

## **"I Should Be Pregnant So Many Times by Now: Reciprocal Relationships Between Perceived Pregnancy Risk and Young Women's Fertility Behaviors**

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### **Abstract:**

Many young adults engage in unprotected sex, despite the desire to avoid or delay pregnancy. The disconnect between young adults' stated preferences and actual sexual and contraceptive behavior may stem from the deep misunderstandings about pregnancy risk that have been described in the literature. Young adults tend to overestimate the risk of pregnancy from one instance of unprotected intercourse, underestimate the cumulative risk of pregnancy from repeated unprotected intercourse, and overestimate their likelihood of infertility. Using data from the Relationship Dynamics & Social Life study (RDSL), I test for reciprocal associations between perceived pregnancy risk and fertility behaviors. I find that women perceive lower pregnancy risk after having sex without contraception when unprotected sex does not result in pregnancy, and women perceive higher pregnancy risk after becoming pregnant. In turn, perceptions of high pregnancy risk predict lower likelihood of sex, lower likelihood of *unprotected* sex, and more consistent contraceptive use.

## **Introduction**

Most young adults in the U.S. believe that pregnancies should be planned and wish to avoid or delay pregnancy, but many have had unprotected sexual intercourse in the past and anticipate having unprotected intercourse in the near future (Kaye, Suellentrop, & Sloup, 2009). It is not altogether surprising that the prevalence of unintended pregnancy in the U.S. is highest among young adults between the ages of 18 and 24 (Finer & Zolna, 2011, 2013), but the disconnect between young adults' stated goals and actual fertility behaviors is perplexing.

It is possible that this disconnect is less apparent to young adults themselves; in other words, they may not accurately perceive their risk of pregnancy. This interpretation is supported by past research describing widespread misunderstandings about the risk of pregnancy (overestimation of the risk of pregnancy from one instance of unprotected sex, underestimation of the cumulative risk of pregnancy from multiple instances of unprotected sex, and overestimation of the likelihood of infertility by women who have successfully avoided pregnancy thus far) and connecting these misunderstandings to poor contraceptive use (Biggs, Karasek, & Foster, 2012; Biggs & Foster, 2013; Frohwirth, Moore, & Maniaci, 2013). Researchers involved with the nationally representative Fog Zone study observe many of these tendencies within their sample of adults aged 18-29, and speculate that overestimation of the risk of pregnancy could cause women who have had unprotected sexual intercourse without becoming pregnant to conclude that they are infertile (Kaye, Suellentrop, & Sloup, 2009). Thus, overestimating the likelihood of pregnancy could actually inhibit effective contraceptive use in the long term.

Much of the evidence for a feedback loop of this nature is qualitative and relies on narratives of women who became pregnant at young ages (e.g. Hoggart & Phillips 2016). It is possible that these findings are not generalizable to other young women. However, if this process is occurring in a wider swath of the population, it may have serious implications for women's sexual and contraceptive behavior and ultimately for unintended pregnancy. It could also connect the dots between overestimation of infertility, overestimation of pregnancy risk from one instance of unprotected sex, and underestimation of pregnancy risk from many instances of unprotected sex—seemingly contradictory phenomena which may all be connected to poor contraceptive use (Biggs, Karasek, & Foster, 2012; Biggs & Foster, 2013; Frohwirth, Moore, & Maniaci, 2013). Testing this hypothesis requires longitudinal, prospective measures of perceived risk of pregnancy and fertility behaviors, ideally within a large, population based sample. In this paper, I use longitudinal survey data from the Relationship Dynamics and Social Life study (RDSL) to test for reciprocal relationships between perceived risk of pregnancy and young women's sexual and contraceptive behavior.

## **Data and Methods**

### Data

The Relationship Dynamics and Social Life study (RDSL) is a longitudinal study of young women living in a Michigan county. Women were ages 18-19 at the time of sampling and were selected randomly from the Michigan Department of State driver's license and personal identification card database. Baseline interviews were conducted on a rolling basis from March 2008 to July 2009: 1,003 women completed a baseline interview, for a response rate of 83% and a cooperation rate of 94%. These interviews were conducted in person by a professional

interviewer, lasted approximately one hour, and included questions about sociodemographic characteristics, attitudes, relationship characteristics and history, contraceptive use and pregnancy history. At the end of the baseline interview, participants were invited to participate in a follow-up study that lasted 30 months. Each week, respondents completed a short survey (“journal”) about their relationships, sexual behavior, contraceptive use, pregnancy intentions, and actual pregnancies during the previous week (or, in the case of missing or late journals, since the previous survey). The journal took approximately 5 minutes to complete, and could be submitted by telephone or via the internet. Respondents were issued re-loadable debit cards and paid \$1 per journal submitted, with a bonus for submitting five consecutive journals on time. Women who did not submit a journal for over 60 days were offered an additional \$10 to return to the study. Of the 992 women who enrolled in the journal study, 75% contributed at least 18 months of journal data, and the median time between journals was 8 days.

## Measures

### *Perceived pregnancy risk*

In addition to the core set of questions about relationships, sex, contraception, and pregnancy which are asked every week, the journal includes an auxiliary set of questions on other topics. A different set of questions is asked each week, and each set of questions is repeated quarterly (approximately every 12 weeks). These questions include two dimensions of *perceived pregnancy risk*: the perceived likelihood of pregnancy if the respondent had sexual intercourse “*once or twice without using birth control*” and the perceived likelihood of pregnancy if the respondent had sexual intercourse “*regularly, say once a week for a year, without using birth control*”. These questions are asked in the first journal after the baseline

survey, and are updated quarterly. Throughout this paper, I refer to the interval between quarterly updates as a “spell”.

Repeated measurement of perceived pregnancy risk in RDSL allows for analyses of change in perceived risk as well as perceived risk levels. Women with identical answers on the perceived pregnancy risk questions might behave differently, depending whether that answer represents an increase in perceived pregnancy risk, a decrease, or no change. Thus, for each observation of perceived pregnancy risk (level), I calculate the corresponding *change in perceived pregnancy risk* since the previous observation. In the following analyses, perceived pregnancy risk is both a predictor and an outcome. In analyses where perceived pregnancy risk is the predictor, both measures are rescaled such that 1 unit equals 10 points on the original 0-100 scale. In analyses where perceived pregnancy risk is the outcome, the original 0-100 scale is used.

#### *Fertility behaviors*

Questions about pregnancy, sexual behavior, and contraceptive use are asked on a weekly basis in the journal. I use these survey questions to construct summary measures of women’s fertility behaviors and outcomes during each spell (each interval between quarterly observations of perceived pregnancy risk). These summary measures vary slightly depending whether fertility behaviors are treated as the predictor or the outcome of a particular analysis.

#### *Fertility behaviors/outcomes as a predictor of perceived pregnancy risk*

In analyses using fertility behaviors to predict women’s perceived risk of pregnancy, I consider whether women were sexually active during the spell, whether they used contraception consistently (used some method at each instance of sexual intercourse), whether they experienced a pregnancy scare (reported a possible pregnancy and then reported that they were

not actually pregnant), and whether they became pregnant during the spell. I focus on specific combinations of sexual behavior, contraceptive use, and pregnancy, based on two principles. First, to the extent that becoming pregnant affects perceived pregnancy risk, the pregnancy itself is probably more salient than the sexual or contraceptive behavior leading to that pregnancy. Second, sexual behavior and contraceptive use probably influence how women account for *not* becoming pregnant. For instance, a sexually active woman who avoids pregnancy while using contraception consistently may conclude that her contraceptive method worked properly; a sexually active woman who avoids pregnancy while using contraception inconsistently or not using contraception may conclude that she is unable to conceive.

Thus, I sort each spell into one of five categories: 1) *no pregnancy: not sexually active*; 2) *no pregnancy: sexually active, consistent contraceptive use*; 3) *no pregnancy: sexually active, inconsistent or no contraceptive use*; 4) *pregnancy scare*<sup>1</sup>; and 5) *pregnancy*. Non-pregnancy spells in which women were sexually active and used contraception consistently are treated as the reference group.

#### *Perceived pregnancy risk as a predictor of subsequent fertility behavior*

In analyses using perceived pregnancy risk to predict fertility behaviors, I focus on sex and contraception because these are more immediate consequences than pregnancy (whose likelihood is influenced by sex, contraception, individual fecundity, and random chance.) Sex and contraception are proximate determinants of pregnancy, thus the implications of perceived pregnancy risk for women's actual pregnancy risk may be inferred from them. For each spell, I create indicators of *ever having sex* and *ever having unprotected sex*. For spells in which women

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<sup>1</sup> I separate pregnancy scares from confirmed pregnancies because they may not have the same consequences for perceived pregnancy risk. Pregnancy scares could conceivably lead to higher or lower perceived pregnancy risk, depending whether the key experience is believing oneself to be pregnant or learning that one is *not* actually pregnant.

reported having sex, I also create the *proportion of sex weeks in which women used contraception consistently* (used some contraceptive method at each instance of intercourse).

#### *Sociodemographic controls*

Finally, these analyses control for sociodemographic characteristics which may influence both perceived risk of pregnancy and fertility behaviors. These characteristics are all measured at the time of the baseline interview. *Race* was measured with the 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.” Based on this measure, I create a dichotomous Black/non-Black variable because the number of respondents providing a response other than “Black” or “White” is too small for separate analyses of these groups to be feasible.

*Religious importance* was measured with the question “How important if at all is your religious faith to you – would you say not important, somewhat important, very important, or more important than anything else?” I collapse this variable into a dichotomous indicator of high religiosity in which respondents describing their religious faith as “very important” or “more important than anything else” are coded 1 and all other respondents are coded 0.

I control for several indicators of childhood socioeconomic status, including whether the respondent’s *mother had a live birth as a teenager*, whether the respondent’s family received *public assistance during childhood*, and whether the respondent grew up in a *two-parent household*. I also control for several indicators of socioeconomic status (SES) at the time of the baseline interview, at age 18 or 19. These include *current receipt of public assistance* and *current employment*. Education is an additional indicator of SES, as well as a predictor of sexual behavior, contraceptive use, and pregnancy. Controlling for educational attainment is not feasible

due to the young age of the sample; at the time of the baseline interview, a majority of RDSL respondents had not yet completed their education (13% were still enrolled in high school and another 65% were attending 2-year or 4-year postsecondary institutions.) Instead, I control for *high school grade point average (GPA)*, which reflects recent school performance and should be predictive of eventual educational attainment.

### Analytic Sample

The unit of analysis is a spell (interval between two quarterly observations of subjective pregnancy risk). Of the 992 women who participated in the journal study, 756 women answered quarterly survey questions about pregnancy risk at least twice (and thus contributed at least one spell to the analytic sample.) Together, these 756 women contributed 3,666 spells to the analytic sample. Because the number of observations on perceived risk varies from 2 to 13, the number of spells per woman ranges from 1 to 12, with a mean of 4.85. Spells are approximately 12 weeks long because risk questions are repeated quarterly, although the number of journals submitted per spell may vary due to missing or late journals. (Analyses include controls for spell length where variation in the number of journals in a spell could bias the results.) Table 1 presents characteristics of the analytic sample. Sociodemographic characteristics are presented at both the woman level and the spell level; perceived pregnancy risk, sex, contraception, and pregnancy are presented at the spell level only because they vary within women over time.

### Analyses

#### *Fertility behaviors/outcomes as a predictor of perceived pregnancy risk*

I estimate a series of ordinary-least-squares (OLS) regression models predicting women's perceived pregnancy risk at the end of each spell. I predict four separate outcomes: the perceived pregnancy risk level if R had unprotected sex once or twice, the perceived pregnancy risk level if



R had unprotected sex repeatedly, and the change observed on both of these measures at the end of the spell. The main predictor in these models is the summary measure of pregnancy, sex, and contraceptive experiences during the spell. Spells in which women were sexually active, used contraception consistently, and did not become pregnant are the reference group. In models predicting women's perceived pregnancy risk levels, the first model includes only pregnancy, sex, and contraceptive experiences during the spell, and the second model adds sociodemographic controls.

In models predicting change in perceived pregnancy risk, I also include an intermediary model controlling for the pregnancy risk level at the beginning of the spell. Perceived risk at the beginning of the spell is a potential confounder in these models because it may influence women's behavior during the spell and may also predict the magnitude of change in perceived pregnancy risk by the end of the spell. (For instance, women with extreme values on perceived pregnancy risk might experience larger changes on that measure over time if their answers tend to regress to the mean, or if their risk estimates are simply more volatile). In all models, standard errors are adjusted for the clustering of spells within women.

#### *Perceived pregnancy risk as a predictor of subsequent fertility behavior*

I predict three fertility behaviors which may be associated with perceived risk of pregnancy and which have clear implications for women's actual pregnancy risk: the likelihood of having sex during the spell, the likelihood of having any unprotected sex during the spell, and the proportion of sex weeks with consistent contraceptive use during the spell. The latter outcome is assessed only for spells in which women were sexually active and were not already pregnant. I use logistic regressions to estimate the log-odds of having sex and the log-odds of

having unprotected sex, and I use ordinary-least-squares (OLS) regression to estimate the proportion of sex weeks with consistent contraceptive use.

In the first model, I include the two measures of perceived pregnancy risk (the level and change, as reported at the beginning of the spell) associated with having unprotected sex once or twice. In the second model, I include the two measures of perceived pregnancy risk associated with having unprotected sex regularly. The third model combines all four perceived risk measures, and the fourth model adds sociodemographic control variables.

In order to correct for potential observation bias, all models control for the number of journals used to construct that outcome. Models predicting the likelihood of sex and the likelihood of unprotected sex control for the number of journals submitted during that spell, and models predicting contraceptive consistency control for the number of sexually active, non-pregnant journal weeks.

## Hypotheses

### *Fertility behaviors/outcomes as a predictor of perceived pregnancy risk*

I expect to observe higher perceived pregnancy risk (higher levels and positive change) at the end of spells in which women became pregnant, and I expect lower perceived risk (lower levels and negative change) during spells in which women avoided pregnancy despite inconsistent contraceptive use. Pregnancy scares could be associated with positive or negative change: temporarily believing oneself to be pregnant could lead to higher perceived pregnancy risk, but discovering that one is not actually pregnant could result in lower perceived risk of

pregnancy. Therefore, I do not have strong directional hypotheses regarding pregnancy scares, but I do expect pregnancy scares to be associated in some way with perceived pregnancy risk.

*Perceived pregnancy risk as a predictor of subsequent fertility behavior*

I anticipate that higher perceived pregnancy risk (higher levels and positive change) at the beginning of a spell will be associated with less risky behavior during that spell: lower likelihood of sex, lower likelihood of unprotected sex, and more consistent contraceptive use. Conversely, lower perceived risk (levels) and negative change in perceived pregnancy risk at the beginning of a spell will predict riskier behavior during that spell: higher likelihood of sex, higher likelihood of unprotected sex, and less consistent contraceptive use.

## **Results**

*Fertility behaviors/outcomes as a predictor of perceived pregnancy risk*

Tables 2 and 3 present results of OLS regression models using sex, contraception, and pregnancy experiences during the spell to predict women's perceived risk of pregnancy at the end of the spell. Table 2 shows results for perceived risk of pregnancy if the respondent had unprotected sex once or twice. Compared to sexually active women who were consistent contraceptive users and did not become pregnant during the spell, women who were not sexually active perceived a higher likelihood of pregnancy (a higher risk level) from one or two instances of unprotected intercourse at the end of the spell. (This association is not necessarily causal; it may be that women perceiving a higher risk of pregnancy were less likely to be sexually active.) This difference is robust to sociodemographic characteristics. Women also perceived higher pregnancy risk levels at the end of the spell if they experienced a pregnancy, although this

difference is only marginally significant when sociodemographic characteristics are added to the model.

Similarly, not having sex during the spell and experiencing a pregnancy during a spell are both associated with positive change in perceived pregnancy risk by the end of the spell, findings which remain significant after adding sociodemographic controls and after controlling for perceived pregnancy risk level at the beginning of the spell. In other words, women who did not have sex and women who became pregnant increased on perceived pregnancy risk regardless of the level of risk perceived at the beginning of the spell. Interestingly, higher levels on one-time pregnancy risk at the beginning of the spell are associated with modest (but highly significant) negative change over the spell, net of women's pregnancy, sex, and contraceptive experiences during that same time period. This suggests a downward drift in perceived pregnancy risk over time for women with higher perceived risk levels, which may simply result from regression toward the mean, but could also indicate a downward secular trend in pregnancy risk perception.

It is not surprising that experiencing a pregnancy is associated with an increase in perceived risk of pregnancy. The less intuitive finding in this set of analyses is women who did not have sex during a spell (and thus had zero exposure to the risk of pregnancy during the spell) experienced significant positive change in the perceived risk of pregnancy, net of the pregnancy risk they perceived at the beginning of the spell. No doubt this change contributes to the higher level of pregnancy risk that these women perceived at the end of the spell, although the magnitude of the change is smaller than the difference in perceived risk level between these women and the reference group (consistent contraceptive users). The remainder of this difference may be due to selection into abstinence (i.e. a tendency for women who perceive high pregnancy risk to avoid having sex.)

Table 3 shows results for perceived risk of pregnancy if the respondent were to have unprotected sex regularly. Compared to women who used contraception consistently during the spell, women with inconsistent or no contraceptive use (who did not become pregnant) perceived much lower pregnancy risk at the end of the spell. Even after controlling for sociodemographic characteristics, women who used contraception inconsistently during a spell perceived the risk of pregnancy from repeated unprotected sex to be over 10 percentage points lower than women who used contraception consistently. Women who experienced a pregnancy scare during the spell also perceived the risk of pregnancy to be much lower than the women who used contraception consistently, but this association is only marginally significant when sociodemographic characteristics are included in the model. With respect to *change* in the perceived risk of pregnancy, being an inconsistent contraceptive user during the spell predicts negative change over the spell, and experiencing a pregnancy predicts positive change. These associations hold up in the full model controlling for the level of perceived pregnancy risk at the beginning of the spell and for sociodemographic characteristics. As was the case in the previous set of results, women who perceived higher pregnancy risk at the beginning of the spell experienced larger negative changes in perceived pregnancy risk during the spell.

Again, even though sex, contraception, and pregnancy are measured before perceived pregnancy risk, some caution is required when drawing conclusions about the direction of these associations. Even with the proper temporal ordering, reverse causality remains a strong possibility. For instance, it is plausible that women who perceived the risk of pregnancy to be high at the beginning of the spell were more careful contraceptive users during the spell, which could account for at least some of the association between contraceptive use during the spell and perceived pregnancy risk at the end of the spell. However, it is unlikely that this association is

entirely due to selection into consistent contraceptive use. The negative change in perceived pregnancy risk over the spell is highly significant, though smaller than the overall difference in perceived risk level between inconsistent users and the reference group by the end of the spell. It seems likely that lower risk perception at the beginning of the spell did encourage inconsistent contraceptive use during the spell, but also that inconsistent contraceptive use led to lower perceived risk of pregnancy by the end of the spell if it did not result in a pregnancy.

*Perceived pregnancy risk as a predictor of subsequent fertility behavior*

Table 4 presents results of logistic regression models and ordinary-least-squares (OLS) model predicting specific fertility behaviors: the likelihood of having sex during the spell, the likelihood of having unprotected sex during the spell, and the proportion of sexually active weeks in which women used contraception consistently during the spell. Predictors include the perceived pregnancy risk associated with having unprotected sex once or twice and the risk associated with having unprotected sex regularly. They include the risk level at the beginning of the spell, as well as the change in perceived risk that a respondent experienced during the *previous* spell in order to arrive at her current perceived risk level. The overall number of spells in the analytic sample is lower (n=2,910) for this final set of analyses due to this lagging. (Information from the previous spell is used to create the perceived risk change measure at the current spell, but the first spell contributed by each respondent has no previous information available and consequently drops out of the sample.) Note that in these models, a one-unit change in perceived pregnancy risk is equivalent to a 10-point difference on the original scale (0-100).

Women perceiving higher risk of pregnancy at the beginning of a spell were less likely to have sex during that spell. Among the two types of pregnancy risk measured, the perceived risk

of pregnancy from one or two instances of unprotected sex appears most important, and remains significant after accounting for sociodemographic characteristics and recent change in risk perception. Change in perceived pregnancy risk is not independently associated with the likelihood of sex during the spell.

At the bivariate level, higher values on both perceived risk measures at the beginning of the spell predict a lower likelihood of unprotected sex during the spell. When both measures are included in the model, only the perceived risk of pregnancy after having regular unprotected sex is associated with the likelihood of unprotected sex. Higher levels of perceived pregnancy risk are associated with a lower likelihood of having unprotected sex during the spell, but positive change on this measure prior to the spell is actually associated with a higher likelihood of having unprotected sex during the spell. This finding seems contradictory, but is likely due to endogeneity between risk perception and fertility behaviors. In the previous analyses, the strongest predictor of positive change on both risk perception measures was experiencing a pregnancy, which implies a high likelihood of having had unprotected sex in the past. Consequently, when the model already accounts for perceived risk levels, a large increase in perceived pregnancy risk from one spell to the next may be a red flag for past risky behavior, which may in turn predict future risky behavior. Meanwhile, women whose pregnancy risk perceptions are both high and stable appear to have a much lower likelihood of engaging in unprotected sex during the spell.

The pattern of results for the proportion of sex weeks with consistent contraceptive use is quite similar to the pattern for unprotected sex: higher levels of perceived pregnancy risk at the beginning of the spell predict less risky behavior (in this case, more consistent contraceptive use) during the spell, and the risk associated with having unprotected sex regularly appears to be more

salient than the risk associated with having unprotected sex once or twice. Again, when controlling for perceived risk levels, positive change in risk perception at the beginning of the spell is associated with riskier behavior (less consistent contraceptive use) during the spell. As in the case of unprotected sex, this is most likely the result of an association between past risky behavior and positive changes in perceived risk.

### **Discussion and Planned Future Work**

These analyses demonstrate that women's experiences with sex, contraception, and pregnancy are associated with subsequent risk perception, and that the perceived risk of pregnancy is associated with subsequent sexual and contraceptive behavior. For the most part, these associations are in the hypothesized direction. Experiencing a pregnancy during a spell is associated with higher perceived risk of pregnancy at the end of the spell; inconsistent or no contraceptive use during a spell is associated with lower perceived pregnancy risk when this behavior did not result in a pregnancy. High perceived risk of pregnancy at the beginning of a spell is associated with a lower likelihood of having sex during the spell, a lower likelihood of having unprotected sex during the spell, and consistent use of contraception in a higher proportion of sexually active weeks during the spell. Overall, perceptions about the risk of pregnancy after having unprotected sex once or twice seem to be more closely connected to sexual behavior, while perceptions about the risk of pregnancy after having regular unprotected sex seem to be more closely connected to contraceptive behavior.

Perceived risk levels and change in perceived risk both predict subsequent fertility behavior, but in opposite directions. High levels of perceived risk predict less risky behavior during the subsequent spell. Net of perceived risk levels, positive change in perceived pregnancy



risk actually predicts more risky behavior. At present, the likeliest explanation for this phenomenon is women who experienced large positive changes in perceived pregnancy risk did so after becoming pregnant, and risky behavior which originally led to the pregnancy may also predict future risky behavior.

These counterintuitive findings underline the shortcomings of the analytic method used in the current version of the paper. The current analysis improves on past cross-sectional studies by using longitudinal data and ensuring proper temporal ordering of risk perception and behavior, but does not offer a satisfactory solution to the endogeneity of perceived pregnancy risk and women's fertility behaviors. Future iterations of this paper will employ methods better suited to deal with the complex and probably reciprocal relationship between perceived risk of pregnancy and fertility behaviors. Possibilities include structural equation models or marginal structural models, which would treat women (not spells) as the unit of analysis and would allow risk perception and fertility behavior to be modeled simultaneously. This approach should provide clearer evidence for or against the feedback loop of risk perception and fertility behavior that has been hypothesized elsewhere in the literature, and which is better conceptualized as a process unfolding within individual women over time. Despite these limitations, these analyses provide a proof of concept justifying further investigation of the complex relationship between risk perception and women's fertility behavior.

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**Table 1: Sample characteristics**

	Min	Max	Spells (n=3666)			Women (n=756)		
			Obs	Mean	SD	Obs	Mean	SD
Spells contributed to analytic sample	1	12		--	--	756	4.85	2.77
<i>Sociodemographic Characteristics</i>								
Black	0	1	3666	0.26	--	756	0.31	--
High religious importance	0	1	3666	0.56	--	756	0.57	--
Biological mother < 20 years old at first birth	0	1	3666	0.28	--	756	0.33	--
Childhood public assistance	0	1	3666	0.30	--	756	0.35	--
Two-parent household (both bio or bio/step)	0	1	3666	0.62	--	756	0.56	--
Public assistance at age 18/19	0	1	3666	0.17	--	756	0.22	--
High school GPA	0	4.17	3666	3.25	0.59	756	3.17	--
Employed at age 18/19	0	1	3666	0.48	--	756	0.49	--
<i>Perceived Pregnancy Risk Levels</i>								
...if R had unprotected sex once or twice <sup>a</sup>	0	100	3666	50.88	25.69			
...if R had unprotected sex regularly <sup>b</sup>	0	100	3666	72.50	26.64			
<i>Change in Perceived Pregnancy Risk<sup>c</sup></i>								
...if R had unprotected sex once or twice	-100	100	3666	-0.71	23.84			
...if R had unprotected sex regularly for a year	-100	100	3666	-1.33	26.29			
<i>Sex/Contraception During Spell</i>								
Had sexual intercourse	0	1	3666	0.59	--			
Had unprotected sexual intercourse	0	1	3666	0.28	--			
Proportion of sex weeks R used contraception consistently <sup>d</sup>	0	1	2177	0.71	0.38			
<i>Pregnancy/Sex/Contraception During Spell</i>								
No pregnancy: not sexually active	0	1	3666	0.40	--			
No pregnancy: sexually active, consistent contraceptive use	0	1	3666	0.30	--			
No pregnancy: sexually active, inconsistent/no contraceptive use	0	1	3666	0.23	--			
Pregnancy scare	0	1	3666	0.03	--			
Pregnancy	0	1	3666	0.04	--			

<sup>a</sup> "If you were to have sexual intercourse once or twice without using birth control, what are the chances that you would get pregnant?"

<sup>b</sup> "If you were to have sexual intercourse regularly, say once a week for a year, without using birth control, what do you think are the chances that you would get pregnant?"

<sup>c</sup> Difference between perceived risk level at current spell and perceived risk level at previous spell.

<sup>d</sup> Calculated for spells in which R was sexually active.

**Table 2: OLS regression models estimating perceived pregnancy risk if R had unprotected sex once or twice**

	<b>Perceived pregnancy risk level if R had unprotected sex once or twice (0-100)</b>		<b>Change in perceived pregnancy risk if R had unprotected sex once or twice</b>		
	M1	M2	M1	M2	M3
<i>Pregnancy/Sex/Contraception During Spell</i>					
<i>(ref: No pregnancy: sexually active, consistent contraceptive use)</i>					
No pregnancy: not sexually active	6.05 ** (1.93)	5.46 ** (1.91)	1.67 * (0.66)	3.47 *** (0.95)	3.14 ** (0.95)
No pregnancy: sexually active, inconsistent/no contraceptive use	-0.78 (1.82)	-1.75 (1.83)	2.16 * (0.87)	0.79 (0.97)	0.31 (0.99)
Pregnancy scare	1.27 (3.62)	-1.07 (3.72)	-1.12 (2.69)	-0.31 (2.48)	-1.52 (2.53)
Pregnancy	7.86 * (3.46)	6.70 + (3.49)	9.31 *** (2.61)	9.72 *** (2.31)	8.93 *** (2.35)
<i>Perceived Pregnancy Risk at Beginning of Spell</i>					
...if R had unprotected sex once or twice				-0.44 *** (0.02)	-0.45 *** (0.02)
<i>Sociodemographic Characteristics</i>					
Black		2.26 (2.55)			0.51 (1.13)
High religious importance		2.87 (2.03)			1.63 + (0.91)
Biological mother < 20 years old at first birth		-2.55 (1.96)			-1.18 (0.90)
Childhood public assistance		-1.63 (2.29)			-1.03 (1.01)
Two-parent household (both bio or bio/step)		0.23 (2.09)			0.28 (0.95)
Public assistance at age 18/19		2.49 (2.52)			2.68 * (1.14)
High school GPA		-3.21 * (1.48)			-1.42 * (0.68)
Employed at age 18/19		0.56 (1.83)			-0.03 (0.83)
R <sup>2</sup>	0.02	0.03	0.01	0.23	0.23

+ p&lt;0.10; \*p&lt;0.05; \*\*p&lt;0.01; \*\*\*p&lt;0.001 (two-tailed tests)

Note: Standard errors (in parentheses) are adjusted for clustering of spells within women. Perceived pregnancy risk is measured at end of spell.

**Table 3: OLS regression models estimating perceived pregnancy risk if R had unprotected sex regularly**

	<u>Perceived pregnancy risk level if R had unprotected sex regularly (0-100)</u>		<u>Change in perceived pregnancy risk if R had unprotected sex regularly<sup>a</sup></u>		
	M1	M2	M1	M2	M3
<i>Pregnancy/Sex/Contraception During Spell</i>					
<i>(ref: No pregnancy: sexually active, consistent contraceptive use)</i>					
No pregnancy: not sexually active	0.42 (1.78)	0.70 (1.77)	1.19 (0.74)	0.52 (1.03)	0.69 (1.05)
No pregnancy: sexually active, inconsistent/no contraceptive use	-12.50 *** (1.73)	-10.40 *** (1.73)	-0.09 (0.96)	-6.12 *** (1.10)	-5.16 *** (1.10)
Pregnancy scare	-11.45 *** (3.16)	-6.43 + (3.34)	-0.58 (3.94)	-5.83 * (2.93)	-3.28 (3.01)
Pregnancy	1.33 (3.76)	4.98 (3.85)	10.28 *** (2.77)	4.33 + (2.43)	6.15 * (2.47)
<i>Perceived Pregnancy Risk at Beginning of Spell</i>					
...if R had unprotected sex regularly				-0.50 *** (0.02)	-0.52 *** (0.02)
<i>Sociodemographic Characteristics</i>					
Black		-2.45 (2.32)			-2.41 * (1.19)
High religious importance		-0.88 (1.84)			-0.08 (0.96)
Biological mother < 20 years old at first birth		-6.02 ** (2.14)			-3.14 ** (1.10)
Childhood public assistance		-2.52 (2.29)			-2.28 + (1.16)
Two-parent household (both bio or bio/step)		1.89 (1.97)			0.55 (1.05)
Public assistance at age 18/19		0.85 (2.53)			1.29 (1.28)
High school GPA		1.51 (1.42)			0.54 (0.75)
Employed at age 18/19		0.37 (1.76)			0.37 (0.93)
R <sup>2</sup>	0.04	0.07	0.01	0.26	0.27

+ p&lt;0.10; \*p&lt;0.05; \*\*p&lt;0.01; \*\*\*p&lt;0.001 (two-tailed tests)

Note: Standard errors (in parentheses) are adjusted for clustering of spells within women.

**Table 4: Log-odds of sex and log-odds of unprotected sex (logistic regression models), and proportion of sex weeks R used contraception consistently (OLS regression models)**

	Log-odds of sex during spell				Log-odds of unprotected sex during spell				Proportion of sex weeks R used contraception consistently during spell <sup>c</sup>			
	M1	M2	M3	M4	M1	M2	M3	M4	M1	M2	M3	M4
<i>Perceived Pregnancy Risk Level at Beginning of Spell<sup>a</sup></i>												
...if R had unprotected sex once or twice	-0.10 ** (0.03)		-0.08 * (0.04)	-0.08 * (0.04)	-0.09 ** (0.03)		0.01 (0.04)	-0.03 (0.04)	0.01 (0.01)		-0.02 ** (0.01)	-0.01 (0.01)
...if R had unprotected sex regularly for a year		-0.08 * (0.03)	-0.04 (0.03)	-0.02 (0.04)		-0.18 *** (0.03)	-0.19 *** (0.03)	-0.14 *** (0.03)		0.05 *** (0.01)	0.05 *** (0.01)	0.04 *** (0.01)
<i>Change in Perceived Pregnancy Risk at Beginning of Spell<sup>a,b</sup></i>												
...if R had unprotected sex once or twice	0.02 (0.02)		0.02 (0.02)	0.02 (0.02)	0.02 (0.02)		-0.03 (0.02)	0.00 (0.02)	0.00 (0.01)		0.01 ** (0.01)	0.01 + (0.00)
...if R had unprotected sex regularly		0.01 (0.02)	0.00 (0.02)	-0.01 (0.02)		0.06 ** (0.02)	0.06 ** (0.02)	0.04 + (0.02)		-0.02 *** (0.00)	-0.02 *** (0.00)	-0.02 *** (0.00)
<i>Sociodemographic Characteristics</i>												
Black				-0.08 (0.21)				-0.02 (0.22)				-0.04 (0.04)
High religious importance				-0.29 + (0.17)				-0.05 (0.17)				-0.01 (0.03)
Biological mother < 20 years old at first birth				0.36 + (0.20)				0.35 + (0.18)				-0.01 (0.04)
Childhood public assistance				0.07 (0.19)				0.28 (0.19)				-0.08 + (0.04)
Two-parent household (both bio or bio/step)				-0.11 (0.19)				-0.15 (0.19)				0.01 (0.04)
Public assistance at age 18/19				0.16 (0.23)				0.24 (0.23)				-0.06 (0.04)
High school GPA				-0.20 (0.15)				-0.68 *** (0.14)				0.13 *** (0.03)
Employed at age 18/19				0.50 ** (0.17)				0.11 (0.16)				0.05 (0.03)
R <sup>2</sup>	--	--	--	--	--	--	--	--	0.00	0.07	0.08	0.16

+ p<0.10; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001 (two-tailed tests)

Note: Standard errors (in parentheses) are adjusted for clustering of spells within women.

<sup>a</sup> Perceived pregnancy risk measures are rescaled (1 unit = 10 points on original 0-100 scale).

<sup>b</sup> Difference between perceived risk level at beginning of current spell and perceived risk level at beginning of prior spell (n=2,910 spells due to lagging).

<sup>c</sup> Calculated among spells in which R was sexually active (n=1,671).