Relationship Dynamics and Contraception: The Role of Seriousness and Instability*

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This research was supported by two grants from the National Institute of Child Health and Human Development (R01 HD050329, R01 HD050329-S1, PI Barber), a grant from the National Institute on Drug Abuse (R21 DA024186, PI Axinn), and a population center grant from the National Institute of Child Health and Human Development to the University of Michigan's Population Studies Center (R24 HD041028). The author gratefully acknowledges the Survey Research Operations (SRO) unit at the Survey Research Center of the Institute for Social Research for their help with the data collection, particularly Vivienne Outlaw, Sharon Parker, and Meg Stephenson. The author also gratefully acknowledges the intellectual contributions of Jennifer Barber, Heather Gatny, and Jennifer Yarger, as well as the other members of the original RDSL project team, William Axinn, Mick Couper, and Steven Heeringa, and the National Advisory Committee for the project, Larry Bumpass, Elizabeth Cooksey, Kathie Harris, and Linda Waite.

ABSTRACT

This paper examines the role of two dynamic dimensions of relationships, seriousness and instability, on young women's contraceptive use, consistency of use, and specific contraceptive method used, using new, longitudinal data from a weekly journal-based study of about 1000 18-19 year old women that spans two and half years. The results demonstrate that the *type* of relationship – casual, dating, serious, cohabiting, etc. – largely determines whether a couple uses contraception. However, the *duration* of the relationship – the total time together, and the amount of time they have been in that particular relationship type – determines how consistently they use their chosen method. Further, instability in these relationships – both temporary break-ups and decreases in the level of commitment – affects couples' ability to consistently use contraception, and also leads to the use of less effective methods (e.g., withdrawal).

Despite recent fluctuations, teen pregnancy rates remain high. According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2011), 30% of girls experience a pregnancy by age 20. The vast majority of these pregnancies are unintended. The consequences of an early and/or unintended pregnancy and birth are serious and wide-reaching – from curtailed educational attainment to abortion to later-life health problems (e.g., Brown & Eisenberg, 1995; Geronimus & Korenman, 1992; Hardy et al., 1998; Kost et al., 2010; Logan et al., 2007; Ventura et al., 2008). In fact, Healthy People 2020 goals include reducing early and/or unintended pregnancy and birth rates – virtually the same goals as Healthy People 2010, which were not met.

Understanding the dynamics of romantic and sexual relationships formed during the transition to adulthood is central to understanding the risk of early and/or unintended pregnancy. Involvement in these intimate relationships increases substantially during the transition to adulthood, as does their relative importance (Collins, 2003; Giordano et al., 2001). The dynamics in these relationships provide a significant interpersonal context for psychosocial and sexual development (Furman et al., 1999; Giordano et al., 2001; Graber et al., 1996), and these relationship patterns and behaviors set the stage for future relationships (Meier & Allen, 2009; Raley et al., 2007). Most importantly, the sexual and contraceptive practices that influence the risk of early and/or unintended pregnancy are negotiated within these relationships and are heavily influenced by the characteristics and dynamics within these relationships (e.g., Ford et al., 2001; Howard et al., 1999; Katz et al., 2000; Ku et al., 1994; Kusunoki & Upchurch, 2011; Manlove et al., 2007; Manning et al., 2009; Soler et al., 2000; Wingood & DiClemente, 1998).

This growing body of literature highlights the significance of the relationship context for the risk of early and/or unintended pregnancy. However, mostly due to data limitations, the focus

has primarily been on relationship characteristics at a single time point (e.g., relationship type at last sex) rather than over the entire course of the relationship. It has also focused on independent effects of a single characteristic (e.g., commitment) rather than the profile of multiple characteristics (e.g., commitment, time spent together, living arrangements, etc.) and how they intersect and interact across time. This has limited our understanding of the complexity of young people's relationships and how they shape behaviors such as contraception and outcomes such as early and/or unintended pregnancy. Research using the National Longitudinal Study of Adolescent Health (Add Health) has revolutionized the conceptualization and measurement of relationships in two important ways. The present study builds on both of these strengths. First, because Add Health provides multidimensional measurement of relationships, researchers have been able to differentiate among young women previously characterized as "single" (e.g., Kusunoki & Upchurch, 2011; Manlove et al., 2007). In the present study, I use even more detailed measures of the multiple dimensions of relationships, including time spent together, commitment, living together, engagement, and instability. Thus, I am able to differentiate between, for example, relationships that are "serious" as evidenced by spending a great deal of time together, but for which there are varying levels of commitment. Second, Add Health collected longitudinal data across relationships (e.g., Meier & Allen, 2009; Raley et al., 2007). However, temporal dynamics within relationships are missing – for most characteristics, there is only information referring to the beginning, current time, or end of relationships (for those that ended). Further, lengthy gaps between Add Health interviews mean that entire relationships are missing from the data for most respondents. For instance, at Wave 3, many questions were only asked about up to two "important" relationships. With the data used for the present study, I can examine weekly dynamics in all relationships as they develop and change across time. This will

allow me to differentiate among relationships that would seem similar based on other, less dynamic, data sets – for example, those that were committed versus those that were committed but included a period of instability in the past – e.g., decreases in level of commitment and break-up and reconciliation.

Researchers have also known for decades that consistent use of effective contraception substantially reduces the risk of early and/or unintended pregnancy. However, empirical measurement of the dynamics over time in contraceptive use has proved elusive to the present day. The National Survey of Family Growth (NSFG) provides the current gold standard for measurement of this key determinant of pregnancy (Piccinino & Mosher, 1998; Singh & Darroch, 1999). Unfortunately, the single cross-sectional design with long periods of retrospective reporting imposes severe constraints on NSFG measurement of contraceptive use. NSFG respondents are asked to report their contraceptive use, on a month-by-month basis, for a retrospective period of up to 58 months (Kelly et al., 1997; Trussell & Vaughan, 1999). This procedure places tremendous recall burden on respondents. It requires respondents to recall their contraceptive behavior with monthly accuracy for periods of three, four, or nearly five years before the interview. Methodological research on recall ability suggests this is likely to create substantial reporting error (Feinberg & Tanur, 1983; Tourangeau et al., 2000). For temporary methods such as depo-provera, the contraceptive patch, or oral contraceptive pills, errors associated with long periods of recall are likely to be much more severe. Monthly reports of coitus-specific method use – such as male condoms, diaphragms, cervical caps, or female condoms – combined with the recall problems associated with reports of sexual activity, are particularly problematic. For example, the NSFG does not ask whether the coitus-specific methods were used during specific sexual activities to avoid pregnancy (for women who had sex

more than once in a month). Measures of contraceptive use that are explicitly linked to specific sexual events with specific partners are necessary if we are to understand the role of contraceptive vigilance – consistent, correct use during each instance of intercourse – in preventing early and/or unintended pregnancy. Of course longitudinal study designs that interview the same women multiple times can substantially reduce these recall-related measurement problems by reducing the period for which respondents are asked to report. But even in an annual longitudinal study, in which respondents are asked to report their contraceptive use over the past year, measures are not likely to provide the detail needed to link use of specific contraceptive methods to specific sexual events within specific relationships. Much shorter time intervals, containing potentially much smaller numbers of sexual events, are needed to establish this connection. Although we cannot eliminate the possibility of this problem, by shrinking the reporting period to a week, we can greatly increase the ability to match contraceptive use to specific events, such as sex or other dynamic aspects of relationships. Our weekly measures of contraceptive use will be particularly important for this age group, when young women not only have the highest risk of unintended pregnancy in their lifetime, they also have the greatest instability in sexual partners and contraceptive use and the highest contraceptive failure rates (Brown & Eisenberg, 1995; Fu et al., 1999; Glei, 1999; Henshaw, 1998; Laumann et al., 1994; Ranjit et al., 2001; Trussell & Vaughan, 1999).

The present study is ideally suited to overcoming many of these limitations. I use newly available, unique data from the Relationship Dynamics and Social Life (RDSL) Study. The data feature prospective detailed weekly measures of relationships and contraception for a racially and socioeconomically diverse, population-based sample of young women. In the present study, I examine two dynamic dimensions of relationships: seriousness and instability. Seriousness is

operationalized using three time-varying (weekly) measures. The first is relationship type, which is comprised of multiple measures of behaviors that indicate seriousness with the current partner: time spent together, commitment, cohabitation, engagement, and marriage. The second is the length of the relationship, with separate measures for time in the current relationship type and total time in a relationship with the current partner. The third is an indicator for whether the respondent had a prior pregnancy and/or birth with the current partner. Instability is also operationalized using a time-varying (weekly) measure. It is an indicator of whether the relationship had ever experienced a decrease in the level of commitment or a break up and reconciliation. I investigate the extent to which relationship seriousness and instability are associated with three contraceptive outcomes: any contraceptive use, consistency of contraceptive use, and the specific contraceptive method used.

DATA AND METHODS

Data

The RDSL study began with a representative, random, population-based sample of 1,003 young women, ages 18-19, residing in a Michigan county, who were followed for two and a half years. The sampling frame was the Michigan Department of State driver's license and Personal Identification Card (PID) database. Comparison of the driver's license and PID data by zip code to 2000 census-based projections revealed 96% agreement between the frame count and the projections for this population (study investigators' calculations).

The RDSL study focused on women ages 18 to 22 because these ages are characterized by the highest rates of unintended pregnancy, which is the research focus of the RDSL study. This particular county in Michigan was chosen because of the racial/ethnic and socioeconomic variation of individuals within a single geographic area (i.e., poor African Americans, poor

Whites, middle-class African Americans, and middle-class Whites). A nearby, geographically concentrated sample also allowed for maximum investigator involvement.

The first component of data collection was a baseline face-to-face survey interview conducted between March 2008 and July 2009, assessing sociodemographic characteristics, attitudes, relationship characteristics and history, contraceptive use, and pregnancy history. The most innovative aspect of the RDSL study design was the second component of data collection – dynamic, prospective measurement of pregnancy desires and pregnancy, as well as relationship characteristics such as commitment, sex, and contraceptive use, collected in a weekly journal format. At the conclusion of the baseline interview, respondents were invited to participate in the journal-based survey every week for two and a half years.

Of the 1,003 women who completed the baseline interview, 95% participated in the weekly journal (N=953). 92% reported regular access to the Internet and usually completed the journal online each week. The remaining 8% called in to the Survey Research Center's phone lab to complete their weekly journals. In addition, respondents were allowed to switch mode (from internet to phone and vice versa) at any time, for any duration (i.e., one week or more). Respondents were paid $1 per weekly journal with $5 bonuses for on-time completion of five weekly journals in a row.

The journal portion of the study concluded in January 2012, resulting in 57,602 weekly journals. At the conclusion of the study, 84% of baseline survey respondents had participated in the journal study for at least 6 months, 79% for at least 12 months, and 75% for at least 18 months. Journals that were completed less than 14 days after the prior journal adjusted the referenced period to between the current journal and prior journal. In other words, there is no missing data for these journals. If the journal occurred at 14 days or later, the reference period is

the prior week only. I refer to the period between journals as a week, as shorthand, even though it may vary from 5 to 13 days.

The analytic sample for the present study includes weeks in which the respondent was in a relationship, had sex with her partner, was not pregnant, and was not "strongly pronatal" (i.e., strong desire to become pregnant and no desire to avoid pregnancy) (N=711 women and N= 12,008 weeks). While a respondent could have been using a non-coital contraceptive method during weeks when she was not in a relationship[1], the focus of the present study is on the *relationship dynamics*, and only respondents who were in a relationship were asked questions about their relationship, and only respondents who had sex with their partner were asked about coital-specific contraceptive methods. Because multiple contraceptive outcomes are examined (*any contraceptive use*, *consistency of contraceptive use*, and *specific contraceptive method used*), the analytic sample varies depending on the outcome. Only weeks of any contraceptive use are included when examining *consistency of contraceptive use* (N=698 women and N=10,824 weeks) and only weeks of any contraceptive use where the specific contraceptive method was reported (i.e., not missing) and was not *other* (e.g., spermicide only) are included when investigating *specific contraceptive method used* (N=693 women and N=10,742 weeks).[2]

Measures

In every weekly journal, respondents identified their most important partner during the past week. Note that "partner" refers to anyone the respondent considers "special" or "romantic", *or* anyone she has had sexual contact with during the prior week, which could include a texting

[1] Respondents were not in a relationship but reported using a non-coital method during nine percent of weeks.

[2] Less than one percent of weeks were missing on the type of contraceptive method used or involved an "other" type of method only (e.g., spermicide); due to small cell sizes, these weeks were excluded.

"pen-pal", a one-night stand, a fiancée, or anything in-between. Thus, I say "in a relationship" where characteristics of that relationship may vary widely. Respondents provided initials for new partners and chose prior partners from a list of previously provided initials. Thus, the data include a continuous record of the respondent's entire relationship history during the study period. All relationship and contraceptive measures referenced the past week (or period since the last journal if the period was more than one week but less than 13 days).

Relationship Dynamics – Seriousness and Instability

The present study focuses on two *dynamic* dimensions of relationships: seriousness and instability. Seriousness is operationalized as the *current relationship type*, *length of the current relationship* (time in the current relationship type and total time in a relationship with the current partner), and *prior pregnancy and/or birth with the current partner*. *Current relationship type* is a summary measure comprised of several questions about marriage and engagement, cohabitation, commitment, and time spent together. In the beginning of the relationship section, a respondent was asked if she was still married or engaged to her current partner if she was with the same partner as the previous week. If she was not with the same partner, she was asked if she was married or engaged to her current partner. Cohabitation was based on a question that asked the respondent whether "you have a place you live that is separate from where your partner lives"; a negative response indicated that she and her current partner were living together that week. Commitment was based on a question about whether the respondent and her current partner "agreed to only have a special romantic relationship with each other, and no one else". Time spent together indicated whether the respondent reported having "spent a lot of time" with her current partner. *Current relationship type* included the following mutually exclusive categories: (a) *causal* – uncommitted and less time-intensive, (b) *dating* – uncommitted but more

time-intensive, (c) "*long distance"* – committed but less time-intensive, (d) *serious* - committed and more time-intensive, (e) *cohabiting*, and (f) *married or engaged*.[3] This measure is hierarchical according to the level of seriousness; in other words, priority was given to the more serious "state" of marriage and engagement, then cohabitation, then commitment, and finally time spent together. For instance, the *dating* category includes weeks in which the respondent and her current partner were not married or engaged, not living together, not committed, but had spent a lot of time together. The reference category for *current relationship type* is the least serious type, i.e., *causal*.

Two measures of the *length of the current relationship* are examined. The first is a measure of the *time in the current relationship type*. For instance, for weeks when the respondent and her current partner were cohabiting, this measure of time includes only the weeks in which she and her current partner were living together, that is, weeks when she and her current partner were in a relationship but not living together were not included. The second is a measure of the *total time in a relationship with the current partner*. It includes all spells with the current partner (e.g., time with the partner before a break up and after reconciliation if a break up occurred). Both measures are coded in months.

I also include an indicator for whether the respondent and her current partner had ever had a *prior pregnancy and/or birth* together.[4]

[3] Preliminary analyses included separate categories for married and engaged but the results did not differ for these two types of relationships, therefore they were combined for the sake of parsimony.

[4] Preliminary analyses included a separate category for pregnancy but no birth but the results did not differ for those who had a pregnancy but no birth and those who had a birth, therefore they were combined for the sake of parsimony.

Instability is operationalized as a categorical measure of whether the respondent and her current partner had experienced a *prior decrease in the level of commitment or a break up and reconciliation*. It includes the following mutually exclusive categories: (a) *neither*, that is, never experienced a decrease in the level of commitment and was continuously with the current partner, (b) experienced a *decrease in the level of commitment* but continuously with the current partner, that is, never experienced a break up, and (c) *had a prior break up and reconciliation with the current partner*. The reference category is *neither*. A decrease in the level of commitment was determined by whether the relationship type had, at a prior time, been less committed. For instance, a relationship was coded as having experienced such a decrease if it was coded as serious in a prior week but was currently coded dating. Recall that relationship type was comprised of multiple indicators including time spent together. A relationship was not considered to have experienced a decrease in the level of commitment if it went from dating to casual, where the only difference was the amount of time spent together. A prior break up and reconciliation was determined by whether the current partner was mentioned before the current relationship spell.[5]

Outcomes – Contraceptive Behaviors

The present study focuses on three measures of contraception: *any contraceptive use*, *consistency of contraceptive use*, and *specific contraceptive method used*. *Any contraceptive use* indicated whether the respondent "used or did anything that can help people avoid becoming

[5] Preliminary analyses included separate categories for prior break up with versus without a decrease in level of commitment but the results did not differ between the two categories, therefore they were combined for the sake of parsimony. I also examined whether there was a difference in having no partner or any partner between a break up and reconciliation; the results did not differ for the two categories.

pregnant, even if you did not use it to keep from getting pregnant." *Consistency of contraceptive use* indicated whether the respondent or her partner "used some method of birth control every time you had intercourse." *Specific contraceptive method used* was based on several questions about non-coital and coital-specific methods. Respondents who answered affirmatively to using any method were then asked about specific non-coital methods: birth control pills, birth control patch, NuvaRing, Depo-Provera or any other type of contraceptive shot, implant such as Implanon or another contraceptive implant, IUD, or rhythm ("avoided having sex because you thought it was a time of month you could get pregnant"). Respondents who reported having sex during the past week, were also asked whether they used a condom, diaphragm or cervical cap, spermicide, a female condom, or withdrawal ("did your partner withdraw before ejaculating"). The contraceptive method type measure included the following mutually exclusive categories: (a) *IUD, implant, or Depo-Provera* (referred to as *LARC* hereafter), (b) *birth control pills, birth control patch, or NuvaRing* (referred to as *Pill* hereafter), (c) *condom*, and (d) *withdrawal*.[6] For weeks in which multiple methods were used, priority was given to the more effective method for pregnancy prevention (e.g., weeks of condom and birth control pills were coded as Pill).

Controls - Individual Characteristics

Two sets of individual characteristics, as of the baseline interview, are included as controls: (a) sociodemographic background and (b) adolescent experiences (prior to the study) related to pregnancy. The distributions of these measures among the analytic sample are included in Table 1.

[6] Preliminary analyses included separate categories for each method type but the results did not differ for the methods included in *LARC* or for those included in *Pill*, therefore they were combined for the sake of parsimony.

Age was taken from the state-level driver's license and personal ID card records used to choose the sample, which included birth date. Note that only 18- and 19-year-old women were chosen from these records, but a small number of women who were 19 when the sample was chosen turned 20 before they were located for the baseline interview. Race was measured with the following question: "Which of the following groups describe your racial background? Please select one or more groups: American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Black or African American, or White." In all, 34% percent of the sample reported their race as African American. A preceding question about Hispanic ethnicity yielded 60 Latinas, who were coded according to their answer to the race question – 21 selected African American, 39 selected another race. In response to questions about primary childhood residence, 51% of respondents reported growing up with two parents (either two biological or one biological and one step-parent), and 49% reported growing up with one biological parent only (no step-parent) or with another arrangement (e.g., with grandparents, an aunt, etc.). Respondents were asked, "How old was your biological mother when she had her first child?" Over a third (38%) reported their mother had been a teen parent. For the question "What is the highest level of education your mother completed?" 9% reported less than high school and 91% reported at least high school. Respondents were asked, "While you were growing up, did your family ever receive public assistance?" Over a third (38%) reported public assistance during childhood. For the question "How important if at all is your religious faith to you?" response choices ranged from 1 (not at all important) to 4 (more important than anything else). Reducing responses to two categories, 46% chose not at all or somewhat important, and 54% chose very important or more important than anything else. Because respondents were sampled at age 18 or 19, many were still enrolled in high school and few had completed any post-secondary education. Respondents

reported the following to a series of questions assessing their current educational enrollment and achievement: 9% had not completed high school or a GED and were not enrolled in school, 24% had graduated from high school but were not enrolled in post-secondary education, 13% were still enrolled in high school, 54% were enrolled in postsecondary school. In the Computer-Assisted Self-Interview (CASI) portion of the baseline interview, respondents used a laptop computer to enter their responses (without the interviewer's assistance) to the question: "Are you currently receiving public assistance from any of the following sources? WIC (Women, Infants and Children Program), FIP (Family Independence Program), Cash welfare, or Food stamps." In all, 28% of respondents reported receiving at least one category of public assistance and 72% reported no type of public assistance.

Four baseline measures of adolescent experiences related to pregnancy that referred to the respondent's past were also included as controls. In response to the question, "How old were you the first time you had sexual intercourse?" 60% reported they were 16 or younger, and 40% were older than 16 or had not yet had sexual intercourse. When asked, "With how many total partners have you had sexual intercourse?" 30% reported one partner or had not yet had sexual intercourse, and 70% reported two or more sexual partners. When asked, "Have you ever had sexual intercourse without using some method of birth control such as condoms, pills, or another method?" 56% answered affirmatively and 44% had never had sex without birth control (including those who had never had sex). In response to "How many times have you been pregnant in your life?" 28% reported one or more prior pregnancies.

Analytic Strategy

A series of logistic regression models were conducted for any contraceptive use, consistency of contraceptive use, and each specific contraceptive method used (LARC, pill,

condom, and withdrawal). Results from these models are presented in the form of log-odds; standard errors are in parentheses (Table 2). Model-based predicted probabilities for each outcome by time in the current relationship type are also presented to show change in each outcome by relationship type across time (Figures 1-3d). (The results from the stratified models are presented in Appendix Tables 1-6). All analyses were conducted using Stata/SE 12.0 with the cluster option, which adjusted the standard errors to account for the clustering of observations (relationship weeks) within respondents. All models included controls for individual characteristics, the results for which will be available in the final paper in an additional set of Appendix Tables.

RESULTS

Table 1 presents the distributions of the relationship measures and contraceptive outcomes among the analytic sample (12,008 weeks for 711 respondents). Five percent of relationship weeks are casual (no commitment, less time-intensive), another 5% are dating (no commitment, more time-intensive), 10% are "long-distance" (commitment, less time-intensive), 41% are serious (commitment, more time-intensive), 20% are cohabiting, and 19% are married or engaged. The average time in any particular relationship type is 4.74 months. The average total time with the current partner is 16.78 months. In 8% of relationship weeks, the respondent had experienced a prior pregnancy or birth with her current partner. Ten percent of relationship weeks were preceded by a decrease in level of commitment (no break up) and 17% were preceded by a break up and reconciliation. All of the other measures of seriousness and instability vary by relationship type (results not shown but will be included in the final paper). 90% of relationship weeks involve any contraceptive use. Among use weeks, 78% of relationship weeks involve consistent contraceptive use. And, LARC is used in about 9% of use

weeks, pill is used in 48% of use weeks, condom is used in 26% of use weeks, and withdrawal is used in 17% of use weeks. Recall that specific contraceptive method used is based on the most effective method for pregnancy prevention so weeks of condom use are condoms only or condom and a less effective method (withdrawal) and weeks of withdrawal are withdrawal only. (In the final paper, I will also include a detailed description of the relationship measures and contraceptive outcomes at the relationship-level, such as average time spent in each of the relationship types across all relationships, percent of relationships that ever experienced a break up, proportion of pill use across all relationship, etc.)

Table 2 presents the results from logistic regression models of any contraceptive use, consistency of contraceptive use, and each specific contraceptive method used (LARC, pill, condom, and withdrawal) on relationship seriousness and instability.

Column 1 presents the results for *any contraceptive use*. *Current relationship type* is significantly associated with any contraceptive use. For instance, although the two least serious types of relationship weeks (*casual* and *dating*) do not significantly differ from each other, all of the more serious relationship weeks have a lower likelihood of any contraceptive use than the least serious relationship weeks (*casual*). There are no independent effects of either measure of the length of the current relationship on any contraceptive use. Having had a *prior pregnancy and/or birth* with the current partner is associated with a greater likelihood of any contraceptive use. A *prior break up* is associated with a lower likelihood of any contraceptive use.

Column 2 presents the results for *consistency of contraceptive use*. C*urrent relationship type* is also significantly associated with consistency of contraceptive use. For instance, although again, the two least serious types of relationship weeks (*casual* and *dating*) do not significantly differ from each other, *serious* relationship weeks have a greater likelihood of consistent

contraceptive use than *casual* relationship weeks while *married/engaged* relationship weeks have a lower (marginally) likelihood of consistent contraceptive use. Only *total time with the current partner* has a significant and positive independent effect – the longer the relationship, the greater the likelihood of consistent contraceptive use. However, this association becomes negative as time increases. That is, consistency of contraceptive use starts to decrease the longer the time in a particular type of relationship. Both a *prior decrease in the level of commitment* and a *break up* are associated with a decrease in the consistency of contraceptive use.

Columns 3-6 present the results for the *specific contraceptive method used*. There are very few differences in the specific method used according to *current relationship type*. *Time in the current relationship type* is only associated with condom use – as the time in the current relationship type increases, the likelihood of condom use decreases. However, this association becomes positive as time increases. That is, condom use starts to increase the longer the time in a particular type of relationship. *Total time with the current partner* is positively associated with pill use but becomes negative the longer the total time with the current partner. Total time with the current partner is negatively associated with condom use and withdrawal, with the association for withdrawal becoming positive the longer the total time with the current partner. Instability is only significant for withdrawal, with a *prior break up* being positively associated with withdrawal.

In sum, current relationship type is associated with any contraceptive use, with more serious relationship types having a lower likelihood of any use. However, given use, relationship type does not appear to differentiate whether that use is consistent or which specific contraceptive method is used. Time in the current relationship type is not associated with use or consistency of use and is only negatively associated with condom use. While total time with the

current partner is also not associated with any use, given use, it is positively associated with consistency and with using the pill but negatively associated with condom use and withdrawal. Having a prior pregnancy and/or birth is associated with any contraceptive use, however, given use, it does not appear to differentiate whether that use is consistent or which specific contraceptive method is used. Instability in the relationship, specifically having a prior break up, is negatively associated with any contraceptive use. Both types of instability, a prior break up or a decrease in the level of commitment are associated with decreased consistency of use. And, the only association between instability and specific method used, is for withdrawal, with the use of withdrawal increasing in relationship that have experienced a prior break up.

In order to show how each outcome changes over time by relationship type, I also present model-based predicted probabilities for each outcome by time in the current relationship type in Figures 1-3d. (Recall that the results for the other measures of seriousness and instability in the stratified models are presented in Appendix Tables 1-6). Figure 1 presents the predicted probabilities for any contraceptive use. There are at least three key findings that can be gleaned from this figure. First, use is relatively high for all relationship types at the beginning of the time in that type. Second, any contraceptive use starts to decrease over time in each relationship type across all relationship types, with variation in the rate at which it decreases. Third, for casual and serious relationship types, it starts to increase the longer the time remaining in that type. Figure 2 presents the predicted probabilities for consistent contraceptive use. There are at least two key findings that can be gleaned from this figure. First, consistency is relatively high for the four more serious relationship types at the beginning of the time in that type and somewhat lower for the two least serious relationship types. Second, in general, consistency of contraceptive use decreases across time, except for in dating relationships, consistency increases and then

substantially decreases and somewhat increases over time in the serious relationship type. Figures 3a-d present the predicted probabilities for each of the four contraceptive method types. Figure 3a shows that use of LARC is low across all relationship types. In general, use of LARC does not vary considerably across time except for cohabiting relationship types where it appears to stay somewhat steady until about 20 months of cohabiting where it then increases substantially. Figure 3b shows that the level of Pill use at the beginning of the time in each of the relationship types varies quite a bit from about .27 for dating relationships and .7 for cohabiting relationships. The pattern of change differs quite a bit as well. For the two least serious relationship types (casual and dating) and for the serious relationship type, pill use increases over time in that particular relationship type. Pill use tends to decrease over time for the other three relationship types ("long-distance", cohabiting, and married), and then increases at about 3 months for the "long-distance" relationships. Figure 3c shows that the level of condom use is somewhat low and that the patterns of condom use are also quite different across the relationship types. Condom use decreases over time in casual and dating relationships, increases slightly in "long-distance" relationships and then starts to decrease quite dramatically, decreases and then increases in serious relationships, and increases for cohabiting, and somewhat increases for married/engaged relationships. Figure 3d shows that the level of withdrawal is also somewhat low. In general, use of withdrawal increases slightly for the four more serious relationship types, increases a bit more for long-distance, increases even more for dating relationships and increases but then decreases for casual relationships.

DISCUSSION

I find that the dynamics of relationships is important to our understanding of contraceptive behaviors. The results demonstrate that the *type* of relationship – casual, dating,

serious, cohabiting, etc. – largely determines whether a couple uses contraception. However, the *duration* of the relationship – the total time together, and the amount of time they have been in that relationship type – determines how consistently they use their chosen method. Further, instability in these relationships – both temporary break-ups and decreases in the level of commitment – affects couples' ability to consistently use contraception, and also leads to the use of less effective methods (e.g., withdrawal). In the final paper, I will provide more fully developed background and discussion sections.

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Table 1. Descriptive Statistics of Measures Used in the Analyses (N=711; 12,008 weeks; except where noted)

	Proportion/ Mean	SD	Min	Max
Individual Measures				
Sociodemographic Background				
Age	19.18	0.57	18.12	20.31
African American	0.34		0	1
Grew up with two parents (both bio or bio/step)	0.51		0	1
Biological mother less than 20 years old at first birth	0.38		0	1
Biological mother less than high school education	0.09			
Childhood public assistance	0.38		0	1
High religious importance	0.54		0	1
Education				
Not enrolled and dropped out	0.09		0	1
Not enrolled but graduated high school	0.24		0	1
Enrolled in high school	0.13		0	1
Enrolled in post-secondary school	0.54		0	1
Receiving public assistance at age 18/19	0.28		0	1
Adolescent Experiences Related to Pregnancy				
Age at first sex 16 years or less	0.60		0	1
2 or more sex partners by age 18/19	0.70		0	1
Ever had sex without birth control by age 18/19	0.56		0	1
Any pregnancies before age 18/19	0.28		0	1
Relationship Measures				
Seriousness				
Current relationship type				
Casual (no commitment, less time-intensive)	0.05			
Dating (no commitment, more time-intensive)	0.05			
Long-Distance (commitment, less time-intensive)	0.10			
Serious (commitment, more time-intensive)	0.41			
Cohabiting	0.20			
Married/Engaged	0.19			
Duration				
Time in current relationship type	4.74	6.64	0.08	33.12
Total time with current partner	16.78	14.95	0.08	47.84
Prior pregnancy or birth with current partner	0.08		0	1
Instability				
Decrease in level of commitment or break up				
Neither	0.73			
Decrease in level of commitment (no break up)	0.10			
Break up	0.17			
Contraceptive Outcomes				
Any contraceptive use	0.90		0	1
Consistency of contraceptive use[a]	0.78		0	1
Specific Contraceptive Method Use[b]				
LARC	0.09		0	1
Pill	0.48		0	1
Condom	0.26		0	1
Withdrawal	0.17		0	1

Note: LARC includes IUD, implant, or Depo-Provera. Pill includes Pill, Patch, or Ring.

[a] Only among weeks in which any contraception was used (N=698; 10,824 weeks).

[b] Only among respondents who reported the specific type of contraception used (i.e., not missing) (N=693; 10,742 weeks).

Table 2. Logisitic Regression Results of Any Contraceptive Use, Consistency of Contraceptive Use and Specific Method Used on Relationship Seriousness and Instability

			Specific Method			
	Any Use	Consistency	LARC	Pill	Condom	Withdrawal
	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness						
Current relationship type (ref: Casual (no commitment, less time-intensive))						
Dating (no commitment, more time-intensive)	-0.255	-0.072	0.421	0.084	-0.166	-0.003
	(0.347)	(0.171)	(0.352)	(0.195)	(0.174)	(0.231)
Long-Distance (commitment, less time-intensive)	-0.730 *	0.104	0.490 +	0.208	-0.269 +	-0.232
	(0.356)	(0.186)	(0.358)	(0.206)	(0.207)	(0.273)
Serious (commitment, more time-intensive)	-0.560 +	0.316 *	0.400	0.295 +	-0.258 +	-0.298
	(0.356)	(0.162)	(0.396)	(0.190)	(0.184)	(0.249)
Cohabiting	-0.882 *	0.186	0.102	0.202	-0.301	0.047
	(0.413)	(0.225)	(0.437)	(0.263)	(0.278)	(0.304)
Married/Engaged	-0.959 *	-0.318 +	0.664	0.218	-0.483 *	0.027
	(0.415)	(0.244)	(0.555)	(0.318)	(0.269)	(0.338)
Duration						
Time with current partner in current relationship type (months)	-0.018	-0.017	0.018	-0.010	-0.069 *	0.016
	(0.021)	(0.016)	(0.031)	(0.018)	(0.030)	(0.019)
Time with current partner in current relationship type (months) - squared					0.003 *	
					(0.001)	
Total time with current partner (months)	-0.002	0.062 ***	0.000	0.075 ***	-0.022 **	-0.043 *
	(0.012)	(0.019)	(0.017)	(0.021)	(0.008)	(0.020)
Total time with current partner (months) - squared		-0.001 **		-0.002 ***		0.001 **
		(0.000)		(0.000)		(0.001)
Prior pregnancy or birth with current partner (ref: No)						
Yes	1.000 ***	-0.248	0.378	-0.092	-0.256	0.302
	(0.304)	(0.290)	(0.388)	(0.357)	(0.280)	(0.375)
Instability						
Prior decrease in commitment or break up (ref: neither)						
Prior decrease in commitment (no break up)	0.081	-0.545 **	-0.105	-0.273	0.135	0.300
	(0.322)	(0.227)	(0.395)	(0.281)	(0.261)	(0.280)
Prior break up	-0.759 **	-0.778 ***	-0.466 +	-0.196	-0.233	0.628 **
	(0.259)	(0.173)	(0.348)	(0.217)	(0.205)	(0.241)
N (Relationship-weeks)	12,008	10824	10,742	10,742	10,742	10,742
N (Respondents)	711	698	693	693	693	693

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

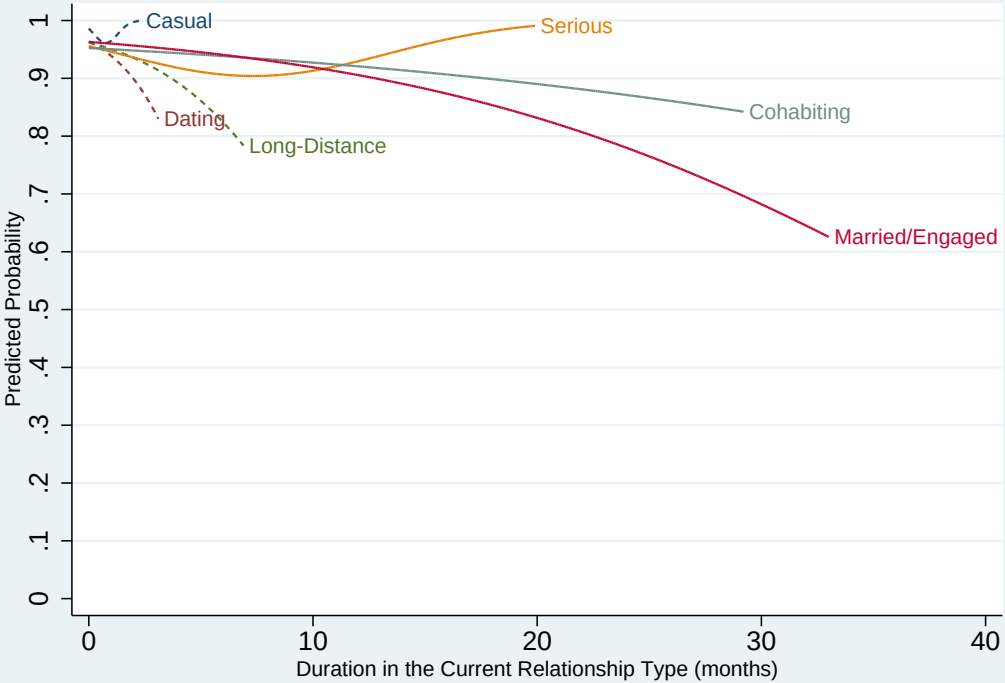

Figure 1. Model-based Predicted Probability of Any Contraceptive Use

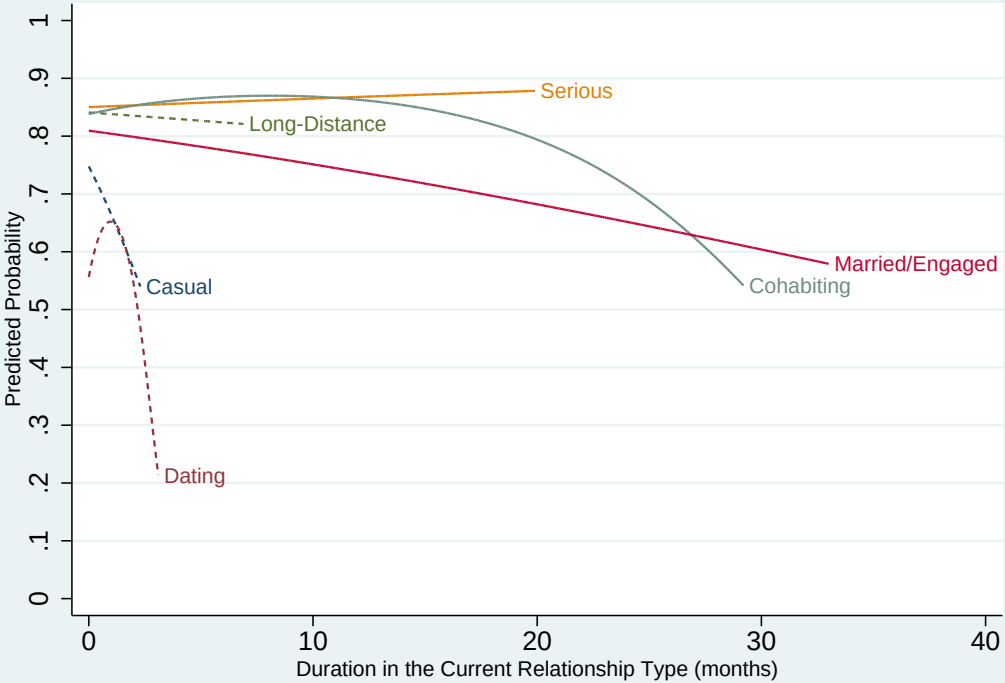

Figure 2. Model-based Predicted Probability of Consistent Contraceptive Use

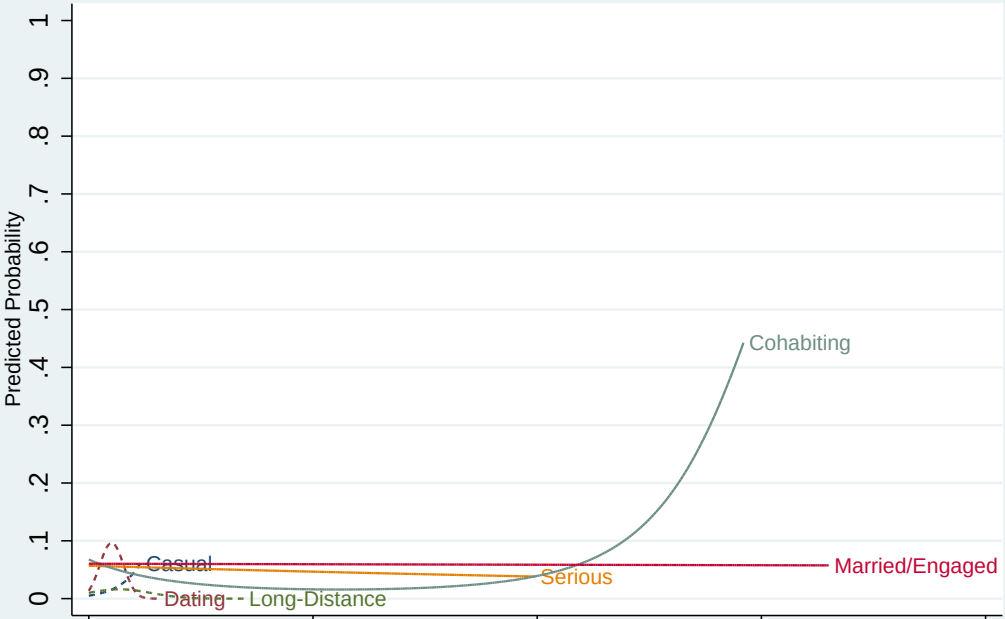

Figure 3a. Model-based Predicted Probability of Specific Method Used (LARC)

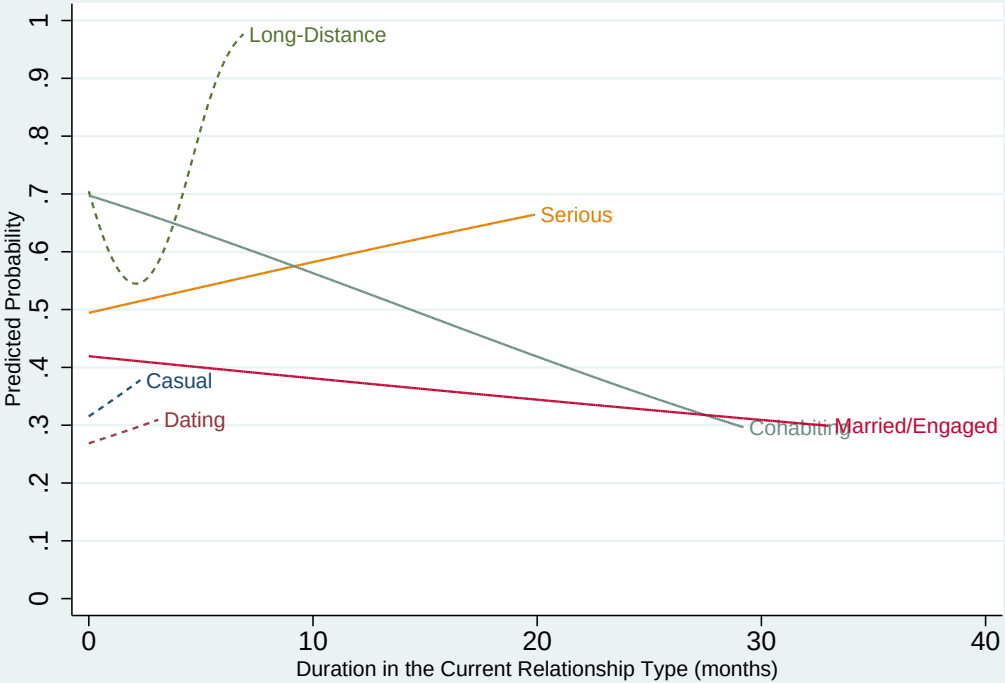

Figure 3b. Model-based Predicted Probability of Specific Method Used (Pill)

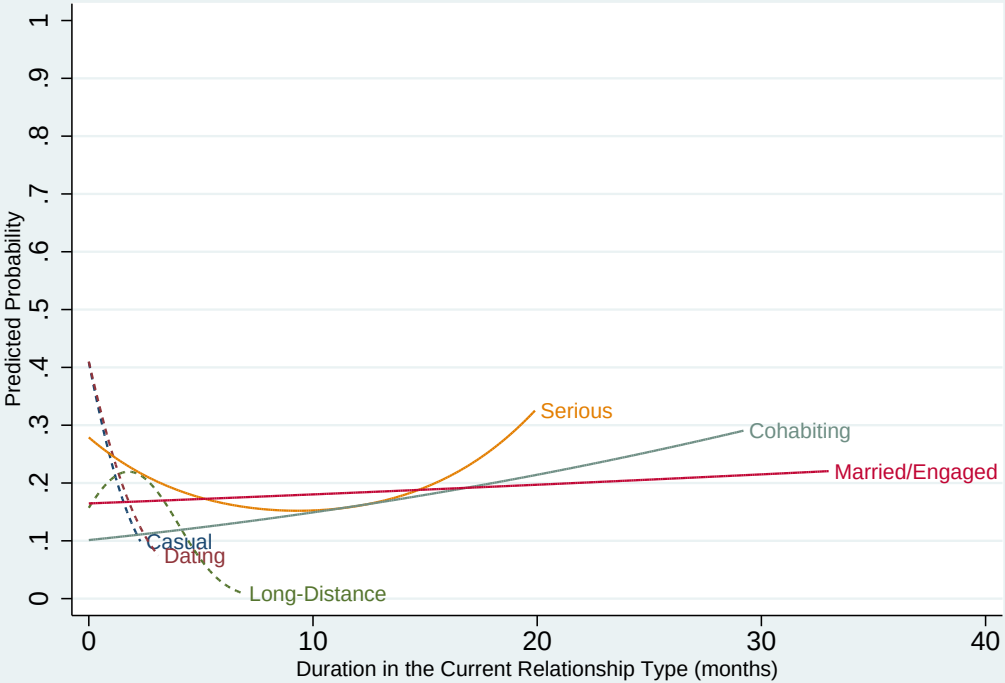

Figure 3c. Model-based Predicted Probability of Specific Method Used (Condom)

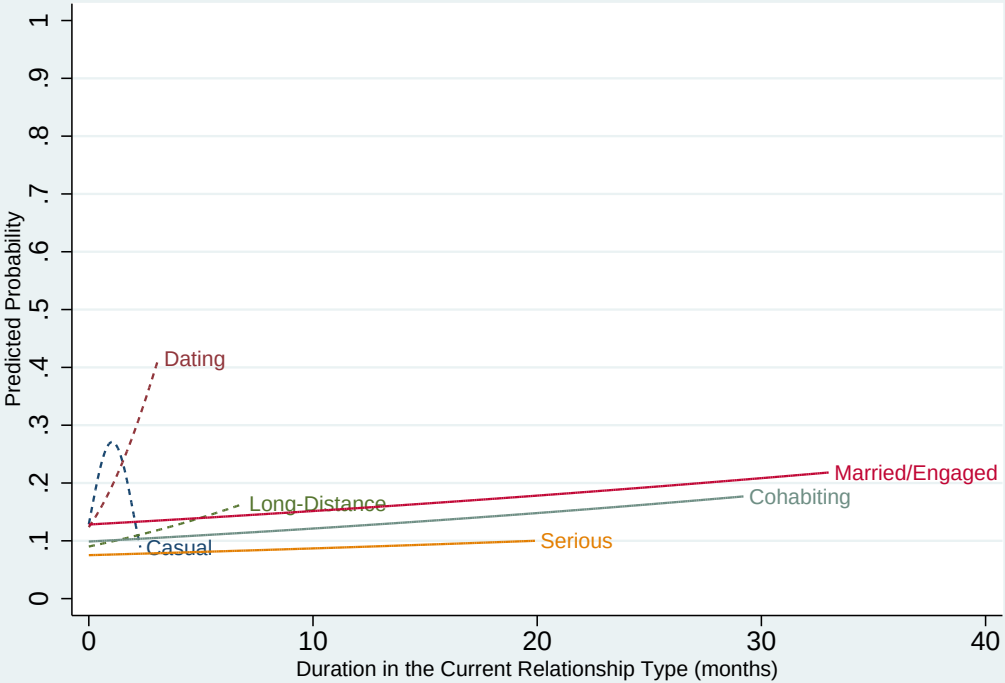

Figure 3d. Model-based Predicted Probability of Specific Method Used (Withdrawal)

Appendix Table 1. Logisitic Regression Results of Any Contraceptive Use on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	-0.255						
	(0.347)						
Long-Distance (commitment, less time-intensive)	-0.730 *						
	(0.356)						
Serious (commitment, more time-intensive)	-0.560 +						
	(0.356)						
Cohabiting	-0.882 *						
	(0.413)						
Married/Engaged	-0.959 *						
	(0.415)						
Duration							
Time with current partner in current relationship type (months)	-0.018	-2.759 **	-0.544 +	-0.283	-0.227 **	-0.045	-0.083 *
	(0.021)	(1.105)	(0.373)	(0.234)	(0.092)	(0.036)	(0.037)
Time with current partner in current relationship type (months) - squared		1.817 **			0.015 *		
		(0.770)			(0.007)		
Total time with current partner (months)	-0.002	-0.031 *	-0.016	-0.007	-0.118 **	0.008	0.090 *
	(0.012)	(0.015)	(0.018)	(0.018)	(0.038)	(0.016)	(0.048)
Total time with current partner (months) - squared					0.003 **		-0.001 +
					(0.001)		(0.001)
Prior pregnancy or birth with current partner (ref: No)							
Yes	1.000 ***	-0.859	-1.062 +	-0.829	1.966 ***	1.733 *	1.514 **
	0.304	1.495	0.744	1.033	0.609	0.860	0.522
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	0.081	-0.133	-0.052	1.207 *	0.161	0.256	-0.342
	(0.322)	(0.965)	(0.604)	(0.654)	(0.372)	(0.495)	(0.808)
Prior break up	-0.759 **	0.250	-0.375	-1.012 **	-0.755 *	-0.871 *	-1.590 **
	(0.259)	(0.561)	(0.637)	(0.380)	(0.334)	(0.527)	(0.520)
N (Relationship-weeks)	12,008	604	646	1,239	4,882	2,405	2,232
N (Respondents)	711	217	233	293	485	252	168

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table 2. Logisitic Regression Results of Consistency of Contraceptive Use on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	-0.072						
	(0.171)						
Long-Distance (commitment, less time-intensive)	0.104						
	(0.186)						
Serious (commitment, more time-intensive)	0.316 *						
	(0.162)						
Cohabiting	0.186						
	(0.225)						
Married/Engaged	-0.318 +						
	(0.244)						
Duration							
Time with current partner in current relationship type (months)	-0.017	-0.403 +	0.829 +	-0.021	0.012	0.063	-0.034 +
	(0.016)	(0.303)	(0.539)	(0.124)	(0.024)	(0.052)	(0.022)
Time with current partner in current relationship type (months) - squared			-0.427 *			-0.004 *	
			(0.200)			(0.002)	
Total time with current partner (months)	0.062 ***	-0.003	-0.124 ***	0.013 +	0.032 ***	0.013	0.023 *
	(0.019)	(0.014)	(0.039)	(0.010)	(0.008)	(0.011)	(0.012)
Total time with current partner (months) - squared	-0.001 **		0.003 ***				
	(0.000)		(0.001)				
Prior pregnancy or birth with current partner (ref: No)							
Yes	-0.248	-0.244	-0.864 +	-0.587 +	-0.323	-0.307	1.023 ***
	(0.290)	(0.929)	(0.584)	(0.363)	(0.484)	(0.440)	(0.321)
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	-0.545 **	0.669 +	0.488 +	-0.669 *	-0.725 **	-0.508 +	-0.029
	(0.227)	(0.424)	(0.370)	(0.358)	(0.307)	(0.337)	(0.601)
Prior break up	-0.778 ***	-0.648 *	0.042	-0.578 *	-0.704 ***	-0.645 *	-1.294 **
	(0.173)	(0.291)	(0.336)	(0.292)	(0.218)	(0.349)	(0.435)
N (Relationship-weeks)	10824	566	598	1133	4525	2103	1899
N (Respondents)	698	208	219	277	472	243	158

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table 3. Logisitic Regression Results of LARC on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	0.421						
	(0.352)						
Long-Distance (commitment, less time-intensive)	0.490 +						
	(0.358)						
Serious (commitment, more time-intensive)	0.400						
	(0.396)						
Cohabiting	0.102						
	(0.437)						
Married/Engaged	0.664						
	(0.555)						
Duration							
Time with current partner in current relationship type (months)	0.018	1.101 *	4.013 **	0.695 +	-0.021	-0.269 **	-0.002
	(0.031)	(0.574)	(1.505)	(0.496)	(0.042)	(0.108)	(0.042)
Time with current partner in current relationship type (months) - squared			-1.966 **	-0.254 *		0.012 ***	
			(0.748)	(0.116)		(0.004)	
Total time with current partner (months)	0.000	-0.042 *	-0.003	-0.123 *	-0.007	0.112 +	0.043 *
	(0.017)	(0.023)	(0.016)	(0.065)	(0.020)	(0.074)	(0.025)
Total time with current partner (months) - squared				0.003 **		-0.003 *	
				(0.001)		(0.001)	
Prior pregnancy or birth with current partner (ref: No)							
Yes	0.378	1.420	0.544	0.321	0.322	0.626	0.653
	(0.388)	(1.495)	(0.683)	(0.686)	(0.637)	(0.640)	(0.854)
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	-0.105	2.454 ***	0.742 +	-1.012	-0.120	-1.030 +	-0.305
	(0.395)	(0.688)	(0.555)	(1.109)	(0.716)	(0.684)	(1.067)
Prior break up	-0.466 +	0.736	0.216	-0.266	-0.215	-3.238 ***	-1.917 +
	(0.348)	(0.609)	(0.609)	(0.613)	(0.394)	(0.887)	(1.176)
N (Relationship-weeks)	10,742	560	592	1,123	4,506	2,096	1,865
N (Respondents)	693	207	217	275	470	242	155

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table 4. Logisitic Regression Results of Pill on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	0.084						
	(0.195)						
Long-Distance (commitment, less time-intensive)	0.208						
	(0.206)						
Serious (commitment, more time-intensive)	0.295 +						
	(0.190)						
Cohabiting	0.202						
	(0.263)						
Married/Engaged	0.218						
	(0.318)						
Duration							
Time with current partner in current relationship type (months)	-0.010	0.121	0.064	-0.654 *	0.035 +	-0.058 **	-0.016
	(0.018)	(0.314)	(0.244)	(0.287)	(0.023)	(0.025)	(0.028)
Time with current partner in current relationship type (months) - squared				0.155 *			
				(0.084)			
Total time with current partner (months)	0.075 ***	0.031 *	-0.069 +	0.119 ***	0.011	0.150 ***	-0.009
	(0.021)	(0.014)	(0.048)	(0.035)	(0.010)	(0.045)	(0.014)
Total time with current partner (months) - squared	-0.002 ***		0.002 *	-0.003 ***		-0.002 **	
	(0.000)		(0.001)	(0.001)		(0.001)	
Prior pregnancy or birth with current partner (ref: No)							
Yes	-0.092		-0.556	-0.297	-0.693	0.774	0.463
	(0.357)		(1.120)	(0.555)	(0.545)	(0.731)	(0.453)
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	-0.273	0.054	0.770 *	-0.171	-0.119	-0.578 +	-0.427
	(0.281)	(0.464)	(0.378)	(0.449)	(0.445)	(0.354)	(0.889)
Prior break up	-0.196	-0.158	0.013	-0.353	0.014	0.041	-0.821 +
	(0.217)	(0.337)	(0.372)	(0.330)	(0.287)	(0.597)	(0.592)
N (Relationship-weeks)	10,742	560	592	1,123	4,506	2,096	1,865
N (Respondents)	693	207	217	275	470	242	155

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table 5. Logisitic Regression Results of Condom on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	-0.166						
	(0.174)						
Long-Distance (commitment, less time-intensive)	-0.269 +						
	(0.207)						
Serious (commitment, more time-intensive)	-0.258 +						
	(0.184)						
Cohabiting	-0.301						
	(0.278)						
Married/Engaged	-0.483 *						
	(0.269)						
Duration							
Time with current partner in current relationship type (months)	-0.069 *	-0.799 **	-0.695 **	0.464 *	-0.165 **	0.044 *	0.011
	(0.030)	(0.336)	(0.247)	(0.244)	(0.058)	(0.027)	(0.033)
Time with current partner in current relationship type (months) - squared	0.003 *			-0.131 *	0.009 *		
	(0.001)			(0.075)	(0.004)		
Total time with current partner (months)	-0.022 **	-0.019 +	0.044	-0.069 *	-0.018 *	-0.100 **	-0.035 *
	(0.008)	(0.013)	(0.045)	(0.039)	(0.008)	(0.042)	(0.016)
Total time with current partner (months) - squared			-0.002 *	0.001 *		0.001 *	
			(0.001)	(0.001)		(0.001)	
Prior pregnancy or birth with current partner (ref: No)							
Yes	-0.256	1.198 *	-0.951 +	-0.777	-0.358	-0.543	0.233
	(0.280)	(0.705)	(0.630)	(0.642)	(0.434)	(0.665)	(0.488)
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	0.135	-0.256	-0.823 *	0.560 +	0.366	0.660 +	-0.065
	(0.261)	(0.397)	(0.364)	(0.431)	(0.397)	(0.408)	(0.759)
Prior break up	-0.233	-0.317	-0.495 +	0.274	-0.563 **	0.858 +	0.019
	(0.205)	(0.259)	(0.335)	(0.348)	(0.238)	(0.567)	(0.617)
N (Relationship-weeks)	10,742	560	592	1,123	4,506	2,096	1,865
N (Respondents)	693	207	217	275	470	242	155

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).

Appendix Table 6. Logisitic Regression Results of Withdrawal on Relationship Seriousness and Instability

	Full Sample	Stratified					
		Casual	Dating	Long-Distance	Serious	Cohabiting	Married/ Engaged
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Seriousness							
Current relationship type (ref: Casual (no commitment, less time-intensive))							
Dating (no commitment, more time-intensive)	-0.003						
	(0.231)						
Long-Distance (commitment, less time-intensive)	-0.232						
	(0.273)						
Serious (commitment, more time-intensive)	-0.298						
	(0.249)						
Cohabiting	0.047						
	(0.304)						
Married/Engaged	0.027						
	(0.338)						
Time with current partner in current relationship type (months)	0.016	1.775 *	0.521 *	0.099	0.016	0.023	0.019
	(0.019)	(0.837)	(0.266)	(0.168)	(0.029)	(0.029)	(0.025)
Time with current partner in current relationship type (months) - squared		-0.851 *					
		(0.456)					
Total time with current partner (months)	-0.043 *	-0.003	0.014	-0.009	-0.042 +	-0.086 *	0.013
	(0.020)	(0.014)	(0.014)	(0.011)	(0.030)	(0.041)	(0.013)
Total time with current partner (months) - squared	0.001 **				0.001 *	0.002 *	
	(0.001)				(0.001)	(0.001)	
Prior pregnancy or birth with current partner (ref: No)							
Yes	0.302	1.119 +	1.221	1.191 **	1.297 **	-0.055	-1.295 **
	(0.375)	(0.708)	(0.985)	(0.493)	(0.439)	(0.503)	(0.549)
Instability							
Prior decrease in commitment or break up (ref: neither)							
Prior decrease in commitment (no break up)	0.300	-0.261	-0.225	-0.039	-0.058	0.555 +	2.002 ***
	(0.280)	(0.481)	(0.453)	(0.545)	(0.391)	(0.390)	(0.620)
Prior break up	0.628 **	0.151	0.567 +	0.212	0.693 *	0.028	2.064 ***
	(0.241)	(0.309)	(0.441)	(0.345)	(0.340)	(0.407)	(0.621)
N (Relationship-weeks)	10,742	560	592	1,123	4,506	2,096	1,865
N (Respondents)	693	207	217	275	470	242	155

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models control for sociodemographic characteristics and prior sexual, contraceptive, and pregnancy experiences.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001 (one-tailed tests).