterns. Therefore, a set of dummy variables to measure race: White, Black, Asian, Native American, is included with White race as the contrast category in the analysis. I also include a dummy variable to determine whether or not the respondent is of Hispanic origin.

Family structure was operationalized using a variable in the NSFG that captured which parent(s) lived with the respondent from birth until age 14. Because of the indication in the literature that exposure to any living situation other than both parents will have an effect, this study differentiates between those who lived with both natural or adoptive parents until age 14 and those who lived in any other situation.

There are two distinct variables under investigation with regard to education. One of these is the completed years of education by the respondent. This variable will be measured by completed years of schooling by the respondent at the time of the

interview. It is important to note that not all respondents will have completed all of their education at the time of the interview. Additionally, mother's education will be measured in years of school completed by the respondent's mother.

Differences between levels of educational credential are also under investigation, as credential is suggested in the literature to be of importance. I created dummy variables to differentiate between those with less than a high school diploma (coded 0) and all those achieving at least a high school diploma (coded 1).

Religious denomination in the NSFG includes more than a dozen specific categories. For the purposes of this study, some of those denominations have been grouped together. The following categories were used: Fundamentalist Protestant including Baptist; Other Protestant including Lutheran, Methodist, Episcopal, Presbyterian, and Protestant denominations not otherwise specified; Catholic; None; Jewish; Mormon; and Other including Christian Science. All of these categories are compared to Fundamentalist Protestants, the contrast group, in the regression analysis. I include in the

analysis a measure of denomination at age 14 as well as a current measure.

Church attendance is measured by the estimated number of times attended in one year. Interval level variables were created to correspond with the number of times the respondent would have attended religious services in one year: more than once a week (100), once a week (52), once to three times a month (24), less than once a month (10), and never (0). Again, I include a measure at age 14 as well as a current measure.

RESULTS

Analytic Strategy

In order to explain the relationship of the family background, education, and religion to the rate of effectiveness of contraceptive method of choice, I first describe sample means and standard deviations, followed by a discussion of correlation matrices, and finally I perform an ordinary least squares regression analysis. With the final sample size of just over 500, the level of significance was set at 5% ($p<.05$) for both one and two tailed tests.

Descriptive Results

Descriptive results, including means and standard deviations for variables entered into the regression equation are listed in Table 2 (Appendix, page 54).

The mean rate of effectiveness for contraceptive methods used by never married women aged 20-24 years is 84.94% meaning that the average woman in the sample does use contraceptives. This mean rate of effectiveness corresponds to methods like male condoms and withdrawal.

With regard to race, about 68% of the sample is White, 25% Black, 5.4% Asian, and 1.2% Native American. About 6.4% of the sample is Hispanic. Due to my selection criteria for my sample, these estimates may not reflect the divisions by race for all women aged 20-24 years in the US. For example there may be differences in rates of marriage by race, and determining this is beyond the scope of this study.

The mean for frequency of church attendance in a year during childhood is 38.1 while the mean for attendance per year currently is 17.97, indicating respondents currently attending religious services less than half as often in a year as they did as children.

The divisions by childhood religious denomination are as follows: Fundamentalist Protestant/Baptist 28.2%, no religion 10.4%, Protestant 25.6%, Catholic 30.8%, Jewish 1.6%, Mormon .4%, and other 2.9%. For current religious denomination, the divisions are the same and the proportions are as follows: Fundamentalist Protestant/Baptist 26.1%, no religion 20.9%, Protestant 21.9%, Catholic 26.1%, Jewish 1.4%, Mormon .7%, and other 2.7%. The number of respondents citing no religion currently is double that of those who were raised in no religion. Each of the three largest denominations (Fundamentalist, Protestant, and Catholic) lost adherents, as illustrated in the slight decline in each of the proportions from childhood to current.

The mean for mother's education is 12.77 years. The education of the women themselves is a bit higher with a mean of 13.54 years, with a standard deviation of less than two years indicating a relatively homogenous sample, educationally speaking. There presumably are many in this group who have not yet completed their education.

The mean for family structure indicates that just over half (53.9%) of the women lived with both parents

from birth until age 14, a fairly even split between categories of this variable.

Table 3 (Appendix, page 55) includes a correlation matrix of the bivariate relationships among all variables in the analysis. Significant bivariate relationships exist between the dependent variable, effectiveness rates of contraceptive methods, and several of the independent variables. Hispanic origin (r=-.130) is negatively correlated with decisions to use more effective contraceptives. Conversely, living with both parents from birth until age 14 is positively correlated (r=.076) with the use of more effective contraceptives.

It was expected that mother's education as well as respondent's education would be positively correlated with more effective contraceptive method choice. Although these relationships are positive, they are not statistically significant. In addition, neither of the variables to measure the effect of frequency of church attendance on contraceptive decisions is statistically significant.

Further investigation of the Pearson's correlation illustrates many significant relationships between

independent variables. The variables identifying current and childhood religious denomination are highly correlated with one another. Because of this, I investigated for problems with multi-collinearity and, in spite of the high correlations, multi-collinearity diagnostics indicate that my regression estimates are not degraded due to collinearity (Belsey, Kuh, and Welsch, 1980).

Regression Analysis

I entered the variables into the regression equation based on time order so that variables that would have occurred first, such as race, were entered first and variables that occurred later, such as current religious denomination, were entered last.

Regression coefficients and standard errors for the regression equation are listed in Table 4 (Appendix, page 57).

The first model consists of variables associated with race and ethnicity. The R-squared value for this model indicates that race accounts for about 1.8% of the variation in decisions regarding use of effective contraceptive methods. The set of variables used to

capture race and ethnicity is significant as a group (F=2.572), however this effect is likely caused by the variable measuring Hispanic origin as none of the variables to measure race is significant. The effectiveness rates of the methods used by Hispanics are about 12 percentage points less effective than those used by non-Hispanics (b=-12.04).

The second model includes variables measuring religious denomination as a child. The set of variables to capture religious denomination in childhood as a group was not significant. However, those who were raised Mormon are significantly less likely to use effective contraceptives than are members of Fundamentalist denominations (b=-36.83). Mormons use contraceptive methods that are about 37 percentage points lower in effectiveness when compared with Fundamentalist Protestants.

Hispanic origin continues to be significant and there is no remarkable change in the coefficient. Model 2 explains about 3.4% of the variation in the dependent variable, as evidenced by the R-squared value.

Into the third model of the regression equation I entered frequency of church attendance at age 14,

mother's education, and family structure. Of these, only family structure is statistically significant. Women that lived with both parents until age 14, when compared with women who lived in any other situation, use methods that are about 4 percentage points more effective (b=4.205).

As before, Hispanic origin remains significant, as does Mormon religion as a child. In each case the importance of the effect drops slightly. This model explains 4.3% of the variation in the dependent variable.

I entered into the equation current religious denomination variables in the fourth model. As a group, this set of variables is statistically significant (F=4.373). When compared with women who are currently Fundamentalist Protestants, those who are currently Mormon use methods of contraception that are about 74 percentage points lower in effectiveness (b=-74.27).

Inclusion of these variables reduces the effect of being raised Mormon to the point that it is no longer significant. This indicates the current religion is more salient when analyzing effects on contraceptive decisions than is childhood religion. Again, I did

multi-collinearity diagnostics, as mentioned above, and the variables measuring past and present Mormon religious denomination did not meet criteria for problems with multi-collinearity.

Hispanic origin and family background, on the other hand, maintain their significance in the model with unremarkable changes in regression coefficients. This model explains 8.6% of the variation in effectiveness rates of contraceptives used.

The final model includes current church attendance and the education of the respondent. Neither of these variables is statistically significant. Each of the variables significant in the previous model maintains that significance, with no remarkable change in coefficients associated with Hispanic origin or current Mormon religion. Family background, however, loses some strength, especially when compared to the model of its debut. This model, and the equation as a whole, explains about 8.7% of the variation in contraceptive decisions.

The variables achieving significance in the regression analysis appear to coincide with those correlated bivariately with the dependent variable.

The strength of each of these relationships as well as the direction and level of significance are not remarkably different between the bivariate correlation and the regression analysis, indicating that bivariate relationships were not spurious. As several of the independent variables are not correlated with the dependent variable when looking at bivariate relationships, it is not surprising that they are not contributing much to the regression analysis.

Additional Analyses

I attempted several variations to this final model to determine if other variables would be better predictors of use of effective contraception. For example, I created dummy variables for mother's education and respondent's education to see if there is a significant difference between levels of credential. Because differences between those with less than a high school diploma and those with more education have been reported in previous literature, I set up these variables to differentiate between these two groups. In neither case was there a significant relationship.

I also included in an experimental equation a variable that measures whether or not there was a change in the family structure (coded 1 for no change, 0 if a change had taken place), regardless of what the structure had been to begin with. I was operating under the notion that stability of family structure might be as important as the presence of both parents in its effect on contraceptive decisions. When analyzing the risk of unintended pregnancy, the protective factor might be in the stability of the situation rather than of whom the situation consisted.

The inclusion of the variable measuring whether a change had taken place in conjunction with the variable measuring whether a respondent lived with both parents since birth created problems with collinearity, although they do not measure precisely the same thing. Anyone who lived with both parents until age 14 would obviously not report a change in situation, however some of those who lived in other sorts of households may report a situation that did not change. I used crosstabs to determine how many would be categorized as such, and out of those included in my sample, 31 did live in

unchanging situations that consisted of something other than both parents.

When I performed a regression equation that was identical to the one described in detail above, except for the inclusion of no change in living situation as a variable rather than having lived with both parents, similar coefficients were produced. One difference was that the indicator for having had no change in family structure seemed to hold its values as other variables were added. For example, in the model of debut each of these variables is significant, with no change in situation b=4.831 compared with both parents b=4.205. By the 5th model, no change in situation maintained a relatively unchanged coefficient (b=4.698) while the strength of the relationship between both parents present and the effectiveness of the contraceptive methods chosen was diminished some (b=3.956). Although these differences are very small, they do make a case for the argument that a stable family structure, whether it includes two parents, a single parent, and possibly other structures, may be as salient when assessing the affect of family structure on contraceptive decisions.

To illustrate the effects of each of these variables on contraceptive decisions more clearly, I performed two individual bivariate regression analyses to measure the effect of one independent variable, either no change in family structure or presence of both parents, on the effectiveness rates of contraceptives used. A comparison of the results can be found in Table 5 (Appendix). As a proportion of the population, there are about 5% more women who lived in any unchanging structure than who lived with both parents until age 14 (58% versus 53%). Also, having lived in any unchanging family structure is more highly correlated to the use of more effective contraceptives than is having lived with both parents ($r=.106$ versus $r=.085$). Although each is significant, no change in family structure is significant at a higher level ($p<.01$ versus $p<.05$). Whereas no change in family structure explains about 1.1% of the variation in contraceptive decisions, having lived with both parents explains about .7%.

In another model I included labor force participation in to see if this variable would help explain more of the variation in contraceptive decisions. This variable differentiated between those

working full time, those in school full time, and an "other" category to include any other situation regarding labor force/school. This variable had no significant effect on contraceptive decisions by women in my sample.

DISCUSSION

As expected, Hispanic origin does have an effect on contraceptive decisions in that unmarried, sexually active Hispanic women are likely to use less effective contraceptives than are non-Hispanic women. With regard to other categories of race, there are no significant differences between Whites and other races. The literature suggests there are Black White differences, and these differences, in my sample, might be better explained by other factors. Age, marital status, infertility, or parity, for example, may account for the absence of distinction between Whites and Blacks in my sample.

Childhood family structure, as expected, does appear to influence contraceptive decisions. Sexually active women who were raised in unchanging family structures consisting of both parents, natural or

adoptive, are users of more effective contraceptives. Furthermore, as determined in my additional analysis, women raised in any unchanging family structure were likely to use more effective contraceptives. The implication here is that, contrary to what is suggested in the literature, the protective factor when investigating risk of unintended pregnancy may be unchanging family structures no matter which parent(s) or parent figure(s) that entails.

Mother's education failed to affect contraceptive decisions made by these women. This was surprising due to the prevalence of this as a predictor in previous studies. Also, respondent's education did not have a significant influence on effectiveness of contraceptives used. I thought it possible that this may be due to a lack of variation in the years of school completed by this sample. However, when analyzing the effect of credential, those who had not graduated from high school versus high school graduates, there is no distinct difference. It is possible that including a measure of educational aspiration, that is the extent of the education the respondent planned to achieve, would have

an influence as many of these women probably had not completed their education at the time of the interview.

Religious denomination as a child fails to have a significant effect on contraceptive decisions. Current denomination did have a significant effect, however the differences between groups that had been expected are not salient. When compared with Fundamentalist Protestants, other groups are not significantly more likely to be effective contraceptors; in fact sexually active Mormons were less likely to be. Keep in mind, the influence of Mormons in this model is based on a small sample and should be interpreted with caution.

Additionally, neither of the variables measuring frequency of church attendance have significant effects on effectiveness of contraceptives used. It was mentioned in the literature that a secularization of decisions regarding family has been a recent trend (Goldscheider and Mosher, 1991), which might explain the lack of significant effects of most of the variables defining religion. However, it is possible that the expected effect of religious variables on these decisions is minimized by my selection criteria, especially the exclusion of women who were not sexually

active.

Religious denomination may be affecting sexual behavior before it can influence contraceptive decisions. The literature suggests that members of Fundamentalist groups delay sexual activity, but upon the initiation of sexual activity are less likely to use contraceptives. It is possible that Fundamentalists in this age cohort had not yet initiated sexual activity due to religious proscription and, therefore, were eliminated from my sample. It was impossible to determine with this data set the reason why a woman was abstaining; this abstinence may illustrate more clearly the effect of religious variables for this sample.

Other case selection criteria may have minimized the effects of the model. For example, the exclusion of ever-married women from the sample may have decreased the variation in contraceptive decisions. The women in my sample were users of relatively effective methods of contraception. It is possible that the women in this age group who use less effective methods or are nonusers have become pregnant, and/or gotten married, and therefore are not included in the sample.

Furthermore, the exclusion of all women who were

pregnant or postpartum may have decreased the variation in contraceptive use in this sample. Had it been possible for me to exclude from the sample only women who became pregnant with intention (i.e. retain in the sample women whose current or recent pregnancy was unintended), I may have been able to capture the effect of an increased number of nonusers and users of less effective methods.

Glei (1999) found a major predictor of being an effective contraceptive user is age. The age groups between which there are distinct differences within her study were: teenagers (ages 15-19), young adults (20-24 years), and adults (25-35). It is possible that the effects in this model are minimized because the sample selected were all members of one of these age cohorts and, therefore may have been too homogenous. These women were very similar in age, education, and, by design, marital status and sexual activity.

CONCLUSION

If we presume that women aged 20-24 years have both knowledge of contraception and rationality when

considering their contraceptive options, as per Luker's Decision Making Theory, we can investigate unintended pregnancy as a social problem rather than the failure of an individual to assess risk and to ensure her own protection. It is important to distinguish social correlates to ineffective contraception so that, through the social structures related to it, the problem may be systematically addressed.

The bulk of previous literature, including research cited in my study, has focused on the contraceptive use and fertility patterns of teenagers. In light of this, and taking note that many of the predictors of teenage contraceptive use did not prove salient in my study of young adult women, it is apparent that unmarried women included in this age cohort, 20-24 years, have different influences upon their contraceptive decisions.

One predictor that did remain salient is family structure. Due to the prevalence of structures that do not entail both parents (to illustrate, nearly 50% in this sample), it is important to realize that stability of the living situation (i.e. no change in which parents are present) may be equally important in predicting use of effective methods of contraception. This allows for

recognition of alternative family arrangements that are just as effective in providing a stable structure.

Hispanic origin, as well, is a predictor of effectiveness rates of contraceptives used by sexually active, unmarried women aged 20-24: these women are likely to use less effective methods of contraception. The implications of this effect may grow in magnitude due to the influx of Hispanics into the United States in recent years and the projected growth in Hispanic population. Hispanics will be the largest minority group in the United States by the end of this decade and by the middle of this century could outnumber non-Hispanics (Ellis et al, 2001).

Future research in this arena should investigate potential social correlates to contraceptive decisions by women in their early twenties, especially considering the increased risk for unintended pregnancy of this group when compared with other age groups, as well as the inability of expected predictors to prove salient. Also, further investigation of the effect of unchanging family structures should attempt to determine if this is social pattern, implying the ability of alternative family structures, presuming they are stable, to offer a

protective factor with regard to unintended pregnancy. Additional research will help to clarify a systematic approach to the problem of unintended pregnancy and all of the costs, socially and personally, therein.

APPENDIX

TABLE 1: Typical Effectiveness Rates of Contraceptive Methods with combined categories

Contraceptive Method	**Typical Effectiveness Rate**
Norplant/Depo Provera*	100
Surgically Sterile (male/female)*	99
IUD	98
Pill	95
Male Condom	86
Withdrawal	81
Diaphragm/Female Condom*	80
Periodic Abstinence (Natural Family Planning/Calendar Rhythm, etc)*	79
Spermicide/Sponge/Jelly/Cream*	74
No Method	15

Rates are based on are typical use estimates of the number of women out of 100 who successfully contracept in the first year of use (Trussel, 1998).

* These methods have been combined into categories based on similar rates of effectiveness.

Table 2: Means and Standard Deviations

Variable		Mean	Std. Dev
Contraceptive Methods by effectiveness		84.94	22.95
Respondent is Hispanic		.064	.245
Race:	White (contrast in model)	.684	.465
	Black	.249	.433
	Asian	.054	.226
	Native American	.012	.111
Church attendance per year at 14		38.07	30.56
Religion raised in:			
	Fundamentalist (contrast in model)	.282	.450
	no religion	.282	.451
	Protestant	.256	.437
	Catholic	.308	.462
	other religion	.029	.169
	Jewish	.016	.123
	Mormon	.004	.061
Completed years of school by mother		12.77	2.97
Both parents from birth to age 14		.539	.499
Church attendance per year now		17.97	22.39
Current religion:			
	Fundamentalist (contrast in model)	.261	.439
	no religion	.209	.407
	Protestant	.219	.415
	Catholic	.262	.439
	other religion	.027	.163
	Jewish	.014	.116
	Mormon	.008	.085
Completed years of school by respondent		13.54	1.89

Table 3: Bivariate Correlation Matrix (N=577)

	Effectiveness of Method	Hispanic origin	White race (contrast)	Black race	Asian race	Native American race	Church attendance at 14	Raised Fundamentalist (contrast)	Raised no religion	Raised Protestant	Raised Catholic	Raised other religion	Raised Jewish
Effectiveness of Method	1.00												
Hispanic origin	-.130**	1.00											
White race (contrast)	-.006	. 082*	1.00										
Black race	.019	-.117**	-.849**	1.00									
Asian race	-.025	.005	-.351**	-.137**	1.00								
Native American race	.002	.103**	-.165**	-.065	-.027	1.00							
Church attendance at 14	-.021	.019	-.121**	.157**	-.056	.008	1.00						
Raised Fundamentalist (contrast)	.051	-.118**	-.472**	.563**	-.093*	-.029	.198**	1.00					
Raised no religion	-.049	-.001	.060	-.093*	.040	.028	-.341**	-.214**	1.00				
Raised Protestant	.031	-.107**	.171**	-.178**	-.005	-.010	-.071*	-.368**	-.200**	1.00			
Raised Catholic	-.007	.238**	.284**	-.279**	-.066	.031	.102**	-.419**	-.228**	-.392**	1.00		
Raised other	-.045	-.046	-.146**	-.043	.394**	-.020	-.022	-.109**	-.059	-.102**	-.117**	1.00	
Raised Jewish	-.039	-.005	.085**	-.072*	-.030	-.014	-.014	-.079*	-.043	-.074*	-.084*	-.022	1.00
Raised Mormon	-.093*	-.016	.042	-.035	-.015	-.007	.077*	-.038	-.021	-.036	-.041	-.011	-.008
Mother's education	.028	-.144**	.119**	-.102**	-.042	-.001	-.032	-.105**	-.028	.146**	-.026	-.045	.096*
Lived with both parents	.076*	.014	.249**	-.252**	-.029	.000	.128**	-.166**	-.062	-.017	.149**	.029	.102**
Church attendance now	.016	-.022	-.231**	.266**	-.035	.000	.389**	.326**	-.207**	-.153**	-.026	.003	-.051**
Current Fundamental (contrast)	.047	-.109**	-.452**	.536**	-.084*	-.024	.189**	.897**	-.189**	-.319**	-.367**	-.104**	-.075*
Current no religion	-.023	.003	.073*	-.124**	.063	.052	-.312**	-.195**	.572**	-.042	-.129**	-.024	-.026
Current Protestant	.059	-.106**	.142**	-.135**	-.005	-.059	-.027	-.280**	-.143**	.809**	-.340**	-.093*	-.067
Current Catholic	-.009	.226**	.276**	-.264**	-.084*	.045	.120**	-.373**	-.168**	-.340**	.859**	-.104**	-.075*
Current other religion	-.054	-.044	-.131**	-.005	.289**	-.019	-.011	-.105**	-.057	-.098**	-.082*	.878**	-.021
Current Jewish	-.049	-.001	.080*	-.068	-.028	-.013	.001	-.073*	-.040	-.069*	-.078*	-.020	.934**
Current Mormon	-.197**	-.023	.013	-.050	.073**	-.010	.045	-.007	-.029	-.050	-.012	-.015	-.011
Education of Respondent	.059	-.153*	.213**	-.245**	.030	.003	.080*	-.149**	-.095*	.126*	.063	.018	.091*

Table 3 (continued)

	Raised Mormon	Mother's Education	Lived with Both Parents	Church attendance now	Current Fundamentalist (contrast)	Current no religion	Current Protestant	Current Catholic	Current other religion	Current Jewish	Current Mormon	Education of respondent
Raised Mormon	1.00											
Mother's education	-.006	1.00										
Lived with both parents	-.004	.057	1.00									
Church attend now	.017	-.035	-.003	1.00								
Current Fundamental (contrast)	-.036	-.103**	-.155**	.303**	1.00							
Current no religion	-.032	.049	-.105**	-.276**	-.306**	1.00						
Current Protestant	-.033	.099**	.049	-.073*	-.315**	-.273**	1.00					
Current Catholic	-.037	.037	.174**	.018	-.354**	-.306**	-.316**	1.00				
Current other religion	-.010	-.050	.025	.039	-.099**	-.086*	-.089*	-.100**	1.00			
Current Jewish	-.007	.107**	.094*	-.049	-.070*	-.060	-.062	-.070*	-.020	1.00		
Current Mormon	.713**	-.043	-.006	.010	-.051	-.044	-.046	-.051	-.014	-.010	1.00	
Education of Respondent	-.034	.305**	.239**	.092*	-.153**	-.052	.114**	.066	.026	.093*	-.036	1.00

One-tailed test
* p<.05
**p<.01

Table 4: Regression of effectiveness rates of contraceptive methods on race, religion, education, and family background variables (n=577)

	Model 1: Hispanic origin and race		**Model 2: Model1+ childhood religious denomination**		**Model 3: Model 2+ family background and church attendance**		**Model 4: Model 3+ current religious denomination**		**Model 5: Model 4+ church attendance and education**	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Hispanic	-12.04** (3.85)	-1.31	-12.49** (3.94)	-.136	-12.06** (3.98)	-.131	-12.55** (3.97)	-.137	-12.22** (3.91)	-.133
Black	.062 (2.19)	.001	-1.256 (2.63)	-.024	.163 (2.70)	.003	-.251 (2.68)	-.005	-.048 (2.74)	-.001
Asian	-2.36 (4.175)	-.024	-.460 (4.54)	-.005	.193 (4.55)	.002	2.48 (4.55)	.025	2.3 (4.56)	.024
Native American	3.05 (8.49)	.015	2.89 (8.47)	.014	3.35 (8.46)	.016	4.15 (8.34)	.020	4.09 (8.36)	.020
Religion raised:										
No religion			-5.17 (3.62)	-.070	-6.31 (3.81)	-.086	-8.27 (5.32)	-.112	-8.05 (5.35)	-.109
Protestant			-1.29 (2.87)	-.025	-1.79 (2.90)	-.035	-6.74 (5.03)	-.131	-6.62 (5.08)	-.128
Catholic			-1.14 (2.88)	-.023	-1.64 (2.88)	-.034	-.743 (5.49)	-.015	-.605 (5.53)	-.012
Other			-8.21 (6.26)	-.062	-9.28 (6.27)	-.070	-4.81 (12.72)	-.036	-4.36 (12.78)	-.033
Jewish			-9.17 (7.85)	-.050	-11.19 (7.91)	-.061	2.39 (21.15)	.013	2.38 (21.19)	.013
Mormon			-36.83* (15.35)	-.100	-35.18* (15.36)	-.096	38.79 (21.59)	.106	39.17 (21.63)	.017

Table 4 (continued)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Church Attendance at 14					-.040 (.033)	-.054	-.043 (.033)	-.058	-.046 (.035)	-.063
Mother's education					.052 (.323)	.007	-.021 (.319)	-.003	-.067 (.331)	-.009
Raised with Two parents					4.21* (1.97)	.093	4.12* (1.95)	.091	3.96* (1.97)	.088
Current religion: no religion							1.23 (4.63)	.023	1.28 (4.65)	.023
Protestant							5.47 (5.18)	.101	5.37 (5.19)	.099
Catholic							-1.19 (5.75)	-.023	-1.31 (5.77)	-.026
Other							-7.49 (12.65)	-.054	-7.98 (12.71)	-.058
Jewish							-15.91 (22.56)	-.082	-15.98 (22.61)	-.082
Mormon							-74.27** (15.67)	-.282	-74.18** (15.69)	-.282
Church Attendance now									.008 (.048)	.008
Respondent's education									.287 (.551)	.024
Constant	85.79		87.79		86.42		87.88		84.56	
R-Squared	.018		.034		.043		.086		.087	
Adj. R-squared	.011		.017		.021		.055		.052	

*p<.05 **p<.01

Table 5: A comparison of the relationship of two measures of family structure with effectiveness rates of contraceptives used

	Lived with Both Parents (n=587)	**No change in family structure (n=586)**
Descriptive Statistics		
Mean	.531	.58
Standard Deviation	.499	.493
Bivariate correlation to effectiveness rates	.085*	.106**
Bivariate Regression Coefficients		
B	3.89*	4.93**
Standard Error	1.89	1.91
β (beta)	.085	.106
R-squared	.007	.011

*p<.05
**p<.01

REFERENCES

Belsey, David, Edwin Kuh, and Roy Welsch. 1980. *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*. New York: John Wiley and Sons.

Bumpass, Larry and Sara McLanahan. 1989. "Unmarried motherhood: Recent trends, composition, and black white differences." *Demography*, 26(2): 279-286.

Collins, Randall and Scott Coltrane. 1995. *Sociology of Marriage and the Family: Gender, Love and Property*. Nelson Hall, Chicago. (Fourth Edition).

Cooksey, Elizabeth. 1990. "Factors in the resolution of adolescent premarital pregnancies." *Demography*, 27(2): 206-218.

Cooksey, Elizabeth M., Ronald R. Rindfuss, and David K. Guilkey. 1996. "The initiation of adolescent sexual and contraceptive behavior during changing times." *Journal of Health and Social Behavior*, 37: 59-73.

D'Antonio, William, James D. Davidson, Dean R. Hodge,

and Katherine Meyer. 2001. *American Catholics: Gender, Generation, and Commitment*. Walnut Creek, CA: Altamira (Rowan and Littlefield).

Durant, Robert H., and Robert Pendergrast. 1990. "Contraceptive behavior among sexually active Hispanic adolescents." *Journal of Adolescent Health Care,* 11: 490-496.

Ellis, Rodney A., Tanya D. Klepper, and Karen M. Sowers. 2001. "Building a foundation for effective intervention: Understanding Hispanic juveniles and their families." *Journal for Juvenile Justice and Detention Services,* 16(1): 37-52.

Gallup, George, Jr. and Jim Castelli. 1987. *The American Catholic People: Their Beliefs, Practices, and Values*. Doubleday, Garden City, New York.

Glei, Dana. 1999. "Measuring contraceptive use patterns among teenage and adult women." *Family Planning Perspectives,* 31: 73-80.

Goldscheider, Calvin and William D. Mosher. 1991. "Patterns of contraceptive use in the United

States: The importance of religious factors." *Studies in Family Planning,* 22: 102-115.

Henshaw, Stanley. 1998. "Unintended Pregnancy in the United States." *Family Planning Perspectives,* 30(1): 24-29.

Knowles, Jon. 1998. *Facts about birth control.* Planned Parenthood Federation of America, New York.

Luker, Kristin. 1975. *Taking Chances: Abortion and the Decision not to Contracept.* University of California Press, Berkeley.

Manlove, Jennifer, Elizabeth Terry, Laura Gitelson, Angela Romano Papollo, and Stephen Russell. 2000. "Explaining demographic trends in teenage fertility, 1980-1995." *Family Planning Perspectives,* 32(4): 166-175.

Mosher, William. 1998. "Design and Operation of the 1995 National Survey of Family Growth." *Family Planning Perspectives,* 30(1): 43-46.

Mosher, William D. and James W. McNally. 1991.

"Contraceptive use at first premarital intercourse: United States 1965-1988." *Family Planning Perspectives,* 23: 109-116.

Thornton, Arland and Donald Camburn. 1987. "The influence of family on premarital sexual attitudes and behavior." *Demography,* 24(3): 323-340.

Trussell, James. 1998. *Contraceptive Technology-17th Edition.* Ardent Media, New York.

Wu, Lawrence L. and Brian C. Martinson. 1993. "Family structure and the risk of a premarital birth." *American Sociological Review,* 58: 210-232