# Relationship Dynamics and Contraceptive Use Reported in an Online Weekly Survey: Preliminary Results*

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June 4, 2010

* Paper presented at Session #53, "Sexual and Reproductive Health: Contraceptive Behavior," at the European Population Conference, September 1-4, 2010, Vienna, Austria. Author information: Yasamin Kusunoki, University of Michigan, Population Studies Center, Institute for Social Research, 426 Thompson St., Room 2214, Ann Arbor, MI, 48106-1248, kusunoki@umich.edu. The author acknowledges Jennifer Barber (Principal Investigator) and Heather Gatny (Project Director). This research is supported by funding from the Eunice Kennedy Shriver National Institute of Child Health & Human Development (R01 HD050329).

**Abstract**

This paper examines the role of young women's relationship experiences on their contraceptive behaviors. I use longitudinal data from a weekly mixed-mode (online or phone) journal-based survey spanning two and half years. I investigate the effects of time-varying measures that capture the intensity and instability of relationship experiences on imperfect contraceptive use among a sample of almost 1000 18-21 year old women. I also explore reported reasons for imperfect use among the imperfect users. The results are preliminary as we are still in the midst of data collection but suggest that both the intensity (e.g., cohabitation, spending a lot of time together, exclusivity) and instability (e.g., concurrency, conflict, and partner transitions, such as getting back together with a previous partner) of young women's relationship experiences, increase the likelihood of imperfect contraceptive use. In addition, different relationship experiences are associated with different reported reasons for imperfect use. For instance, partner transitions, such as getting back together with a previous partner, are associated with a greater likelihood of reporting "no method available," being engaged or cohabiting is associated with a greater likelihood of reporting "not trying to avoid pregnancy," and conflict is associated with a greater likelihood of reporting "partner did not want to use a method". I plan to continue investigating the effects of young women's relationship experiences on imperfect contraceptive use and reasons for imperfect use through refined measurement and modeling.

**Background and Significance**

Although the United States experienced declines in unintended childbearing in the 1970s and early 1980s, levels have recently risen, and the most recent national estimates indicate that approximately 35% of live births from 1997-2002 were unintended at the time of conception (Chandra et al. 2005). Unintended childbearing is associated with a wide range of negative health statuses for children and mothers (Brown & Eisenberg 1995). The negative consequences include delayed prenatal care, depression, poor birth outcomes, divorce, developmental delay, and even child abuse. In fact, the combination of these negative health statuses and rising levels of unintended childbearing led the U.S. Department of Health and Human Services (in its National Health Promotion and Disease Prevention Objectives) to target a substantial reduction in unintended childbearing in its objectives for both 2000 (formulated in 1990) and 2010 (formulated in 2000). According to data available from the most recent national estimates of unintended childbearing, the goal for 2000 was not met, and the goal for 2010 is not likely to be met either. Research that has addressed the social consequences of unintended childbearing suggests that they may be severe, may permeate multiple aspects of social life, and may persist for the very long term (Axinn et al. 1998; Barber et al. 1999; Baydar 1995; Brown & Eisenberg 1995).

Effective and consistent contraception is a key protective behavior in the prevention of unintended pregnancy. However, a substantial proportion of young people continue to engage in unprotected sex, those who do use contraception do not do so consistently, and there are persisting differences in use by age, gender, race/ethnicity, and socioeconomic status (Abma et al. 2004; Everett et al. 2000; Glei 1999; Mosher et al. 2004). Prior research on contraceptive behaviors among adolescents and young adults has tended to focus on individual- and family-

level determinants of this variation. Comparatively less attention has been placed on the role of their romantic and sexual relationships. Yet, romantic and sexual experiences accumulate throughout adolescence and early adulthood, as does their relative importance (Collins 2003; Giordano et al. 2001). They provide a significant interpersonal context for psychosocial and sexual development (Furman et al. 1999; Giordano et al. 2001; Graber et al. 1996). Intimacy and sexuality, which often emerge as these close relationships develop, are key components of identity formation and the ability to interact with others and with the social surroundings (Connolly & Johnson 1996; Fischer et al. 1996; Furman et al. 1999; Miller et al. 1993). Relational patterns and behaviors learned may set the stage for future relationships formed in later adulthood (Raley et al. 2007). And, most importantly, sexual activity and protective practices are often negotiated within the context of these relationships (Laumann et al. 1994). In fact, a growing body of literature indicates that contraceptive practices vary by the characteristics of individuals' relationships, such as their level of commitment and differences in the characteristics of couples, such as their age and race/ethnicity (e.g., Ford et al. 2001; Howard et al. 1999; Katz et al. 2000; Ku et al. 1994; Kusunoki & Upchurch, 2010; Manlove et al. 2007; Manning et al. 2000; Soler et al. 2000; Upchurch et al. 1991; Wingood & DiClemente 1998).

While the more recently developed data collection efforts, such as those employed by the National Longitudinal Study of Adolescent Health, provide a previously unavailable opportunity to study romantic and sexual relationships that are formed during the early life course, these data are still limited. It is imperative that improvements are made to both the content and method of collection thereby allowing for a more thorough investigation of individuals' partners and relationships. For instance, data that include relationship-specific measures, such as emotional closeness, time spent together, and conflict, are still lacking relative to measures such as

relationship type (serious versus casual), duration, and frequency of sex. These other relationship measures may elucidate the mechanisms underlying the patterns of associations between measures such as type and contraceptive practices. In addition, romantic and sexual relationships are dynamic; in other words, relationships themselves develop and change across time and may also experience periods of instability. Further, and often as a function of these changes and instability, contraceptive practices also change. For instance, the perceived severity of becoming pregnant may decrease as a relationship becomes more intense or committed and therefore result in inconsistent use of contraception. Inconsistent contraception may also occur during periods of instability, for instance if a couple breaks up and then gets back together. Questions that go beyond asking about contraceptive use at first and last sex are necessary in order to better understand change in contraceptive behavior across time within a relationship. Prospective data collection efforts would allow for these types of investigations and would enable longitudinal analyses aimed at modeling change and instability both within and across relationships.

We are conducting an innovative, longitudinal, mixed method study funded by the National Institute of Child Health and Human Development (Principal Investigator: Jennifer Barber) that will address the above limitations. The overarching goal of the project is to study the factors that contribute to the risk of unintended pregnancy, with a particular focus on young women's relationships. We are collecting weekly, electronic journal-based attitudinal and behavioral measures of relationships and contraceptive use. These measures reduce the retrospective reporting period to one week, and capture the dynamics in attitudinal and behavioral aspects of relationships and contraceptive use during the early adult years, when both the instability and the risk of unintended pregnancy are at their peak. An electronic data collection journal also provides the flexibility to add contingent measures, based on specific

events. So, for example, as a new relationship begins and changes, we can measure the different relevant dimensions of that relationship, including time spent together, exclusivity, communication, conflict, decision-making, sex, and contraceptive use. We believe that weekly measurement is the correct periodicity for several reasons. First, very frequent measurement is important to ensure accurate recall of coitus-specific methods, such as condoms. Second, NSFG Cycle 6 (2002) data suggest that more than 12% of women aged 18 to 22 years of age use multiple contraceptive methods per month, indicating high levels of instability and change. Third, previous diary studies suggest that high response rates are, in part, because the diary becomes part of the respondent's routine and is thus less likely to be forgotten (Halpern et al. 1994; Jaccard et al. 2004; Searles et al. 1995). Overall, a weekly measurement strategy balances the need for a routine with the costs of minimizing measurement error while not being overly-burdensome to respondents.

As a first step in advancing our understanding of the processes leading to unintended pregnancy during the transition to adulthood, the current paper investigates the role of young women's relationship experiences on their contraceptive use. I draw on key aspects of the life course perspective to conceptualize the links between individuals, their relationships, and contraceptive behavior. The life course perspective emphasizes the importance of the timing and sequencing of events that shape individuals' trajectories across the lifespan (Elder 1995). In addition, it proposes that individuals make choices conditional on their experiences and characteristics, and within the constraints and opportunities available to them. Further, such a perspective would highlight the importance of instability and change that may occur within and across individuals' relationship trajectories, such as forming a new relationship or breaking up and getting back together with a partner. In this paper, I posit that individuals' own

characteristics as well as their relationship experiences influence contraceptive use. In other words, individuals may have some underlying propensity to use contraception but their characteristics and experiences also influence the types of relationships they form and these relationships then also affect whether contraception is used. Therefore, in the current paper, I investigate the effects of time-varying relationship experiences on imperfect contraceptive use net of individuals' sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences. I hypothesize that imperfect contraceptive use will be more likely during periods of intensity (e.g., living together, spent a lot of time with partner, agreed to be exclusive) and instability (e.g., self or partner had sex with someone else, broke up and then got back together with a partner). I also explore the reported reasons for imperfect use. In general, I expect that intensity will be associated with more planned explanations whereas instability will be associated with less planned explanations. For instance, I expect that women with intense relationship experiences (e.g., exclusivity) will be more likely to report that they were not trying to avoid pregnancy, whereas those with more unstable relationship experiences (e.g., getting back together with a partner) will be more likely to report that no method was available. To my knowledge, no other data exist that allow for such a detailed examination of young women's weekly relationship experiences and the ways in which they influence contraception.

## Data and Methods

### *Sample*

Our sample consists of young women, ages 18-19, residing in a Michigan county. Their names and contact information have been obtained from public records. To be eligible in the recruitment phase of the study, the young women were no younger than 18 and no older than 19 at the time they were first sampled. We focused on this narrow age group because women age 18

through 21 have the highest risk of unintended pregnancy. The sample was drawn in four replicates, each of which is representative of the population. The dates at which each replicate entered the field are: 1) March 2008; 2) July 2008; 3) November 2008; and 4) March 2009.

*Study Design*

An initial 60-minute face-to-face survey interview was conducted to assess important aspects of their family background; demographic information; key attitudes, values, and beliefs; current and past friendship and romantic relationships; education; and career trajectories. Once the in-person baseline interview was completed, all respondents were invited to participate in the weekly journal-based study. The journal is a weekly mixed mode (online and phone) survey. Each week respondents can choose to complete the survey either by logging into the study's secure website, or by calling a toll free number and completing the survey with a live interviewer. The survey period for each respondent is approximately 2.5 years, and during that time each respondent can potentially complete up to 183 surveys (if they complete a new survey every 5 days). Respondents are paid $1 per weekly survey with $5 bonuses for on-time completion of five weekly surveys in a row. Automated email and text messages are sent to respondents weekly to remind them to complete the surveys. If a respondent becomes late on her next survey, study staff first attempt to contact her by phone, and later by email and letter in attempt to regain her participation. Respondents who become 60 or more days late are offered an increased incentive for completing the next survey. Small gifts (e.g., pen, chapstick, compact, pencil) are also given to respondents to award continued participation.

We have completed the baseline data collection in all four replicate samples and have 1003 baseline interviews and 36,042 weekly surveys (between one and one hundred three per woman, depending on the baseline interview date). Our experience indicates that our incentive

scheme, coupled with the cooperative nature of this age group and their interest in the subject matter has resulted in extremely high cooperation rates. We have an 83% response rate and a 94% cooperation rate for the baseline interviews and over 99% of respondents who completed a baseline interview enrolled in the weekly survey portion of the study (N=992). Furthermore, weekly survey participation rates have thus far been high. To date, almost 60% of respondents have completed a survey in the past 30 days.

*Variable Description and Measurement*

*Contraception*

Our weekly measures of contraception include both coital-specific and non-coital specific methods. Specifically, we ask each respondent whether she used a non-coital specific method (birth control pills, patch, Depo-Provera/injectable, or Norplant/implant) during the period since the last weekly survey. We also ask each respondent who had sex during that period whether she used some method of birth control (including condoms) during each act of intercourse and if she did not, we ask her to identify the reason(s) that best describes why she did not do so (forgot, did not have a method available, not happy with method, partner did not want to use method, not trying to avoid becoming pregnant, and other[1]). Then, we ask whether she used a coital-specific method (condom, diaphragm/cervical cap, spermicide, rhythm/calendar method, withdrawal, other). Because our measures of contraceptive use are comprehensive, we will be able to operationalize these measures in multiple ways, such as time-varying measures based on the current week, time-varying cumulative measures based on prior weeks, and changes in contraception from week to week. Overall, a weekly survey has many advantages over other currently available general population measures of contraceptive use. The period of recall is

[1] Respondents who answered "other" were asked to specify the reason (e.g., "didn't feel like it", "allergic", "don't think I can get pregnant," etc). I will examine these open-ended responses in the future version of the paper.

substantially reduced – the one week interval is both much more common in everyday conversation and much less of a cognitive burden on respondents. The short interval greatly reduces the number of sexual events per interval, making memory of each coitally-specific contraceptive use feasible for nearly all respondents. This shorter interval will also simplify measurement of use of multiple methods and method switching because there will be less multiple method use within the shorter interval. For the analysis presented here, I focus on a time-varying measure of imperfect contraceptive use, that is, whether the respondent did not use some method of birth control every time she had sex during the period since the last weekly survey. I also explore the reported reasons for imperfect use.

*Relationship Measures*

In every weekly survey, respondents are asked whether they are still in the relationship they talked about at the last weekly survey. If they are, they are asked questions about the character of the relationship during the period since the last weekly survey (e.g., time spent together, exclusivity, communication, decision-making, conflict, cohabitation, sex). If they are no longer in the same relationship, they are first asked to identify the partner, provide the characteristics of the partner if they have not mentioned them before (e.g., age, race, ethnicity, education), and then answer the questions about the character of the relationship since the last weekly survey. For the analysis presented here, I focus on time-varying relationship measures that capture the intensity and instability of relationships: 1) current relationship status, 2) partner transitions, 3) time spent together, 3) exclusivity, 4) conflict, and 5) concurrency. Current relationship status is based on several questions and includes the following categories: 1) married, 2) engaged, 3) cohabiting, and 4) dating. Dating is the reference category in the regression models. The measure for partner transitions is also based on several questions and

includes the following categories: 1) same partner as last week, 2) first week with new partner, and 3) first week back with previous partner. Same partner as last week is the reference category in the regression models. Time spent together is based on a question that asks whether the respondent spent a lot of time with her partner and is coded 1 if yes and 0 otherwise. Exclusivity is based on a question that asks whether the respondent and her partner agreed to only have a special romantic relationship with each other, and no one else and is also coded 1 if yes and 0 otherwise. Conflict is based on a question that asks whether the respondent and her partner fought or had an argument and is coded 1 if yes and 0 otherwise. Concurrency is based on two questions, the first asks whether the respondent had sex with anyone other than the partner and the second asks whether the respondent thinks her partner had sex with anyone other than her. A relationship is considered to have been concurrent if the respondent answered yes to either of these two questions (1/0).

*Baseline Controls*

*Sociodemographic characteristics*. Several sociodemographic characteristics measured at the baseline interview are included as controls in the current analysis. Age is coded in years and ranges from 18 to 20 years; the reference category is 18 years old. Race is included as a dichotomous indicator for African American versus non-African American. School enrollment is created using information about the type of school the respondent is enrolled in and highest grade completed and includes the following categories: 1) not enrolled and did not graduate high school, 2) not enrolled and did graduate high school, 3) high school, 4) two year college/vocational/technical/other, and 5) four year college. Four year college is the reference category. A respondent is coded as receiving public assistance if she identified receiving at least one of the following: 1) WIC, 2) FIP, 3) cash welfare, or 4) food stamps. Importance of religion

is included as a continuous measure ranging from not important (1) to more important than anything else (4). A dichotomous measure indicating whether the respondent is currently living with a romantic partner is also included (1/0). Mother's age at first birth is included as a dichotomous measure indicating that the respondent's mother had her first child when she was younger than 20. Family structure is based on information about who the respondent lived with while growing up and includes the following three categories: 1) both biological parents or biological parent and step-parent, 2) single biological parent only, and 3) other situations. Two-parent family (biological or biological and step) is the reference category. Mother's education is coded as a dichotomous indicator for less than high school or otherwise. Low parental income is operationalized as $14,999 or less; a dummy for don't know or refused is also included.

*Sexual, contraceptive, and pregnancy experiences*. Sexual, contraceptive, and pregnancy experiences as of the baseline interview are also included as controls. Indicators for early sexual debut (less than or equal to 14) and average sexual debut (15 or 16 years old) are included as dummy variables in the regression models. Lifetime number of sexual partners is continuous. Respondents who have ever had sex without using birth control are coded 1 and 0 otherwise. Prior pregnancy experience is included as a three category variable: 1) no prior pregnancies, 2) one prior pregnancy, and 3) two or more prior pregnancies. The category for no prior pregnancies is the reference.

*Analytic Strategy*

I begin by describing the sociodemographic characteristics of the analytic sample of young women as well as their sexual, contraceptive, and pregnancy experiences as of the baseline interview. I then use logistic regression to estimate models of imperfect contraceptive use on each time-varying relationship measure net of the baseline controls. The analytic sample

includes all weekly surveys in which the respondent was in a relationship but was not pregnant (N=20,864). I also use logistic regression to estimate models of each reason for imperfect use on each time-varying relationship measure net of the baseline controls. The analytic sample for these models is imperfect users (N=3,494). Models account for the clustering of observations (weekly surveys) within respondents by using a random effects modeling strategy, which controls for unobserved respondent-level heterogeneity (specifically, I use random intercept logistic regressions). Results from models are presented in the form of log-odds. All analyses are conducted using Stata/SE 11.0. (The results for the effects of baseline controls on imperfect use are presented in Appendix Table 1; the results did not differ substantially upon including each relationship measure.)

**Results**

Table 1 presents the descriptive statistics for the analytic sample of young women as of the baseline interview. Most respondents were 18 or 19 years old at baseline and about 35% are African American. About 13% of respondents were enrolled in high school at baseline, over half were enrolled in a 2- or 4-year college, and almost one-third were not enrolled in school. Over one-quarter of respondents reported receiving public assistance at the time of the baseline interview. The average religious importance was 2.69 (equivalent to somewhat important to very important). About 16% were living with their romantic partner at baseline. Over one-third of respondents' biological mother's had a first child prior to age 20. Over half of respondents had lived with two parents (both biological or biological/step) while growing up, about 40% had lived with one parent, and about 8% had lived in another family situation. Less than 10% of respondents' mothers received less than a high school degree. About 14% of respondents' parents had an annual income of less than $15,000. About 17% of respondents first had sex at

age 14 or younger and about 37% first had sex between the ages of 15 and 16. The average number of lifetime sexual partners was three. Over half of the sexually experienced respondents reported ever having had sex without using birth control. Almost 23% of respondents reported at least one prior pregnancy.

Table 2 presents the relationship experiences reported by the analytic sample of young women in weekly surveys. In about 4% of weekly surveys, respondents were married to their partner, in about 12% they were engaged to their partner, in 15% they were living with their partner, and in almost 70% of weekly surveys, respondents were dating their partner. In 6% of weekly surveys, respondents reported being with a new partner and in almost 4%, they reported being back together with a partner they had talked about in a previous weekly survey. In over two-third of weekly surveys, the respondent and her partner spent a lot of time together and in almost 86% of weekly surveys, the respondent and her partner agreed to be exclusive. In 25% of weekly surveys, the respondent and her partner had fought or got into an argument. In 5% of weekly surveys, respondents' or their partners had sex with someone else. Respondents did not use contraception every time they had sex in almost 17% of weekly surveys. During weeks when respondents were imperfect users, 15% reported it was because they forgot, almost 30% reported that they did not have a method available, 15% reported not being happy with their method, almost 9% reported that their partner did not want to use a method, 23% reported that they were not trying to avoid pregnancy, and 23% reported some other reason for imperfect use.

Table 3 presents the results from the logistic regression models of imperfect contraception on time-varying relationship measures. Each relationship measure is included in a separate model net of all baseline controls. Being married, engaged, or cohabiting was associated with a greater likelihood of imperfect use compared to being in a dating relationship. Compared

to being with the same partner as the last weekly survey, being with a new partner was associated with a lower likelihood of imperfect use, whereas getting back together with a partner from a previous week was associated with a greater likelihood of imperfect use. Spending a lot of time with a partner and being exclusive with a partner were each positively associated with imperfect use. Imperfect use was also more likely during weeks in which conflict or concurrency occurred.[2]

Table 4 presents the results from the logistic regression models of reasons for imperfect contraception on time-varying relationship measures among imperfect users. Each relationship measure is included in a separate model net of all baseline controls. Compared to being in a dating relationship, being engaged to a partner was associated with a lower likelihood of reporting "forgot" as a reason for imperfect use. Being with a new partner was associated with a greater likelihood of reporting "forgot" compared to being with the same partner as the previous week. Exclusivity was negatively associated with reporting "forgot" as a reason for imperfect use. Being married, engaged, or cohabiting was associated with a lower likelihood of reporting that imperfect use occurred because "no method was available", as was spending a lot of time with a partner and agreeing to be exclusive. Having no method available, however, was more likely during weeks when respondents were back with a partner from a previous week. Relationship experiences did not differentiate reporting imperfect use because of "not being happy with a method". Women were more likely to report that their "partner did not want to use a method" during weeks in which they were engaged to a partner, had experienced conflict, and reported concurrency, but less likely to do so when they were with a new partner. Compared to being in a dating relationship, being in all other types of relationships (married, engaged, or

[2] I replicated the models controlling for each of the following: relationship duration, number of partners, and imperfect use in the previous week, and the results were comparable. I intend to further investigate these measures and different modeling strategies to account for them.

cohabiting) was associated with a greater likelihood of reporting "not trying to avoid pregnancy," as was spending a lot of time with a partner and being exclusive. This reported reason was less likely during weeks of partner transitions (first week with a new partner and back with a previous partner) and concurrency. Being married was negatively associated with reporting "other" as reason for imperfect use; no other relationship experiences were associated with reporting "other."

**Discussion**

Although the results presented here are preliminary as we are still in the midst of data collection, they indicate that young women's relationship experiences, particularly their intensity (e.g., cohabitation, spending a lot of time together, exclusivity) and instability (e.g., concurrency, conflict, and partner transitions, such as getting back together with a previous partner), increase the risk of imperfect use in a given week. And, as the results for the reasons for imperfect use suggest, this may be a function of young women's ability (e.g., no method available, partner did not want to use) and motivation (e.g., not trying to avoid pregnancy) to use contraception. The current study is a work in progress and is part of the larger ongoing project. I plan to continue investigating the effects of young women's relationship experiences on imperfect contraceptive use through refined measurement and modeling of both relationships and contraception. For instance, the future version of this paper will also investigate *changes* in relationship experiences and contraceptive use and will explore how the different domains of relationship experiences may interact with each other to influence contraceptive behaviors. Information obtained from such research endeavors will aid in our understanding of young people's dynamic relationship experiences and the ways in which these experiences influence contraceptive behaviors and ultimately the risk of unintended pregnancy.

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Table 1. Sample Distribution and Descriptive Statistics of Young Women as of the Baseline Interview, Relationship Dynamics and Social Life Survey 2008-2010

| | Percentage or Mean(SD) |
|---|---|
| *Sociodemographic Characteristics* | |
| Age | |
| 18 years | 41.1 |
| 19 years | 50.2 |
| 20 years | 8.7 |
| African American | 34.6 |
| School enrollment and type | |
| Not enrolled and did not graduate | 8.1 |
| Not enrolled and did graduate | 22.3 |
| High school | 13.4 |
| 2 year college/vocational/technical/other | 28.7 |
| 4 year college | 27.5 |
| Receiving public assistance | 26.5 |
| Religious importance | 2.69(0.92) |
| Living with romantic partner | 15.7 |
| Biological mother <20 years old at first birth | 37.0 |
| Family structure | |
| Two parents (both biological or biological/step) | 51.5 |
| Single biological parent only | 40.2 |
| Other | 8.3 |
| Mother's education <high school graduate | 8.7 |
| Parental income | |
| $14,999 or less | 13.8 |
| $15,000 or more | 66.4 |
| Don't know/refused | 19.8 |
| *Sexual, Contraceptive, and Pregnancy Experiences* | |
| Age at first sex | |
| 14 years or less | 17.1 |
| 15-16 years | 36.8 |
| 17 years or greater/never had sex | 46.1 |
| Lifetime number of sexual partners | 3.49(4.60) |
| Ever had sex without birth control | 50.4 |
| Prior pregnancies | |
| None | 77.3 |
| One | 15.2 |
| Two or more | 7.5 |

Note: N=873 respondents.

Table 2. Relationship Experiences and Contraceptive Use Reported During the Weekly Surveys, Relationship Dynamics and Social Life Survey 2008-2010

| | Percentage |
|---|---|
| *Relationship Experiences* | |
| Current relationship status | |
| Married | 4.2 |
| Engaged | 11.6 |
| Cohabiting | 15.0 |
| Dating | 69.2 |
| Partner transitions | |
| Same partner as last week | 90.1 |
| First week with new partner | 6.3 |
| First week back with previous partner | 3.6 |
| Spent a lot of time together | 68.9 |
| Exclusivity | 85.9 |
| Conflict | 25.4 |
| Concurrency | 5.0 |
| *Contraceptive Use* | |
| Imperfect contraceptive use | 16.8 |
| Reasons for imperfect use† | |
| Forgot | 15.1 |
| No method available | 29.8 |
| Not happy with method | 15.1 |
| Partner did not want to use method | 8.5 |
| Not trying to avoid pregnancy | 22.8 |
| Other | 22.8 |

Note: N=20,864 observations.

† Among imperfect users (3,494 observations); non-mutually exclusive categories.

Table 3. Logistic Regression Results of Imperfect Contraceptive Use on Each Relationship Experience, Relationship Dynamics and Social Life Survey 2008-2010

| | Imperfect Contraceptive Use |
|---|---|
| *Model 1* | |
| Current relationship status (ref: Dating) | |
| Married | 0.57** |
| | (0.18) |
| Engaged | 0.48*** |
| | (0.12) |
| Cohabiting | 0.20* |
| | (0.10) |
| *Model 2* | |
| Partner transitions (ref: Same partner as last week) | |
| First week with new partner | -0.39*** |
| | (0.11) |
| First week back with previous partner | 0.27* |
| | (0.12) |
| *Model 3* | |
| Spent a lot of time together | 0.87*** |
| | (0.07) |
| *Model 4* | |
| Exclusivity | 0.25** |
| | (0.09) |
| *Model 5* | |
| Conflict | 0.19** |
| | (0.06) |
| *Model 6* | |
| Concurrency | 0.24* |
| | (0.10) |

Notes: N=873 individuals, 20,864 observations. Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences. * $p<0.05$, ** $p<0.01$, *** $p<0.001$ (one-tailed tests).

Table 4. Logistic Regression Results of Each Reason for Imperfect Contraceptive Use on Each Relationship Experience, Relationship Dynamics and Social Life Survey 2008-2010

| | Forgot | No Method Available | Not Happy with Method | Partner Did Not Want to Use Method | Not Trying to Avoiding Pregnancy | Other |
|---|---|---|---|---|---|---|
| *Model 1* | | | | | | |
| Current relationship status (ref: Dating) | | | | | | |
| Married | -0.24 | -1.15** | -0.66 | 0.31 | 3.19*** | -1.18** |
| | (0.37) | (0.40) | (0.43) | (0.48) | (0.42) | (0.46) |
| Engaged | -0.43* | -0.89*** | 0.25 | 0.58* | 1.95*** | 0.30 |
| | (0.26) | (0.26) | (0.27) | (0.33) | (0.28) | (0.27) |
| Cohabiting | -0.17 | -0.48** | -0.02 | -0.06 | 0.59** | 0.14 |
| | (0.22) | (0.20) | (0.23) | (0.30) | (0.25) | (0.21) |
| *Model 2* | | | | | | |
| Partner transitions | | | | | | |
| (ref: Same partner as last week) | | | | | | |
| First week with new partner | 0.49* | 0.10 | -0.36 | -0.71* | -0.98** | -0.05 |
| | (0.25) | (0.24) | (0.31) | (0.39) | (0.33) | (0.26) |
| First week back with previous partner | 0.40 | 0.39* | -0.51 | 0.04 | -0.75* | -0.31 |
| | (0.26) | (0.23) | (0.36) | (0.36) | (0.36) | (0.28) |
| *Model 3* | | | | | | |
| Spent a lot of time together | -0.02 | -0.38** | 0.14 | 0.14 | 0.52** | 0.22 |
| | (0.16) | (0.14) | (0.18) | (0.22) | (0.19) | (0.16) |
| *Model 4* | | | | | | |
| Exclusivity | -0.35* | -0.55*** | 0.03 | 0.21 | 1.76*** | 0.04 |
| | (0.19) | (0.17) | (0.23) | (0.28) | (0.30) | (0.20) |
| *Model 5* | | | | | | |
| Conflict | -0.10 | 0.01 | -0.09 | 0.45** | 0.12 | 0.06 |
| | (0.15) | (0.13) | (0.15) | (0.17) | (0.15) | (0.13) |
| *Model 6* | | | | | | |
| Concurrency | 0.28 | 0.09 | -0.20 | 0.69** | -1.10*** | 1.12 |
| | (0.23) | (0.19) | (0.26) | (0.26) | (0.27) | (0.22) |

Notes: N=432 individuals, 3,494 observations. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences. * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table A1. Logistic Regression Results of Imperfect Contraceptive Use on Baseline Sociodemographic Characteristics and Sexual, Contraceptive and Pregnancy Experiences, Relationship Dynamics and Social Life Survey 2008-2010

| | Imperfect Contraceptive Use |
|---|---|
| *Sociodemographic Characteristics* | |
| Age (ref: 18 years) | |
| 19 years | 0.06 |
| | (0.21) |
| 20 years | -1.04** |
| | (0.38) |
| African American | 0.19 |
| | (0.24) |
| School enrollment and type (ref: 4 year college) | |
| Not enrolled and did not graduate | 1.17** |
| | (0.41) |
| Not enrolled and did graduate | 1.26*** |
| | (0.29) |
| High school | 1.02** |
| | (0.34) |
| 2 year college/vocational/technical/other | 0.70** |
| | (0.27) |
| Receiving public assistance | -0.57* |
| | (0.26) |
| Religious importance | 0.03 |
| | (0.11) |
| Living with romantic partner | 0.72** |
| | (0.26) |
| Biological mother <20 years old at first birth | 0.41* |
| | (0.20) |
| Family structure (ref: Two parents) | |
| Single biological parent only | 0.25 |
| | (0.22) |
| Other | 0.23 |
| | (0.36) |
| Mother's education <high school graduate | 0.06 |
| | (0.35) |
| Parental income (ref: $15,000 or more) | |
| $14,999 or less | 0.44 |
| | (0.30) |
| Don't know/refused | 0.00 |
| | (0.26) |

*Table continued on next page*

Appendix Table A1. (continued)

| | Imperfect Contraceptive Use |
|---|---|
| *Sexual, Contraceptive, and Pregnancy Experiences* | |
| Age at first sex (ref: 17 years or greater/never had sex) | |
| 14 years or less | 0.37 |
| | (0.31) |
| 15-16 years | 0.27 |
| | (0.23) |
| Lifetime number of sexual partners | 0.06** |
| | (0.02) |
| Ever had sex without birth control | 1.26*** |
| | (0.23) |
| Prior pregnancies (ref: None) | |
| One | 0.28 |
| | (0.28) |
| Two or more | 0.61 |
| | (0.38) |
| Intercept | -5.19*** |
| | (0.41) |
| $X^2$ | 201.56*** |
| Log-likelihood | -6081.52 |

Notes: N=873 individuals, 20,864 observations. Coefficients are effects on log-odds. Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).