Extended Abstract: Revisiting Retrospective Reporting of Birth Intendedness

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Concerns over the measurement and accuracy of retrospective reports of unintended fertility are common. Although there is a broad literature on unintended fertility measurement (generally concluding that existing measures are valid), a major gap has been the inability to explore the consistency of retrospective reports. In this research, we take advantage of the National Longitudinal Survey of Adolescent Health (Add Health), one of the few data sources with information about the *same* birth at two different time points. Our main focus is consistency of unintendedness reports, but we also examine less subjective measures (relationship status and contraceptive use) for comparison. Our preliminary analyses show that a fair number of women change reports of intendedness (22%), contraceptive use (30%), and relationship status across waves (38%). We plan to analyze report consistency in a multivariate setting to examine the role of socioeconomic factors as well as the inter-relationship between measures.

Continued high levels of unintended fertility in the U.S. are one of the "persistent empirical puzzles" of family demography (Bachrach et al. 2007: 2). Contraception is now widely available and highly effective, but over one-third of recent births were reported as unintended (Mosher, Jones, and Abma 2012). Because unintended births are associated with negative health outcomes for women, children, and families (Logan, Holcombe, Manlove, and Ryan 2007), the reduction of unintended fertility has been one of the objectives of the Healthy People national initiatives since 1980 (U.S. Department of Health and Human Services 1980, 1990, 2000, 2010). Yet levels of unintended fertility have declined only slightly since the 1980s (Mosher, Jones, and Abma 2012), despite continued sweeping changes in the age and relationship context of childbearing in the U.S.

As part of the large body of research documenting and explaining unintended fertility, questions have arisen about the measurement of birth intendedness and the degree to which reported trends or levels are distorted by inappropriate measures, social desirability bias, or retrospective recall issues. This paper adds to assessments of the standard measure of fertility intentions by evaluating the degree to which women report unintended fertility consistently over time. We use two waves of data from the National Longitudinal Study of Adolescent Health (Add Health) to assess consistency of reports of intendedness of first births in young adulthood across waves. As a comparison, we also analyze the consistency of two other reports of birth context, relationship status at the time of the birth and contraceptive use at the time of conception. Preliminary results presented in this extended abstract show that inconsistency in the characterization of intendedness, contraceptive use, and relationship status at first birth is common. The completed paper will use multivariate analyses to explore whether inconsistency

(or stability) is related to socioeconomic characteristics and to examine the extent to which consistency across multiple measures is correlated.

Measuring unintended fertility

Since the earliest surveys of fertility and family behavior in the United States, demographers have both carried out ambitious data collection projects and, at the same time, expressed skepticism about respondents' willingness or ability to report accurately on demographic behavior and attitudes. To soothe this persistent skepticism, demographers have used both internal consistency checks and comparisons across data sets to assess the accuracy of reporting for multiple outcomes (see, among many others: Cherlin, Griffith, and McCarthy 1983; Halpern-Meekin and Tach 2012; Hayford and Morgan 2008; Joyce, Kaestner, and Korenman 2002; Joyner et al. 2012; Knab and McLanahan 2006; Pollard and Harris 2006; Raley, Harris, and Rindfuss 2000; Swicegood, Morgan, and Rindfuss 1984; Teitler, Reichman, and Koball 2006; Wu, Martin, and Long 2001). As might be expected, these tests have yielded mixed results. As a general pattern, outcomes that are socially salient or highly institutionalized – dates of birth or marriage, for instance – tend to be the most accurately and consistently reported. Attitudes or behaviors that are open to interpretation or subjective redefinition, or those that are the subject of social norms and judgment, are more likely to be misreported, whether deliberately or because of subconscious processes of recall or redefinition.

Birth intendedness is a subjective, internally defined outcome that is prone to social judgment and stigma. As such, it is a prime candidate for instability and inaccuracy in reporting. In part to reduce these concerns, most surveys do not ask directly whether a pregnancy was wanted, intended, or planned (Klerman 2000). Instead, intendedness is generally derived from a

series of questions, and these questions are, by and large, retrospective. That is, women[1] with children are asked to recall their attitude towards having a child at the time of conception. The most widely used measure of unintended fertility in the United States comes from the National Surveys of Family Growth (NSFG), a series of repeated cross-sectional nationally representative surveys of women of reproductive age. In the most recent iteration of the survey, carried out between 2006 and 2010, for each pregnancy, respondents are asked: "Right before you become pregnant, did you yourself want to have a(nother) baby at any time in the future?" If the respondent says yes to this question, the pregnancy is considered "wanted"; if no, it is considered "unwanted." For wanted pregnancies, women are then asked whether they became pregnant "too soon, at about the right time, or later than you wanted?" Pregnancies that occurred too soon are considered unintended, while pregnancies that took place at the right time or too late are intended. This question has been asked, with some minor changes in wording, since the first NSFG, carried out in 1973, and before that similar questions were asked in the National Fertility Surveys of 1965 and 1970.

The measurement of unintended fertility has been critiqued on both empirical and conceptual grounds. However, only limited previous research has assessed the internal consistency of the retrospective measure of fertility intentions, in part because of the limited data available for such assessments. Westoff and Ryder (1977) used longitudinal data collected in 1970 and 1975 to compare prospective and retrospective intentions for childbearing. Some women who said in 1970 that they wanted no more children nevertheless reported births between 1970 and 1975 that they labeled as wanted, suggesting some tendency for women to report

[1] Early survey data on fertility intentions was limited to women. Recent surveys have begun to incorporate data on men as well, but a consensus has not yet been established about how best to ask men about childbearing (see, e.g., Joyner et al. 2012). In this article, we focus on data from women.

existing children as wanted, regardless of actual intentions at the time of conception[2]. Joyce, Kaestner, and Korenman (2000; 2002) used data from the National Longitudinal Survey of Youth-1979 (NLSY) to examine the consistency of reports of pregnancy intention and the association between reported intendedness and various maternal and child outcomes. Because of the design of the NLSY, some women were asked about pregnancy intention during pregnancy, some were asked after delivery, and a small subsample were asked both during pregnancy and after the birth. Of the small number of women who reported on intentions both during pregnancy and after the birth, more than 80% gave stable reports, and roughly equal proportions changed from intended to unintended as from unintended to intended (Joyce, Kaestner, and Korenman 2000). Analyses using an instrumental variable approach (with timing of interview relative to pregnancy and variation in the stage at which women recognize a pregnancy as instruments) suggest that reports of wantedness during pregnancy and after birth produce similar population estimates of unintended fertility (Joyce, Kaestner, and Korenman 2002). However, previous research on the consistency of retrospective reports of fertility intentions does not analyze the characteristics of mothers or births that increase or decrease consistency of reports. Given the public health interest in predicting the causes and consequences of unintended fertility based on retrospective reports, it is important to understand variation in women's responses to retrospective questions about fertility intentions.

Analytic approach and hypotheses

In this article, we use data from Add Health Waves 3 and 4 to assess consistency of reports of intendedness for the same birth, collected approximately six years apart. For comparison, we also analyze consistency of reporting of contraceptive behavior at the time of birth and relationship

[2] Joyce, Kaestner, and Korenman (2002) point out that Westoff and Ryder's analysis also identifies women who wanted more children in 1970 but by 1975 reported unwanted births in the interval. These women may have changed their mind about wanting more children or may have retrospectively reclassified births as unwanted.

status at birth. The question on intendedness in Add Health (discussed below) is a slight variation on the standard measure of intendedness, but it is the only known data source that collects retrospective information on the *same* birth at two different timepoints for a large sample of births.

Our hypotheses are based on previous conceptual and empirical concerns expressed in the research literature on retrospective reporting of birth intendedness. Since the earliest applications of the standard measure, researchers have worried that women might be unwilling to report an existing child as unintended (Ryder and Westoff 1972. More broadly, as children grow older, there may be a general trend toward recharacterizing births as intended if positive feelings grow as the mother-child relationship progresses; it may be that people become less likely to remember negative feelings and emotions and have a natural tendency to remember past events more positively over time, an extension of the so-called "positivity effect" seen in older adults (Murphy and Isaacowitz 2008). Misreporting of retrospective pre-pregnancy attitudes is of particular concern for the measurement of the causes and consequences of unintended birth if women's feelings change in response to pregnancy outcomes. For example, a woman reporting on birth intendedness several years after the birth may feel more positively about a birth that was followed by a healthy child and a stable relationship and less positively about a birth resulting in a difficult child or the breakup of a relationship. These feelings may influence, either consciously or unconsciously, her reports of whether she intended to get pregnant at the time of conception. That is, the negative relationship between unintendedness and pregnancy outcomes might be the result of retrospective reclassification of birth intendedness rather than a true causal (or even selection-based) relationship.

Birth characteristics, as well as time elapsed since birth, are also likely to be important for the consistency of reports. Although attitudes toward nonmarital childbearing have changed in the United States, there continue to be strong preferences for childbearing within marriage as well as similarly strong norms about the appropriate timing of childbearing and sequencing of fertility and other life course transitions (Thornton and Young-DeMarco 2001). Either because of true differences in planning or in reaction to social stigma about planning births in non-normative circumstances, nonmarital and early births may be stably reported as unintended, and less likely to be reported differently when measured at different times. We may also see young women who initially reported an early birth as intended later recharacterizing the birth as unintended if they made the transition to adulthood and found that having had that early birth was somewhat problematic. Further, if people do change their categorization of intendedness, they may also change reports of contraceptive behavior at conception or relationship context of the birth to make their reports consistent with each other.

We test five overlapping hypotheses about consistency of reporting of intendedness, contraceptive use, and relationship status. In this extended abstract, we present bivariate results for hypotheses 1 and 2. The completed paper will test all hypotheses.

Hypothesis 1: Overall, births will be more likely to be reported as intended at the second time point than at the first time point.

Hypothesis 2: Consistency of reporting will be greater for more objective behaviors than less objective attitudes: specifically, consistency will be greatest for relationship status and least for intendedness, with intermediate levels of consistency for contraceptive behavior.

Hypothesis 3: Reports of intendedness will vary over time, influenced by the stability of the birth relationship, age at birth, duration since birth, and initial categorization.

Hypothesis 4: Reporting of intendedness and contraceptive behavior will be more likely to change to increase within-wave consistency across measures than to decrease within-wave consistency.

Hypothesis 5: Women who change reported relationship at birth to a less stable form of relationship will also be more likely to change reported intentions from intended to unintended.

Data and methods

Data, measures, and sample

We use the National Longitudinal Survey of Adolescent Health (Add Health), a nationally representative school-based sample of adolescents surveyed in 1995 (W1), 1996 (W2), 2001-02 (W3), and 2007-08 (W4). Adolescents were in grades 7-12 at W1, and by W4, they were 24-32 years old. There are 15,701 respondents in W4. Due to concerns over the accuracy and validity of male fertility reports (problematic in nearly all surveys; see Joyner et al. 2012), we restrict our analyses to women (n=8,352). We further restrict our analyses to women who were also interviewed at W3 (n=7,086) and who reported at least one birth at either (or both) W3 and W4 to track the stability of fertility reports over time (n=3,983 mothers). We limit analysis to waves three and four because earlier waves did not collect information on birth intendedness.

Add Health collects pregnancy and birth information in a rather complex fashion, by collecting detailed relationship histories and creating pregnancy records nested within relationships. In W3, a full history of pregnancies and relationships since June of 1995 (W2) was collected by inquiring about "any romantic relationships and sexual relationships you have had at any time since [June 1995]" to generate a list of relationships, followed by "If you have had any other relationships involving a pregnancy, please list them now," at which point an additional

question was asked “Does this include all relationships involving a pregnancy?” For W4, Add Health collected a nearly full retrospective history of cohabitations and marriages and all partnerships that included a pregnancy to get information throughout the respondent’s lifetime. Respondents were asked about all marriage partners, all cohabiting partners (for cohabitations lasting one month or more), all current romantic and sexual relationships, other romantic and sexual partnerships since 2001, and were additionally asked “Not counting marriage and cohabiting partners [already listed], with how many persons have you have had a romantic or sexual encounter that resulted in a pregnancy?” The W4 approach to gathering information is particularly exhaustive. Records were created for each marriage, cohabitation, romantic/sexual relationship since 2001, and relationship/encounter that produced a pregnancy.

In both waves, Add Health generated pregnancy records based on the relationship records. A separate record was generated for each pregnancy-relationship pair; if the respondent was in more than one relationship during the pregnancy, multiple pregnancy records were generated, one for each relationship. Pregnancy records included information on the outcome of the pregnancy (miscarriage, abortion, still birth, live birth, multiple birth, current pregnancy), month and year of pregnancy completion (i.e., date of birth for live births, or expected date of birth for current pregnancies). Add Health generated separate sets of records for all pregnancies and for live births. Information on intendedness, relationship status at birth, and contraceptive use at conception are taken from the completed pregnancy file for those pregnancies ending in a live birth and from the current pregnancy file for current pregnancy.

Of the analytic sample of women who reported at least one birth in either W3 or W4, 1,919 women reported at least one birth in the W3 survey and 3,904 reported at least one birth in

W4; 2,064 women who did not report a birth in W3 reported one in W4.[3] To examine comparability of the birth data across waves, we went through several steps. First, we constructed person-level records from the W3 and W4 pregnancy-level files created by Add Health. To do this, we ordered the live birth records by date of birth and transposed the data to make them person-level records, discarding the cases where the same birth was listed more than once. (As described above, data on births were collected in the context of relationship histories. Multiple birth records were produced when the woman was in more than one relationship at the time of the pregnancy. We dropped these cases to avoid confusion over the reporting of relationship status at birth.) Second, we combined the two separate person-level birth files from W3 and W4 to compare fertility information. Of the 1,919 women with a live birth in W3 and who were interviewed at W4, 79 women had no live births listed in W4; it is not clear why these births were not recorded in W4. Of the 2,064 women with a live birth in W4 but no births reported in W3, the first birth dates for 415 of these women occurred prior to the interview date for W3. That is, there are 415 births that occurred prior to W3 (among women interviewed at W3 and W4) that were reported in W4 but not reported in W3. Of these 418 mothers, 27 had their first child prior to June of 1995 (without subsequent births before W4) and were thus before the recollection period specified in the W3 survey. The remaining 391 births that appear in W4 that should have appeared in W3 were missed in the earlier wave due to the complicated skip patterns, as some respondents failed to report on births in the context of cohabitations and marriages that had been reported in an earlier portion of the survey. For this analysis, we do not attempt to account for discrepant reporting of births themselves (whether a birth was reported at all), but focus on the 1,840 women who reported live births at both W3 and W4, as our main interest is not *whether* people report births but *how* stably they report characteristics of births.

[3] There were 209 births in W3 among women who were not reinterviewed at W4.

(Our estimates of inconsistency in reporting of intendedness and other birth characteristics are thus likely to be lower bounds, since our analysis excludes women with the largest inconsistencies in reporting, i.e., differences in reported number of births, and women with the most complex relationship histories, i.e., those who were in multiple relationships during the pregnancy.)

Next, we attempted to match births reported in W3 to births reported in W4 using reported dates of birth. In doing so, we discovered additional missing births at both W3 and W4. In W3, 39 of the births reported as first births matched births reported as second or later births listed in W4, meaning the W3 survey captured higher-order births but missed the first birth; in 11 cases, this occurred because the first birth occurred prior to June 1995. We reassigned the W3 birth information to the appropriate birth order based on W4 information. In W4, 43 of the births reported as first births matched births reported as second or later births in W3; that is, there is a live birth record in W3 with a birth occurring prior to the first birth recorded in W4. We reassigned the W4 birth information to the appropriate birth order based on W3. In neither instance did we actually use information from the other wave to fill in missing first birth data; it simply became missing for first birth in these 83 cases. This leaves us with 1,757 women with first births for which we have information from both W3 and W4.

Finally, of the 1,757 women who have valid first birth information at both waves, first birth century-month dates match up exactly for 1,604 cases. An additional 46 cases had first birth dates that differed by only 1-2 months; we uniformly recoded the W3 births to the W4 values for consistency. (We take W4 values because the W4 fertility collection process is generally regarded as more complete and accurate than the W3 process due to the skip issue in W3.) This leaves us with 1,650 first births across the two waves. We exclude 100 cases that are missing

sample weights, which are vital given the stratified cluster design of Add Health, producing a sample size of 1,550. Future analyses will also incorporate higher parity births with matching dates of birth (415 second births and 75 third births).

Our primary focus is on reports of pregnancy intendedness, a subjective measure of the respondent's memory of her fertility desires at the time of conception. We also analyze consistency of reporting of two additional measures of birth context: relationship status at birth and contraceptive use at conception, a behavioral measure of birth planning. Pregnancy intendedness is measured with the question, "Please think back to the time just before you became pregnant. Did you want to have a child then?" Responses are categorized as no (unintended), yes (intended), or refused/don't know/missing. The questions were worded almost identically across waves. A follow-up question regarding timing (having a child later) and wanting to have a child with that specific partner were asked at W3 but not W4, so we are unable to compare timing and relationship-specific intendedness. A small number of cases had values of don't know/refused/missing information for intendedness (n=87); almost all of these cases were missing at W3 but not W4. In the current analyses, we drop these cases. Future analyses will assess the sensitivity of results to treating missing information as a separate response category. This leaves us with a sample size of 1,463 for analyses of pregnancy intendedness.

Relationship status is directly asked for each birth and current pregnancy at both waves and is derived from three questions asked identically at both waves. First, respondents were asked, "Were you and <partner> married to each other at the time of this birth [live birth]/are you married [current pregnancy]?" For negative responses (not married), respondents were then asked, "Were you and <partner> living together at that time [live birth]/are you and he living together in the same household [current pregnancy]?" Finally, respondents who reported they

were neither married nor living together were asked, “Which of the following statements best describes your relationship with <partner> at the time of this birth [live birth]/best describes your relationship with him at present [current pregnancy]?” For the last question, response categories included “never see or talk to each other,” “hardly ever see or talk to each other,” “just friends,” “involved in an on-again, off-again relationship,” and “romantically involved.” We combined the “never see” and “hardly see” categories into one group that we categorized as “no relationship” and then combined this with the marriage and cohabitation questions to have a 6-category variable ranging from marriage to no relationship. There are 38 cases with missing information on the direct question regarding relationship status at one or both waves. As for intendedness, we drop these cases in the present analysis. For analyses of relationship status, our sample size is 1,512.

Contraceptive use at the time of conception is measured with the question, “Before you got pregnant, were you or <partner> using any kind of birth control when you had sex with each other?” at W3 and “In the month before you got pregnant, were you or <partner> using any kind of birth control, including condoms?” at W4. Although these questions are not identical, they both ask about the same behavior during the same period, and we feel they are similar enough to warrant comparison. Responses are categorized as no (not using birth control), yes (using birth control), or refused/don’t know/missing. Consistency of use and birth control type were not measured at both waves. We exclude the 48 cases with don’t know/refused/missing information, as the vast majority of these (n=43) were missing at W3 but not W4. This leaves us with a sample size of 1,502 for contraceptive use.

The average time between surveys is 6 years, 5 months, and the maximum observed span between surveys is 7 years, 8 months. The average first birth occurred about 3 years prior to W3

and 9 ½ years prior to W4. The full paper will present complete descriptive statistics for the sample. Add Health is designed to be nationally representative, so the births largely resemble births to mothers in this age-cohort grouping. However, because the births in our analysis are predominantly to women in their teens and early twenties, the mothers we analyze are less educated and lower income than a cross-sectional sample of births to women of all ages would be.

Methods

This extended abstract presents basic descriptive statistics on the level of consistency and the direction of changes in reporting between W3 and W4. The completed paper will expand both bivariate and multivariate statistics. We will calculate Cohen's kappa, a measure of interrater reliability that takes into account the marginal distribution of the outcome, for all three of our outcome measures. We will also estimate multivariate logistic regression models predicting between-wave changes in reports as a function of W3 report, background characteristics, and life course transitions between waves. For each outcome measure, change in the other outcome measures and consistency between outcomes will be included as predictors.

Preliminary bivariate results

Table 1 displays the weighted distribution of reports of pregnancy intendedness and contraceptive use across waves. At the aggregate level, reports are fairly consistent across waves. Of the births that occurred by W3 (ages 18-24), 58.9% were reported as unintended in W3 compared to 60.6% in W4. At the individual level, however, recategorization is common. 17.1% of births that were labeled unintended in W3 were reported as intended in W4, and 29.0% of intended births in W3 were unintended by W4. Stability of reports was greater for births initially characterized as unintended than for intended births, perhaps because the majority of births in

this age range are reported as unintended. Contrary to Hypothesis 1, there is no trend towards more reports of intended births; in fact, the opposite is true. Overall, 22% of women provided inconsistent reports of intendedness across W3 and W4 (not shown).

Table 1 here

For consistency of birth control usage reports, there is more variation within waves and more change across waves. At the W3 survey, 39.4% of women with a first birth reported using birth control before they got pregnant, but by W4, only 26.8% reported they were using birth control at their first birth. This change may be attributable in part to changes in question wording: the W3 question asked about the period "before you got pregnant," while W4 asked specifically about "the month before you got pregnant;" however, the inclusion of the qualifier "including condoms" at W4 might actually increase reports of birth control usage, if the term "birth control" tends to connote hormonal methods (Jones and Biddlecom 2011). Stability was much higher for women who reported not using birth control at W3, of whom 85.1% also reported not using birth control when asked about the same pregnancy/birth at W4. In contrast, only 45% of women who initially reported using birth control at W3 still reported using birth control at W4. Overall, then, 30% of women reported different birth control usage at both waves when asked about their first birth that occurred prior to W3 (not shown).

Table 2 displays the weighted distribution of first birth relationship status at both waves 3 and 4 and the cross-tabulation of W3 relationship statuses by W4 statuses. Several things can be seen here. First, a large majority – around 75% – of first births among those who had a birth by W3 were outside of marriage, regardless of which report we use; keep in mind that at W3, the respondents were aged 18-24, and most early births in the United States are nonmarital. Second, there is a fair amount of relationship recategorization across waves. The highest level of stability

of relationship reports occurred among individuals who had their first birth and reported being married at birth at W3, but even among these respondents, who are reporting on a formal legal relationship, only 84.4% also categorized their first birth relationship status in the W4 survey as married. Third, there is a general inverse relationship between relationship "seriousness" and the stability of the report across waves. The stability of categorization was lower across waves for those who reported cohabiting (61.7%) or being romantically involved (64.6%) at their first birth in W3 than it was for those who reported being married. (It is interesting to note that in this respect cohabitation is more similar to being "romantically involved" than it is to marriage, at least for young cohabitors.) It was even lower for those who reported being in an on-off relationship (43.5%) or not being involved at all (38.3%) at W3, but the lowest level of stability occurred among those who reported being just friends (11.4%). Overall, 62% of respondents reported the same relationship type for their first birth across waves, with 20% reporting a less serious relationship and 18% reporting a more serious relationship (not shown). Hypothesis 2, regarding which measures will be most likely to change, is thus not supported.

Table 2 here

We do not present full results analyzing consistency of reports across multiple domains at once. Preliminary analyses suggest that there is little correlation between changing reports for one measure and changes in another. Only 7% of women changed both their pregnancy intendedness and birth control usage responses across waves (representing only 15% of all those who changed at least one of these two measures). There is a similar lack of an association among relationship status changes and changes in pregnancy intendedness and contraceptive use. For instance, a roughly equal proportion of those who changed how they categorized the intendedness of their first birth reported a more serious relationship (19%) or an less serious

relationship (20%); similarly, 22% of those who reported a less serious relationship changed their intendedness, compared to 21% of those who did not change their relationship status, and 25% of those who reported a more serious relationship.

Discussion and next steps

Preliminary analyses of fertility data from Add Health suggest fairly high levels of inconsistency in the reporting of birth intendedness and other birth characteristics. Overall, about one in five women with a birth before W3 changed their reports of whether the birth was intended between W3 and W4. These results might suggest problems with the standard measure of birth intendedness, especially when applied in this age group. However, parallel analyses show similar levels of inconsistency for relationship status at birth – even for marriage, a formal, legal relationship – and contraceptive use prior to pregnancy. Thus, inconsistency in reports of pregnancy intendedness should be understood in the larger context of instability of reports of demographic behavior. The bivariate results do not support Hypotheses 1 and 2. Women are actually *less* likely to report a birth as intended over time (contrary to Hypothesis 1), and our more "objective" measure (relationship status) is the *least* consistent over time (contrary to Hypothesis 2).

The completed paper will examine changing reports of pregnancy intendedness as a substantive phenomenon. We will use multivariate analyses to predict changes in reports as a function of background characteristics (age, race-ethnicity, childhood family structure, education and employment status at the time of conception) and of life course transitions that take place between waves 3 and 4 of data collection (changes in relationship status, school entry or exit, additional births). Analyses will also incorporate changes in reporting of contraceptive use at birth and relationship status at birth as predictors of changes in reporting of birth intendedness. In

addition, the completed paper will assess the impact of our decisions about sample construction (e.g., the decision to drop births with missing information on intendedness) and will expand analysis to study second and higher-parity births as well as first births where sample size permits. Finally, the completed paper will expand the literature review to consider in more depth the research literature on survey measurement and retrospective reporting.

It is not possible to identify "true" levels of birth intendedness or contraceptive use before pregnancy using these data. It is possible to compare reported relationship status at birth with the relationship histories collected in Add Health to assess accuracy of reported relationship status, but given inconsistency in retrospective reports of cohabitation and early relationship stages in other studies (Halpern-Meekin and Tach 2012; Hayford and Morgan 2008; Knab and McLanahan 2006; Teitler, Reichman, and Koball 2006) as well as Add Health (Pollard and Harris 2006), even these reports cannot be assumed to be universally accurate. Our analysis does not attempt to conclude which single report is most accurate but instead examines the individual and contextual factors that shape reporting of unintended pregnancy. Results will be used to gain insight into how young women interpret birth intendedness and how these interpretations might shape estimates of the consequences of unintended births.

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Table 1. Change in categorization of first birth intendedness and contraceptive use from W3 to W4 in Add Health

	Intendedness		
	Total W3 distribution	W4 report	
		Intended	Unintended
Total W4 distribution	1463	39.4%	60.6%
W3 report			
Intended	41.4% 583	71.1%	29.0%
Unintended	58.9% 880	17.1%	82.9%
	Contraceptive use		
	Total W3 distribution	W4 report	
		Using	Not using
Total W4 distribution	1502	26.8%	73.2%
W3 report			
Using	39.4% 596	45.0%	55.0%
Not using	60.6% 906	14.9%	85.1%

Table 2. Change in categorization of first birth relationship status from W3 to W4 in Add Health

	W4 relationship status						
	Married	Cohabiting	Romantically Involved	On-off relationship	Just friends	No relationship	**Total W3 distribution**
W3 relationship status							
Married	84.4%	9.5%	5.0%	1.0%	0.0%	0.0%	27.6% 406
Cohabiting	2.8%	61.7%	24.5%	6.9%	1.0%	3.2%	31.2% 457
Romantically involved	0.8%	18.6%	64.6%	11.3%	2.0%	2.7%	15.7% 263
On-off relationship	2.7%	16.0%	22.9%	43.5%	4.1%	10.9%	6.6% 113
Just friends	0.0%	6.6%	29.4%	30.3%	11.4%	22.9%	3.2% 47
No relationship	5.2%	16.6%	16.1%	18.7%	5.2%	38.3%	15.9% 226
Total W4 distribution	25.3%	28.7%	24.1%	11.0%	2.1%	9.0%	100.0% 1512