

The Correspondence Between Intention To Avoid Childbearing and Subsequent Fertility: A Prospective Analysis

By Lindy Williams, Joyce Abma and Linda J. Piccinino

Context: Retrospective studies of pregnancy intendedness have revealed some characteristics that can help identify which women are more likely than others to experience an unintended birth. A comparison of these findings with those from a prospective analysis may shed greater light on the characteristics associated with unintended pregnancy.

Methods: Data were taken from the 1988 National Survey of Fertility Growth and a telephone reinterview of respondents conducted in 1990. Separate analyses were conducted of women intending to postpone childbearing for at least three years and of women intending to forgo all future childbearing. Logistic regression models were used to identify the effects of social and demographic characteristics, as well as change in marital status and certainty of intentions, on the odds of experiencing a birth in the interval between interviews.

Results: Only 10% of women intending to postpone pregnancy for more than three years and 8% of respondents seeking to forgo future childbearing had a birth in the interval between interviews. (These births, referred to as unpredicted births in this article, are roughly analogous to those labeled unintended in retrospective analyses.) Women with incomes below the poverty level were 2–3 times as likely as women with incomes between 100% and 199% of poverty to experience an unpredicted birth. Race was not a significant factor among women intending to avoid future childbearing, and became nonsignificant among those intending to postpone when change in marital status and contraceptive status were taken into account. Women aged 35 and older who wanted no more children were significantly less likely than women aged 20–29 to have an unpredicted birth. Women aged 30–34 who wanted to postpone childbearing were roughly 70% less likely than women aged 20–29 to experience an unpredicted birth. Overall, women who were at risk for a pregnancy but not practicing contraception were 2–3 times more likely than women using an effective method to have an unpredicted birth.

Conclusions: There are at least two potential explanations for instances where the correlates of unintended births in the prospective analysis differ from those identified in retrospective studies. Certain subgroups of women may be more likely to classify births as wanted when they are asked retrospectively; alternatively, they may be more likely to experience changes in their living conditions that alter their fertility intentions.

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Approximately three-quarters of all ever-married women spend at least 15 years at the end of their reproductive lives exposed to the risk of unwanted fertility (childbearing that is not wanted then or at any point in the future).¹ The population of all those at risk of unintended childbearing includes not only those who desire no more children, but also those wishing to delay childbearing until a more ideal time in the future. Young women, who constitute part of this population, spend more time now than ever before both sexually active and unmarried.² The years during which women and couples are at risk of an unintended birth (either unwanted or mistimed) thus begin with adolescence and continue throughout the reproductive years.

Most research examining correlates of the intention status of women's pregnancies has been based on data collected ret-

rospectively. However, for years, retrospective reports of pregnancy wantedness have been recognized to be subject to recall error or rationalization. As long as three decades ago, it was noted that respondents might not admit to what could be perceived as an inadequacy, or that they might change their attitude based on positive experiences with a child resulting from a pregnancy that, at conception, would have been considered unintended.³ The presumed result of these deficiencies in retrospective studies would be the underreporting of unintended pregnancies or the overreporting of intended ones.

Prospective studies of unintended childbearing are not beset by issues of rationalization or biased recall, but are subject to at least one important limitation in their predictive ability: An intervening situational change might affect a respon-

dent's desire to have a child (i.e., an attitude and corresponding behavior might change over the course of an interval).

In this article, we use the 1988 round of the National Survey of Family Growth (NSFG) and a 1990 telephone reinterview of 1988 respondents to identify which of the women who reported in 1988 that they wanted to avoid childbearing for good or to postpone a birth for at least three years were most successful at avoiding a birth in the interval between the two surveys. The data permit a prospective look at the control of unintended fertility during the late 1980s, and enable us to compare our findings with analyses that have relied on retrospective reports.

Background

Our study highlights variables that have been found to be important predictors of unintended childbearing in retrospective analyses: education, income, race, parity and marital status.⁴ We also examine labor force status and, to the extent that is possible, change in marital status (arguably one of the most important situational factors affecting childbearing decisions). In addition, we control for contraceptive use and assess the importance of attitude certainty among women wishing to have no more children. Both of these factors are thought to be important in determining the connection between fertility attitudes and behavior. Moreover, measures of certainty of intention to avoid a pregnancy are often unavailable for analysis in studies of this sort.

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Socioeconomic Characteristics

Education has long been known to be a critical factor influencing fertility⁵—by its impact, for example, on exposure to the risk of pregnancy and on desired family size. In addition, it has been argued that women's access to and control over financial resources (usually their own earnings or their family's income) affect their fertility intentions. Greater access to both education and financial resources may reduce unintended pregnancy, at least partly by increasing a woman's decision-making power, both directly and indirectly.⁶ For example, raising a woman's educational and financial status may enhance her self-esteem and self-confidence, and may thereby increase her ability to influence important decisions, including those concerning contraception and fertility.

Race and income are highly correlated;⁷ it has been shown that black and Hispanic women have markedly lower levels of income and education and less access to health care and health insurance than do white women.⁸ In the 1980s, black women were more likely than either white or Hispanic women to have experienced an unwanted birth,⁹ and more recent retrospective data show the same pattern. The unintended pregnancy rate of black women has been estimated to be almost three times that of white women,¹⁰ despite substantial declines in the percentage of black women who were sexually active but not using any method of contraception between 1988 and 1995.¹¹ The differences in fertility intendedness between black and white women, however, may be the result of the strong association between race and socioeconomic factors rather than due to race alone.¹²

Additionally, unmarried women, often teenagers, are more likely than married women to experience an unplanned birth. Since marital unions are generally considered to be more stable than consensual unions, which in turn tend to be more stable than those in which a residence is not shared,¹³ the extent to which births are planned and considered wanted by both partners is likely to be greatest in the former and to be least in the latter. Previous research has demonstrated the importance of marital status as a predictor of intention status.¹⁴

The respondent's behavioral status (whether he or she is starting, continuing or intensifying a particular behavior)¹⁵ also may predict behavioral outcomes; for example, a first birth is likely to change a couple's life more than a subsequent birth. Parity, which has been found to be associated with unintended childbearing, is thus included in this analysis.¹⁶ Finally, as

childbearing and employment are at least partially incompatible,¹⁷ a woman's labor force status also can be expected to affect her fertility intentions and behavior, at least in the short term, and so is examined in this research.

Changing Circumstances

The impact of changing circumstances on attitudes and behavior has been discussed in detail in the social psychology literature. Attitudes or intentions may not be consistent with subsequent behavior, as "there are almost always situational forces working for and against behavioral realization of attitudes."¹⁸ Controlling for changes in these situational factors, therefore, should be important in prospective assessments of unintended childbearing.

In the case of fertility decisions, a change in marital status is likely to be one of the most important situational changes that may influence childbearing intentions. Women still appear to view out-of-wedlock childbearing as less desirable than childbearing within marriage, as marriage is still viewed by many as a "normative license" for parenthood.¹⁹ A change in marital status would be expected either to widen or to narrow the range of options a woman sees as available to her, although the extent to which that effect is observed may vary by race and other factors.²⁰

Attitude Certainty

The extent to which attitudinal reports, including those pertaining to childbearing, will be consistent with subsequent behavior is thought to be influenced by the individual's assessment of the importance of the issue, the intensity of the respondent's opinion of the topic, and the individual's knowledge of or level of involvement with the issue.²¹ For example, a 1990 study of diaphragm use found that more strongly held attitudes were significantly correlated with more consistent behavior.²²

Attitude intensity may not be the best predictor of behavior over the long term, however, even though it is closely linked to the notion of attitude strength. Attitude intensity may correspond to level of emotionality, yet given constraints, people who feel more intensely about everything may be no more able than individuals who feel less intensely to behave in certain ways.²³ Attitude certainty has been argued to be a better predictor of behavior; desires that are reported to be very certain are thought to be more stable over time than those that are less certain, and less likely to fluctuate with routine changes in daily circumstances. Therefore, we expect that stronger

certainty of intention to avoid childbearing would reduce the likelihood of a birth in the interval between interviews.

Contraception

In fertility research, attitudes toward childbearing (e.g., number or timing) are considered to be among a bundle of psychological traits that are translated first into fertility desires and then into fertility intentions, such as those measured in the NSFG. Intentions, in turn, are thought to determine "instrumental behaviors [such as contraceptive use], which themselves determine whether a fertility outcome occurs."²⁴ Because contraception is an important intervening variable between the intention to avoid a pregnancy and whether a birth occurs, we also take contraceptive use into account in our analyses.

Methodology

Analytic Approach

Our analysis compares women's fertility intentions reported in 1988 with their actual fertility during the short period between interviews. We focus on those who claimed in 1988 that they wanted to avoid childbearing for good, as well as those who wanted to postpone a birth for at least three years. We ascertain to what extent these women succeeded in avoiding a birth, and determine which women were most successful in meeting this objective. To allow for the possibility that the processes affecting the "postponers" and those forgoing all future childbearing might differ significantly, we examine the two groups separately in all analyses.

We refer to births occurring in the interval, despite intentions to the contrary, as unpredicted. This terminology aids in maintaining a distinction between prospective analyses of fertility behavior and traditional retrospective studies of intendedness. In a prospective analysis, an unpredicted birth could actually be intended if, for example, a woman's pregnancy intentions had changed during the interval between interviews.

We expect that the intention to postpone versus to forgo future births would be related both to life-course markers and to socioeconomic activities. Some characteristics probably influence postponing behavior more than stopping behavior, such as being young, unmarried, poor or of low parity. Being older, formerly married or of higher parity are likely to be more closely related to an intention to avoid all future childbearing. If intentions lead to related instrumental behaviors (such as contraceptive use), as is argued

Table 1. Percentage distribution of women, by pregnancy intention status, according to selected characteristics, NSFG, 1988

Characteristic	Not avoiding	Postponing	Stopping	Total	N
Total	33.2	41.3	25.5	100.0	3,185
Race					
Black	31.4	40.1	28.5	100.0	880
White	33.2	40.9	25.9	100.0	2,197
Age					
15-19	8.8	83.7	7.4	100.0	728
20-29	47.8	37.2	15.0	100.0	1,374
30-34	41.9	17.9	40.2	100.0	577
≥35	17.5	8.7	73.7	100.0	506
Income					
<100%	18.9	56.4	24.7	100.0	385
100-199%	32.6	38.5	28.9	100.0	511
≥200%	38.6	34.7	26.8	100.0	1,916
Education					
<high school	16.6	66.2	17.2	100.0	704
High school	37.8	31.3	31.0	100.0	974
>high school	38.7	35.2	26.1	100.0	1,505
Parity					
0	30.1	57.5	12.3	100.0	1,769
1	51.6	20.4	27.9	100.0	643
2	29.6	14.1	56.3	100.0	548
≥3	13.8	10.9	75.4	100.0	2,25
Marital status					
Married	50.8	14.4	34.7	100.0	1,237
Cohabiting	45.5	32.5	22.0	100.0	152
Formerly married	25.4	21.4	53.1	100.0	290
Never-married	18.1	69.0	12.8	100.0	1,506
Employment status					
Working full-time	41.2	31.2	27.6	100.0	1,427
Working part-time	24.8	52.1	23.1	100.0	598
Not working	26.9	49.4	23.7	100.0	1,077

Notes: Percentage distributions are weighted. Ns are unweighted. Ns vary due to missing data. In Tables 1-4, all characteristics are as of the time of the 1988 interview, except age (as of March 15, 1988) and employment status (as of the week prior to the interview). Percentages may not add to 100 due to rounding.

in the literature,²⁵ both postponers and those forgoing all future childbearing should be likely to practice contraception to lower their risk of an unpredicted birth.

We expect that situational characteristics, such as a change in marital status, should influence the fertility of women postponing births more than the fertility of those stopping or forgoing childbearing. Women who would like a child or an-

other child but who judge the present not to be the ideal time may envision more ideal conditions in the future; such circumstances may manifest themselves sooner than expected. On the other hand, postponing women may also begin to perceive even less ideal conditions to be important or imminent (e.g., age-related infertility). As a result of either scenario, original timing intentions may be amended.

Data

Our analysis is based on data from Cycle 4 of the NSFG and a subsequent computer-assisted telephone reinterview, both of which were conducted by the National Center for Health Statistics. The Cycle 4 data were collected between January and August 1988, using a multistage area probability sample of noninstitutionalized U.S. women aged 15-44. Interviews were conducted with 8,450

women of all marital statuses; 2,771 were black, 5,354 were white and 325 identified themselves with some other racial or ethnic group.

The telephone reinterview took place between July and mid-November 1990.* The final sample, which consisted of a supplement of teenagers to account for the aging of the original sample, consisted of 5,686 women; 1,594 were black, 3,902 were

white and 190 identified themselves as other. The final response rate for the telephone reinterview was 67.5%; this figure includes the response rate from the original NSFG interview (82.1%).^{26†}

Variables

We use the term "unpredicted birth" to describe any birth that occurred in the interval between the 1988 interview and the 1990 reinterview to women who had said in 1988 that they intended to postpone childbearing at least for the next three years, as well as to those who said they wanted no more children.‡ We focused on births, rather than on all pregnancies, because of the widespread underreporting of abortion in the NSFG and other national survey data.

The strength of the respondents' preference to have no more children was measured from a question asked after women reported their intentions to forgo or delay future childbearing.§ The question allowed us to create a measure of certainty of intention for those who intended to have no more children only. Unfortunately, we lacked an analogous measure of certainty for women who wanted more children, but not within the next three years. This would have required a survey item ascertaining how certain they were that they would delay having the next child for the specified amount of time. The measure for our subsample of forgoers is coded as: very sure they want no more children, or not very sure.**

Age was classified by the age of the respondent as of March 15, 1988. Respondents were classified as black, white or other, depending on self-reports in the 1988 interview. Because the number of respondents designated as "other" was very small, percentages are generally presented for black women and white women only; totals include the "other" racial or ethnic groups, however. Parity was determined by the

*This creates a relatively short interval in which to examine the correspondence between attitudes measured at the first interview and subsequent behavior. Because the data are from a reasonably large sample, there are enough births in the interval to conduct a meaningful analysis. It is clear, however, that a longer interval might also be fruitful for future research. As the duration of the interval increases, the correspondence between attitudes and behavior might lessen, and the importance of changes in situational factors might increase.

†The response rate among reinterview respondents was 68.6% (7,809 women were sampled and 5,359 interviews were completed), while that for the teenager supplement was 53.4% (614 women were sampled and 327 interviews were completed). Despite efforts to interview women from households without telephones (through letters that encouraged recipients to call an 800 number and that offered an incentive of \$15 to complete the interview, and through

offers of \$5 incentives to complete a mail-in self-administered questionnaire), the combination of unpublished numbers and households without telephones accounted for the highest level of nonresponse (11%). Women who could not be located accounted for the next highest percentage (10%). The latter was particularly problematic for the supplement, however, and these teenagers were not part of our analysis sample. Fortunately, substantial information was available concerning the characteristics of nonrespondents (both to Cycle 4 and to the telephone reinterview), and appropriate weights were developed and applied.

‡The questions, including the preamble, from which intention was ascertained at the first interview, were: "Knowing the number of children women have now and the number they expect to have in the future is important in understanding how our population will grow. It is impossible to look into the future and know exactly how things will turn out, but we often have some idea about what we

intend to do. Looking to the future, do you (and your husband/partner) intend to have a(nother) baby at some time?" Later in the series, respondents who planned to have at least one additional child were asked, "When do you expect to have your first/next child; that is, in how many years?"

§Question wording: "Of course, sometimes things do not work out exactly as we intend them to, or something makes us change our minds. In your case, how sure are you (and your husband/partner) that you will have (SPECIFIED NUMBER) more bab(y/ies)? Would you say you are very sure or not very sure?"

**Ideally, in addition to classifying women who intended to forgo or postpone childbearing by the certainty of their intentions, we would include measures of the certainty of their husband's or partner's intentions regarding forgoing or delaying future births.

number of live births the woman reported at the time of the 1988 interview.

Women were classified by marital status in 1988 as married, widowed, divorced, separated or never-married. Those who reported that they were not married but were living with their sexual partner were considered to be cohabiting. We also included a measure of change in formal marital status between the two interviews, which allowed us to disaggregate changes that occurred after a conception leading to a birth and those that occurred before a conception. The variable consisted of three categories: no formal change in marital status occurred, or the change occurred after the conception leading to the birth in question; the respondent got married or resumed living with her husband before she conceived, or she got married or resumed living with her husband and no birth occurred; or the respondent's marriage dissolved (she was either widowed, divorced or separated) before she conceived, or the marriage dissolved and no birth occurred.*

Income in 1988 was measured in accordance with the census definition of poverty status; it was calculated by dividing the total family income by the weighted average threshold income of nonfarm residents in households headed by persons under age 65.²⁷ The three income categories were: income below poverty level; income at 100–199% of poverty; and income at 200% or more of poverty. Education was measured in years of school completed as of the 1988 survey, and was coded as: less than a high school education; high school graduate; or one or more years beyond high school.

Working status was based on items detailing the respondent's labor force participation in the week before each survey. Labor force status in 1988 was classified as: working full-time (35 hours or more); working part-time (1–34 hours); or not working (unemployed, laid off, looking for work, keeping house, in school or other). We omitted from the analysis those on temporary leave, for whom active labor force participation status was ambiguous.

A woman's contraceptive status also was defined as of the 1988 interview, and was coded into one of four groups. Women using highly effective methods were those relying on methods with failure rates of less than 5%, even under conditions of "typical (i.e., imperfect) use"²⁸—male or female contraceptive sterilization, the pill and the IUD. Users of less effective methods included women relying on any of the 12 methods that have greater than

10% failure rates, given typical use. Women "not using contraceptives and not at risk of unpredicted birth" were those who were not practicing contraception and who were either postpartum at the time of the interview, seeking pregnancy, sterile for noncontraceptive reasons, had not had intercourse since first menstruation, had had intercourse only once or had not had intercourse in the last three months.[†] Those classified as "not using contraceptives, at risk of unpredicted birth" included women not reporting any contraceptive use in 1988, those who did not fall into any of the "not at risk" categories and those who had had intercourse in the three months prior to the interview. These four categories correspond closely to those used in an earlier analysis of contraceptive use and exposure to the risk of unintended pregnancy.²⁹

Our sample excluded 16 respondents who reported contradictory information during the 1988 interview about whether they were seeking pregnancy at the time. We also excluded 1,306 women who were contraceptively sterile or whose husbands were contraceptively sterile (26% of the sample) and 279 who were noncontraceptively sterile or sterile for unknown reasons (5.6% of the sample). These women were not asked about future birth intentions and were not at risk of an unpredicted pregnancy in the interval.

Eight of the respondents who claimed to want to avoid giving birth for at least three years (four women who wanted to avoid future childbearing and four who wanted to postpone) were coded as "not avoiding pregnancy." These seemingly contradictory cases remain in the sample because respondents were classified as "not avoiding pregnancy" if either they or their husband or partner wanted a pregnancy as soon as possible. These respondents wanted to postpone or forgo childbearing, while their husband or partner did not.

Results

Table 1 shows the weighted percentages of respondents who intended to avoid a birth for at least three years following the 1988 interview.[‡] Roughly two-thirds of women in the final sample intended to avoid a birth, at least for the next few years: Forty-one percent were postponing and 26% wanted no (or no more) children. Respondents most likely to want to stop childbearing were older women, those with at least a high school education, higher parity women and those who were no longer married. Respondents most interested in

postponing childbearing for three years or more were younger women (especially those aged 15–19), those with lower household incomes, women with less than a high school degree, those who had not yet started having children or who had had only one child, those who had never been married (and, to a lesser extent, those who were cohabiting) and women not working or working part-time. A number of these findings are clearly age-related.

In general, women who were within the prime childbearing ages, those at lower parities, those who were married or cohabiting and those who had higher incomes were least apt to be avoiding pregnancy at the time of the 1988 interview. Younger, unmarried women and those with lower household incomes were more inclined to report that they intended to put their reproduction on hold, at least temporarily.

Table 2 (page 224) shows that the large majority of women wishing to avoid childbearing for at least three years were successful within that relatively brief window of time: Only about 10% of postponers and 8% of those claiming to want no (or no more) children had births that they did not intend to have at the time of the 1988 interview. There were variations, however, among subgroups. For both groups of women avoiding childbearing, those most likely to experience an unpredicted birth in the interval between the two interviews were women with household incomes below the poverty level, higher parity women and those who were not using any contraceptive method in 1988, despite being at risk of pregnancy.

Among those interested in postponing a birth for at least three years, white women and those who had more than a high school education were more successful than other women in avoiding an unpredicted birth in the interval between

*We had hoped to include other measures of situational change between interviews, such as change in educational attainment, change in household income and change in labor force status, but were unable to do so because the data on dates of transition lacked adequate detail to allow us to determine temporal sequences.

†Women who were pregnant at the time of the 1988 interview (4.1% of the total sample), and who would otherwise be classified in this category, have been omitted from the analysis because they were being asked about their intentions toward births subsequent to the one they were expecting, and were obviously at reduced risk of experiencing that additional birth within the period between the surveys.

‡Tests for statistical significance were performed for Tables 1 and 2. In this and the subsequent tables, we discuss only those associations that reached significance, unless otherwise specified.

Table 2. Percentage of respondents who experienced a birth in the interval between 1988 and 1990, by selected characteristics, according to intention status in 1988

Characteristics	Postpone for 3 years		Want no more	
	%	N	%	N
Total	9.7	1,235	8.1	934
Race				
Black	17.8	314	13.4	299
White	8.4	869	7.3	614
Age				
15–19	11.2	605	7.1	67
20–29	8.7	93	14.3	250
30–34	7.0	90	8.6	252
≥35	5.8	47	3.8	365
Income				
<100%	18.6	188	23.3	122
100–199%	9.1	187	6.6	170
≥200%	6.5	633	5.9	570
Education				
<high school	12.2	461	14.6	144
High school	14.7	288	7.3	344
>high school	4.5	484	6.6	446
Parity				
0	8.1	1,016	4.0	237
1	18.1	122	5.8	199
2	17.2	73	12.0	329
≥3	21.0	24	10.6	169
Marital status				
Married	12.8	158	9.0	479
Cohabiting	9.4	46	15.5	38
Formerly married	10.1	57	4.0	164
Never-married	9.2	974	7.6	253
Change in marital status				
Marriage before conception/ marriage, no birth occurred	10.1	104	13.9	51
Marriage dissolved before conception/marriage dissolved, no birth occurred	15.7	30	4.2	57
No formal change/change occurred after conception	9.5	1,097	7.9	819
Employment status				
Working full-time	9.1	407	5.4	456
Working part-time	7.4	292	7.3	151
Not working	11.2	502	13.1	299
Certainty of intention				
Very sure	na	na	7.1	670
Not very sure	na	na	10.8	264
Contraceptive status				
Using highly effective method	10.8	341	6.5	323
Using less-effective method	12.8	218	7.8	329
Not using, not at risk	5.7	574	3.7	181
Not using, at risk	24.5	102	23.7	101

Notes: Percentages are weighted. Ns are unweighted. Change in marital status is a measure of change between the two interviews. na=not applicable.

interviews. Among women who intended to forgo or discontinue childbearing entirely, those working full-time were less likely than those who were unemployed to have given birth in the time between interviews. Women aged 35 and older also were more successful than were women in their 20s at avoiding an unpredicted birth between interviews.

We conducted separate logistic regression models of the effects of social and demographic characteristics on the likelihood

of an unpredicted birth among those who wanted to postpone a birth (Table 3) and among those who wanted to forgo or discontinue childbearing (Table 4, page 226). In both tables, the first model includes only women's characteristics as of the 1988 interview and is the most comparable to research that has been done using retrospective data. The second model adds change in marital status, and the third adds contraceptive status and (for the analysis of women wanting to forgo future childbearing) certainty of intentions.

All three models in Table 3 show that among those interested in postponing a birth, women with incomes below the poverty level in 1988 were more than twice as likely as those with incomes between 100–199% of poverty to experience an unpredicted birth. For those wanting to forgo future births (Table 4), the size of the difference approaches threefold. While these results are striking, the results for education are mixed. Among respondents intending to postpone childbearing, those with a college education were clearly more successful at avoiding a birth than were those with less education (Table 3); however, education shows no effect among those women who intended to forgo or discontinue childbearing (Table 4). Similarly, race is a statistically significant factor only among those women desiring to postpone a birth (and then only in Model 1). Race lost significance when change in marital status and contraceptive status were added to the statistical models.

Women aged 35 and older who wanted to avoid future childbearing were about 60% less likely than women in their

20s to experience an unpredicted birth. Among those who wanted to postpone future births, women in their early 30s were about 70% less likely than women in their 20s to experience an unpredicted birth.

Parity was a stronger predictor of births to women who were hoping simply to postpone further births (Models 1 and 2) than it was in any of the models for women intending to discontinue or forgo childbearing (Table 4). Women wishing to postpone future childbearing who had had no live births were 50–60% less likely than comparable women who had had one child to experience an unpredicted birth in the interval. However, the differences between women with one previous birth and those at higher parities were not significant in any model in Table 3. This is consistent with the idea that the transition from no children to the first birth is the most important.

Never-married women who were postponing childbearing were more than 60% less likely to have a birth in the interval than were married women, even when contraceptive status and at-risk status were controlled for. Among women who wanted to forgo future childbearing entirely, marital status had no statistically significant impact on the likelihood of experiencing an unpredicted birth; similarly, a change in marital status had no significant impact on the likelihood of experiencing a birth.

Not surprisingly, contraceptive status had a pronounced effect on the likelihood of having an unpredicted birth. Among women wishing to postpone and those wishing to have no future births, those who were not using a contraceptive method while at risk of pregnancy were 2–3 times as likely as users of effective methods to report an unpredicted birth.

After we controlled for all other characteristics, employment status in 1988 had no statistically significant effect on the likelihood of having a birth in the interval; it is therefore shown only for Model 1 in both tables. Certainty of intentions also failed to predict success or failure in avoiding a birth after the effects of other relevant variables were controlled for.

Discussion

In this prospective analysis of unintended fertility, we were specifically interested in comparing women's intentions to avoid a birth with their fertility during the interval between surveys, so that comparisons could be drawn between the predictors of unintended childbearing that are identified prospectively and those that

have been identified retrospectively.* We looked at women who wanted to postpone childbearing separately from those who wanted to forgo future childbearing: Respondents who were unsuccessful at postponing a birth could be considered comparable to women who had experienced mistimed births in retrospective studies; respondents who were unable to avoid future births altogether could be considered comparable to those who had experienced unwanted births.†

Many of the effects of the social and demographic variables remained significant in our analysis, even when changes in marital status, certainty of intention and contraceptive use were controlled. While the results demonstrate the importance of contraceptive use in mediating intention and behavior, they also indicate that some women are less likely to have an unpredicted birth due to factors in addition to contraceptive status alone.

Many of our results are consistent with those of previous retrospective studies. For example, we too found effects of education and age on unpredicted fertility among women seeking to postpone a future pregnancy, and the effects were in the expected directions.

Some of our findings are not consistent with those of earlier retrospective analyses, however. Interestingly, our findings suggest that older women who wanted no (or no more) children were significantly less likely than women in their 20s to experience the equivalent of an unwanted birth in the interval, even when at-risk status was controlled for, and the effect of parity was not significant. Race was significant only among women interested in postponing a birth and only in Model 1, which most closely approximates studies using retrospective data. The lack of effect of race among those forgoing childbearing is surprising, as race is often one of the strongest predictors of unwanted childbearing when it is assessed retrospectively, net of other factors. Further, those wanting to postpone a birth who were never-married were less likely to experience an unpredicted birth in the interval than were married women, even when at-risk status was controlled. These findings are less consistent with earlier analyses that have examined this issue retrospectively.

Table 3. Coefficients of logistic regression analysis and odds ratios predicting births between 1988 and 1990 to respondents who in 1988 had wanted to postpone childbearing for at least three years (N=1,203)

Characteristic	Model 1		Model 2		Model 3	
	Coefficient	Odds ratio	Coefficient	Odds ratio	Coefficient	Odds ratio
Race						
White (ref)	na	1.00	na	1.00	na	1.00
Black	0.45*	1.57	0.35	1.42	0.38	1.46
Other	0.05	1.05	0.05	1.05	0.00	1.00
Age						
15–19	0.57	1.77	0.29	1.34	0.52	1.68
20–29 (ref)	na	1.00	na	1.00	na	1.00
30–34	-1.22*	0.30	-0.97	0.38	-1.33**	0.27
≥35	-0.94	0.39	-0.66	0.52	-1.07	0.34
Income						
<100%	1.04**	2.83	0.88**	2.40	1.01**	2.73
100–199% (ref)	na	1.00	na	1.00	na	1.00
≥200%	0.07	1.07	0.14	1.15	0.11	1.12
Unknown	0.51	1.66	0.49	1.63	0.55	1.74
Education						
<high school	-0.16	0.86	-0.26	0.77	-0.05	0.95
High school (ref)	na	1.00	na	1.00	na	1.00
>high school	-0.87**	0.42	-0.88**	0.41	-0.91**	0.40
Employment status						
Not working (ref)	na	1.00	na	na	na	na
Working full-time	0.37	1.45	na	na	na	na
Working part-time	-0.19	0.83	na	na	na	na
Parity						
0	-0.68*	0.51	-0.95**	0.39	-0.59	0.55
1 (ref)	na	1.00	na	1.00	na	1.00
≥2	0.63	1.87	0.62	1.86	0.43	1.54
Marital status						
Married (ref)	na	1.00	na	na	na	1.00
Never-married	-1.01**	0.36	na	na	-1.02**	0.36
Cohabiting	-0.27	0.76	na	na	-0.28	0.76
Formerly married	-0.85	0.43	na	na	-0.65	0.52
Change in marital status						
No formal change (ref)	na	na	na	1.00	na	na
Got married	na	na	0.35	1.42	na	na
Union dissolved	na	na	0.37	1.45	na	na
Contraceptive use						
Using highly effective method (ref)	na	na	na	na	na	1.00
Using less-effective method	na	na	na	na	0.51	1.66
Not using, not at risk	na	na	na	na	-0.54	0.58
Not using, at risk	na	na	na	na	0.92**	2.50
<i>Constant</i>	-1.39**	na	-1.75***	na	-1.36***	na
<i>χ² (df)</i>	73.9*** (17)	na	63.3 (14)	na	93.1 (18)	na

*p<.05. **p<.01. ***p<.001. Notes: Change in marital status is a measure of change between the 1988 interview and the 1990 reinterview. ref=reference category. na=not applicable.

Where differences exist between the two types of data, we can assume one of several things. First, some women may be more apt to fail to report births as unintended when asked about their attitudes retrospectively. Second, others may be more likely to experience situational changes that had not been anticipated and

that made childbearing more desirable in the time period between interviews when the analysis is done prospectively. If only the first condition were true, we might conclude that white women, women in their 20s and more highly educated women are particularly likely to under-report unwanted births. In addition, mar-

*While it also would be interesting to determine how successful pregnancy seekers were in meeting their objectives, that would raise a host of additional questions that go beyond the scope of this research. Further, the interval between the two surveys is quite short and avoidance of childbearing in a three-year period is more easily con-

trolled than conceiving and delivering on schedule.

†We expected that the latter would be more highly motivated to avoid a birth, and so probably more likely to use contraceptives, especially more effective methods. Both suppositions were supported (data not shown). While those interested in postponing a birth were somewhat less

likely to be using effective methods (a difference of about seven percentage points), they were much less apt to be using any type of method (a difference of about 25 percentage points). Ultimately, though, the difference between the proportions of those postponing and those forgoing a birth who actually experienced a birth was very small.

Table 4. Coefficients of logistic regression analysis and odds ratios predicting births between 1988 and 1990 to respondents who in 1988 wanted to avoid all future childbearing (N=898)

Characteristic	Model 1		Model 2		Model 3	
	Coefficient	Odds ratio	Coefficient	Odds ratio	Coefficient	Odds ratio
Race						
White (ref)	na	1.00	na	1.00	na	1.00
Black	0.11	1.11	-0.04	0.96	0.10	1.11
Other	-0.47	0.63	-0.47	0.63	-0.62	0.54
Age						
15-19	0.12	1.13	0.15	1.16	0.13	1.14
20-29 (ref)	na	1.00	na	1.00	na	1.00
30-34	0.34	0.71	-0.43	0.65	-0.49	0.61
≥35	-0.82*	0.44	-0.94**	0.39	-1.10**	0.33
Income						
<100%	1.09**	2.97	1.07**	2.92	1.09**	2.96
100-199% (ref)	na	1.00	na	1.00	na	1.00
≥200%	-0.12	0.89	0.03	1.03	-0.13	0.88
Unknown	0.48	1.61	0.63	1.88	0.56	1.75
Education						
<high school	0.11	1.12	0.19	1.21	0.07	1.07
High school (ref)	na	1.00	na	1.00	na	1.00
>high school	0.20	1.22	0.20	1.23	0.20	1.22
Employment status						
Not working (ref)	na	1.00	na	na	na	na
Working full-time	0.28	0.76	na	na	na	na
Working part-time	-0.10	0.91	na	na	na	na
Parity						
0	-0.64	0.53	-0.82	0.44	-0.64	0.52
1 (ref)	na	1.00	na	1.00	na	1.00
≥2	0.45	1.57	0.55	1.73	0.47	1.59
Marital status						
Married (ref)	na	1.00	na	na	na	1.00
Never-married	-0.33	0.72	na	na	-0.45	0.64
Cohabiting	0.88	2.42	na	na	0.78	2.17
Formerly married	-0.79	0.46	na	na	-0.80	0.45
Change in marital status						
No formal change (ref)	na	na	na	1.00	na	na
Got married	na	na	0.78	2.18	na	na
Union dissolved	na	na	-0.60	0.55	na	na
Certainty of intention						
Very sure (ref)	na	na	na	na	na	1.00
Not very sure	na	na	na	na	0.33	1.39
Contraceptive use						
Using highly effective method (ref)	na	na	na	na	na	1.00
Using less-effective method	na	na	na	na	0.68*	1.97
Not using, not at risk	na	na	na	na	0.48	1.61
Not using, at risk	na	na	na	na	1.19**	3.28
Constant	-2.29***	na	-2.60***	na	-2.85***	na
X ² (df)	47.5 *** (17)	na	43.8*** (14)	na	58.2*** (19)	na

*p <.05. **p <.01. ***p <.001. Notes: ref=reference category, na=not applicable.

measures clearly do not capture all of the necessary information about the context in which fertility decisions are made (or not made). The failure of attitude certainty to contribute more to our analysis may suggest that it is more subject to change upon reflection or under evolving circumstances than has been thought. An assessment of fertility at progressively longer durations, in addition to the two-year interval, might also improve the test of the importance of certainty of intentions.

As we have noted, we also had hoped to examine a number of changes in the respondents' life circumstances that might have altered their attitudes toward near-term childbearing (such as household income, marital status, labor force participation and schooling). If respondents experienced a change in circumstances that made childbearing in the time frame desirable or at least acceptable, we expected that some women's attitudes toward pregnancy avoidance might genuinely have changed during the interval. Unfortunately, with the exception of marital status, the NSFG data lack the level of detail that would establish temporal ordering of births and such status changes in the interval. We were therefore limited to looking at changes in marital status, obviously a potentially important determinant for fertility phenomena. Surprisingly, we found no effect of certainty of intentions or change in marital status on the odds of experiencing an unpredicted birth.

Despite the limitations of the data, this analysis updates our knowledge of the linkages between intentions to avoid childbearing and subsequent fertility behavior in the near term in the United States. In so doing, it should contribute to ongoing attempts at improving data quality. Future prospective studies that allow for analysis of larger samples of unpredicted births with more detailed information about sequences of events, and perhaps with data allowing multi-item constructs on attitudes,³⁰ will help answer some of the questions raised here.

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ried women might be relatively more likely than never-married women to under-report births as mistimed. If only the second condition were true, we could conclude that those same groups of women were particularly likely to experience a situational change that made childbearing more desirable in the interval than it had been at the time of the first interview (and that they were able to become pregnant within the short time frame between the two surveys).

The literature we reviewed suggests that a comparison between stated inten-

tions and subsequent fertility behavior should focus on the social and demographic characteristics of the respondents, as well as on changing circumstances in their lives and the certainty of their intentions to avoid a birth. Past research implies that consistency between intention and behavior would be greatest when the intention was one of some certainty and when major changes had not occurred in the person's life to bring about a change in attitude.

We were able to analyze data that begin to assess both of these factors, although our

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