Single Women Contracepting Inconsistently:

Do They Ambivalently Want a Pregnancy or Lack Efficacy?

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Abstract

We use data from rich, qualitative interviews with 103 unmarried women 20-29 years of age about their sexual and contraceptive histories. We perform qualitative and quantitative analyses to identify factors predictive of consistent contraception. We assess whether women don't contracept consistently because they a) at least ambivalently want a pregnancy, and/or b) lack the efficacy to contracept consistently. Our umbrella concept of "efficacy" includes planfulness, the self-regulation necessary to do onerous things in the service of one's goals, believing that one can have an effect on outcomes, and enough entitlement for assertiveness. Our quantitative analysis is based on quantitative codings from transcripts. One quantitative analysis draws upon a dataset with 583 respondent-partner dyads as units of analysis. It shows that inconsistent contraception is predicted by wanting a baby in the future with this partner, even when a woman claims she didn't want a pregnancy at the time. Inconsistent contraception is also predicted by having sex with the partner after heavy alcohol or drug use, one indicator of diminished efficacy. In a second quantitative analysis, we use a dataset with the 103 women as units of analysis, and show that women are more inconsistent in their contraception if they at least ambivalently wanting a baby with one or more partners during the time of their relationship, and if we code their overall efficacy as low. We use narrative qualitative analysis of several cases to illustrate how low efficacy relates to inconsistent contraception.

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When surveys ask unmarried American women whether their recent pregnancies were intended, only about a quarter indicate that they were (Finer and Henshaw 2006, p. 93, Table 1, data for 1994 and 2001). Unintended pregnancies occur at all levels of socioeconomic status, but are especially common among those with low income and education (Musick et al. 2009; Finer and Henshaw 2006; Boonstra et al. 2006). Except for cases of a technical failure of a contraceptive method, the proximate cause of pregnancies that women say were unintended is obvious--having intercourse but not correctly using contraception consistently. However, there is less consensus on *why* women who don't want a baby now sometimes fail to contracept. One important debate, which we address here, is whether the failure to contracept indicates lack of sufficiently strong motivation to avoid having a baby or a lack of contraceptive efficacy.

Much theorizing about who contracepts follows rational choice principles, where the benefits minus costs of having a child now are compared to the benefits minus costs of not having a child via contraception. The rational choice explanation emphasized by economists focuses on opportunity costs for the mother (Hotz et al. 1997) as an explanation of how strong her motivation is to avoid or delay having a birth; women whose prospective earnings are high have more to lose from a pregnancy. Though evidence for this effect is surprisingly mixed (Heckman and Walker 1990; Musick et al. 2009) it dominates much literature on teen and nonmarital pregnancies and births. The opportunity cost view harmonizes with the view from qualitative sociological research that the motivation to avoid pregnancy is weak when having a baby seems the only available source of meaning among poor women whose prospects for

meaningful jobs or relationships with men are limited (Edin and Kefalas 2005). These views are, on their face, hard to square with most unmarried women saying that their pregnancies were unintended, but both the economists who forward opportunity cost views and the qualitative sociologists focusing on meaning have, for different reasons, doubts about the validity of survey responses about intendedness of pregnancies.

In cases where women truly don't want a baby at the time, yet are not contracepting consistently, some barrier must be preventing contraception. The cost of contraception—the money one pays to buy the medical services to get a prescription and the cost of filling the prescription—is the most obvious external barrier. The fact that unintended pregnancies are more likely among the poor (Finer and Henshaw 2006) suggests that the cost of contraceptives might be relevant to nonuse. Yet past research finds that the cost of contraceptives is a relatively minor barrier (Silverman et al. 1987; Edin et al. 2007), although cost is a significant barrier to abortion (Boonstra et al. 2006).

A less explored barrier to contraception is the concept we will call "efficacy." By efficacy, we mean the ability to organize one's behavior in the service of one's goals. It is an internal, individual characteristic, but of course in many cases it is of social origin. That is, different social environments may better help individuals learn efficacy of all kinds. We use efficacy as an umbrella term to cover several distinct but related concepts: 1) being planful enough to organize intended lines of action, 2) having sufficient self-regulation to "make oneself" do things that are onerous now but are necessary for a future goal, 3) believing that one can affect outcomes by taking action, and 4) being assertive with others to achieve one's goals.

Women may be clear that they prefer to contracept in order to avoid getting pregnant at the present time, even considering the pecuniary and nonpecuniary costs of contraception and the

benefits of having a child, but not have the efficacy to do what is needed. For example, they may intend to—but not have the planfulness and self-regulation to—make and go to medical appointments, get prescriptions, take pills daily at the same time, and repeat the cycle before contraceptives run out. They may not feel comfortable being assertive with male partners about wearing condoms. They may be fatalistic about whether they can really prevent pregnancy by using contraception. An explanation of not contracepting in terms of efficacy differs from the cost-benefit rational choice view (including notions of opportunity cost) because efficacy is about the capacity of the person to carry out consistently what their own cost-benefit analysis tells them is best, not about the incentives actors face that affect the results of their cost-benefit analysis. Psychologists see self-regulation as part of executive function (Baumeister et al. 2006). Sociologists emphasize the social arrangements conducive to learning efficacy (Edin et al. 2007; England et al. 2011). In economic terms, one could think of efficacy as a socio-emotional form of human capital, akin to what Heckman and Kautz (2012) call "soft skills" (Heckman and Kautz 2012).

In this paper, our goal is to assess how wanting a baby—even ambivalently or in the future—and efficacy each affect consistent contraception. We measure whether women want a baby by attending to what women say about whether, with a particular partner, they ever wanted to get pregnant right then, and also whether they ever foresaw a future pregnancy with the partner; rich, qualitative data are used to code these variables. We assess efficacy via a close reading of transcripts, looking for when contraception is aided by high or impeded by low efficacy, and also for evidence of other kinds of efficacy with respect to meeting the woman's own goals in any arena--school, work, sexual and romantic life, finances, or parenting.

DATA AND METHODS

Both the qualitative and quantitative analyses in this paper come from transcriptions of 103 qualitative, in-depth interviews of never-married women between 20 and 29 years of age, attending four colleges in California. While participants in our study could be as old as 29, the average age at the time of the interview was 23 and 75% of our sample was 24 or younger. The interviews were conducted as a part of the College and Personal Life Study (Paula England, Principal Investigator). The 1-2 hour interviews covered a detailed sexual history, with special attention to contraceptive use and discontinuation for every sexual partner. Four of the authors were among the interviewers. Approximately half of our interviews were with students from two Community Colleges with racially diverse student bodies, Laney College in downtown Oakland, and Foothill College in Los Altos, a Silicon Valley suburb.[1] We chose two community colleges to target a population of women of low-to-medium socioeconomic background at the age where unintended, non-marital pregnancies are frequent. In order to have the sample include women with more privileged background as well, the other half of the sample comprises women from two very selective universities, Stanford and University of California-Berkeley, also in the San Francisco Bay area.[2] Table 1 specifies the composition of the sample of respondents and respondent-and-sexual-partner dyads from these 103 respondents.

We posted flyers on each campus to recruit our sample, promising $50 for an interview of 1-2 hours. Flyers stated that, to be eligible, one needed to be a woman who had had sex with a man, was a full- or part-time student at the institution, was never married and between the ages

[1] The racial/ethnic distribution of Laney's female students is 33% Black, 16% white, 25% Asian, 13% Hispanic, and 13% others, while that of Foothill is 3% Black, 42% white, 25% Asian, 9% Hispanic, and 21% other.

[2] Because of our difficulty finding women who had been pregnant at Stanford, and the fact that only a small proportion of undergraduates at the elite schools were over 22, we accepted a few respondent volunteers at the two elite schools who were graduate students, if they were between 20 and 29.

of 20 and 29. To make sure that we got some women who had had pregnancies, during approximately half the recruitment period we switched the flyer to also specify that respondents had been pregnant, specifying "whether or not you had the baby." Given this theoretical, rather than probability, sampling, descriptive statistics should not be taken as indicative of central tendencies in these colleges; even our college-specific statistics probably selected women with more sexual activity or more pregnancies than is common for their college. We traded off representativeness of the sample for in-depth information on contraceptive decisions and changes within and between partners, on the relationships in which such processes are embedded, and on the meanings to young women of their experiences and decisions.

Most interviews took place on the respondent's campus, at her convenience, in a common area or quiet room. Open-ended questions were used to make interviews resemble conversations as much as possible. All interviews covered the same predetermined topics, but interviewers at times adjusted the wording, question order, or probes to encourage a conversational tone and rapport. Our interview guide is available upon request.

Qualitative Data and Analysis

The centerpiece of the interview was a complete sexual history. For each of the woman's male sexual partners we asked about the nature (e.g. whether casual or serious) and length of the relationship; what contraception they used and when, and whether contraception was ever discontinued and why; any discussions or disagreements with him about contraceptive use, pregnancy or abortion; whether she ever wanted to have a baby with him during the relationship, saw a future for the relationship, or hoped she'd have a baby with some someday; circumstances surrounding the pregnancy if one occurred, including decisions about having an abortion or keeping the baby; and how the relationship ended (if not still going).

Other topics included her daily routine, living situation, future plans (for education, family, and career), along with her views on ideal timing of future pregnancies, and feelings about abortion. We also asked about experiences obtaining contraception and how she learned about it.

Interview transcripts were qualitatively coded into fields of text for each of many topics using NVivo; these textual data are used for our narrative qualitative analysis.

We attempted to assess women's overall efficacy in a number of ways all of which target how well she was able to carry out the needed behaviors to reach her own goals. This included noting how much women do things in advance or procrastinate as a student, whether they tell stories featuring their own assertiveness (or unassertiveness) in any arena, whether losing their temper led them to risky violence, whether they evince fatalism about being able to control things in life, and whether they report that alcohol or drug use led them to make decisions they later regretted. We also assessed her contraceptive efficacy, gingerly asking about why she hadn't used any contraception with partners with whom she tells us she didn't want to get pregnant at the time.

The qualitative analysis presented in this paper is in narrative form. We chose several respondents who well illustrate processes connecting efficacy and contraceptive consistency, and explain their stories, and our reasoning about the connections between efficacy and contraception.

Quantitative Data and Analyses

From the qualitative data we created two distinct quantitative datasets and used each to run models predicting contraceptive consistency.

Respondent-Level Dataset. Working from textual fields in the NVivo datafile, a team of trained coders (including all of the coauthors) created numeric codes about each respondent. Her race and college were taken from a demographic information sheet respondents filled out right before the interview. The result was a person-level data set with 103 observations, 102 of which we use in the analysis.[3] Descriptive statistics are provided in Table 2 on the respondent-level variables we coded.

The three key variables coded at the respondent level were respondent's overall contraceptive consistency, two measures of efficacy, and whether she ever wanted a baby during any of her sexual partnerships.

Contraceptive consistency was coded by reading the story with each partner and assessing whether she contracepted every time she had sex with him. Then we computed the percent of all her partners with whom she contracepted every single time. Strategies counted as contraception included anything listed on the Planned Parenthood website as contraception: condoms, hormonal methods (the shot, patch, or pill), IUD, rhythm, Plan B (the morning after pill) or pull-out (respondents' term for withdrawal). In this analysis we do not focus on whether women used the methods with the lowest probabilities of pregnancy rather than less safe methods, as important as that may be. Rather we focus on how consistently within and across partners each woman used some method that is known to reduce the probability of pregnancies. We called a respondent consistent with a given partner if every act of intercourse was protected by one of the means of contraception above actually being used. (So, for example, having

[3] We dropped one woman from all analysis. She has had only one partner, and with him had two planned births. Originally our respondent-level coding of women's motivation to have a child included those who never wanted a child during a partnership, those who sometimes or ambivalently did, and those who typically did. As she was the only woman in the 103 who would have been in the category of always or typically wanting a baby with their partners (in her case because she'd had only one and had wanted both pregnancies), it made more sense to eliminate her from the data than create a special tiny category containing only her on the respondent-level variable measuring wanting a baby. There were other women who in some particular partnership clearly wanted a baby then, but no others with only one partner, or for whom that was their typical disposition.

forgotten to take pills sometime with a given partner would render a woman inconsistent with that partner in our measure, *unless* she was also using condoms or pullout at the time or used Plan B following intercourse.) After coding this for each partner a woman had, to create our respondent-level measure of consistency, women were coded "Always" if they contracepted every time with every partner; as Table 2 shows 51% of the women in our sample did this. The intermediate code "mostly" was given to the 25% of the sample that contracepted inconsistently (or not at all) with at least one partner, but was consistent with at least 66% of partners. The bottom category, "sometimes" contains the 24% of women that contracepted consistently with less than 66% of their partners. (No one in the sample never contracepted.) In principle, a preferred strategy would have been to code the percent of all sexual acts at which some contraception was used, but both interview time constraints and women's memory made it impossible to access data at this level of detail.

We then coded an indicator variable for whether the woman ever even ambivalently wanted a baby—i.e. to get pregnant—*during the time of* at least one of her partnerships. This is based on the question women were asked about whether they wanted to get pregnant during each partnership. For this measure, a woman saying that she didn't want to get pregnant then but that she might want to have a baby with this partner in the future was coded 0.[4] (We will use this measure in our dyad-level analysis, described below.) It is telling that only 27% of respondents had ever wanted a baby—even ambivalently—at the time of any of their partnerships.

We produced two quantitative codings of efficacy. Each relied on judgments across many dimensions, and was put into a categorization of "high," "medium," and "low." The more conservative measure of efficacy ignored anything about contraceptive efficacy in the coding.

[4] In results not shown, we coded an indicator for those who mentioned that, during at least one partnership, they thought they might want to have a baby *in the future* with at least one partner. This never had significant effects on consistency in the respondent-level analysis.

Here the scores were based on anywhere that evidence appeared in the transcripts of planfulness, organization, self-regulation, assertiveness, and belief in the ability to affect outcomes, so long as the story illustrating high or low efficacy was not about contraceptive efficacy. For example, if a woman said she procrastinated studying for tests and writing papers for school this contributed to a lower efficacy score. If a woman discussed being assertive in any relationship this contributed to a higher score. (For example, telling stories of sex "just happening" when she didn't want it to but didn't say no would contribute to low efficacy, but for this measure lack of assertiveness in getting a man to use a condom would be ignored.) If she described a fatalistic attitude toward things in her life, for example whether she could achieve her career goals, this contributed to a lower score, but if she had a sense that her actions really could help her achieve her goals, this contributed to a higher score. If she discussed lapses in self-regulation like spending money she didn't have on unnecessary things, or engaging in violence that could have gotten her in legal trouble, that contributed to a lower self-regulation score. If she described frequent drug or alcohol use that she herself believed was interfering with her noncontraceptive goals, this contributed to a lower score.

The reason for creating one measure of efficacy that explicitly ignored contraceptive efficacy is that we wanted to make sure we avoided building the intended dependent variable (contraceptive consistency) into the measure of efficacy. We call it a "conservative" measure because it is conservative to our hypothesis of a link between efficacy and contraceptive consistency. Including contraceptive efficacy in the measure would clearly be a problem if we counted any case of not using contraception as lack of efficacy; it would render our hypothesis a tautology.

However, it is possible to create a measure of efficacy that includes contraceptive efficacy, but does not rely *on nonuse itself* as evidence of lack of contraceptive efficacy. On this global measure of efficacy, the score was affected by all the aspects of noncontraceptive efficacy discussed above, but also by women's own reports that they have trouble remembering to take pills or make medical appointments in time to refill prescriptions before they run out, that they didn't use condoms or pullout because they were too reticent to ask the partner to do so, or that they didn't think to contracept despite not wanting to get pregnant because they "just weren't thinking" perhaps because of being drunk or under the influence of drugs. Such scores do not definitionally build inconsistency contraception in because, for example, some women told us they were terrible at remembering to take pills, contributing to a lower efficacy score, but in fact their contraception was perfect because, knowing this, they used another method to make sure they were covered. Or, a woman could be uncomfortable asking partners to use condoms, but if she is on the pill, patch, shot, or has an IUD, or covered a lapse in condom use with Plan B, we would code her as consistent. Or a woman may regale us with stories of drunken hookups, but the drunkenness was not counted toward a low efficacy score if we see now goal of hers that was impeded—if it didn't lead her to have sex she says she didn't want, and she had contraception covered somehow anyhow. Nonetheless, we present analyses using each measure of efficacy, the "conservative" measure excluding contraceptive efficacy, and the global measure including it and other aspects of efficacy, to assuage the doubts of the skeptical reader. Our global and conservative measures of efficacy are positively correlated with an R of .68.

In both our measures of efficacy, we attempted not to conflate low efficacy with objective external constraints. For example, if a young woman didn't get to Planned Parenthood to get on the pill because she had no transportation and knew her parents would punish her if she

revealed she was having sex, and that led to unprotected sex, it contributes to her contraception being coded as not consistent with the relevant partner, but we didn't count that as evidence of low efficacy. If a woman sometimes didn't use condoms because her partner refused, we don't count that as lack of efficacy, but if she was insufficiently assertive to raise the issue, it did contribute to a lower score on efficacy. Obviously, coding entailed judgments; to avoid false precision, the broad categories of "low," "medium," and "high" were used. Medium was the median and mode of both codings (Table 2).

Quantitative Analyses with Respondent-Level Dataset. For the respondent-level quantitative analysis, we use ordered logistic regressions to explain consistency in contraceptive use; this is an appropriate technique because our dependent variable, consistency, as explained above, is a set of ordinal categories: sometimes consistent (with less than two-thirds of partners), mostly consistent (with at least 66% but less than all partners), and always consistent (100% consistent with 100% of partners). We present models that add variables in an order we believe to correspond approximately to level of exogeneity, although causal order is debatable. Fortunately, the variables of major interest have similar effects regardless of what is controlled (an exception is educational aspirations, but it is merely a control in these analyses). The unconstrained model (i.e. including all the variables) is the following:

Eq. 1

$$Consistent\_contraception_i = \beta_0 + \beta_z Race_v + \beta_1 Education_i + \beta_2 Want\_baby_i + \beta_n Efficacy_i + \beta_3 Partner\_opposed\_condom_i + \beta_4 Thought\_sterile_i + \beta_5 Pregnancy\_normal_i + e_i$$

where the outcome is an ordinal variable that captures whether respondent *i* was sometimes consistent (1), mostly consistent (2) or always consistent (3) with contraception, as described above; *race* is coded as white or other, with black as the reference category; *education* codes the education level that respondent *i* aspires to get: either to complete her BA or to go to graduate school, with a reference category of not firmly aspiring to get a BA; *want_baby* captures whether respondent wanted a pregnancy, coded such that if she had clear or ambivalent preference for getting pregnant at the time of even one of her partnerships, she was given a code 1, and 0 otherwise; *partner_opposed_condom* is a proportion of the partners that were reluctant to use condoms (computed for each respondent from the dyad-level data); *thought_sterile* equals 1 if respondent ever thought she might be sterile, and 0 otherwise; and *pregnancy_normal* represents a set of dummy variables that capture how normal unplanned pregnancies are in respondents' social environment, either "a few" or "a lot" of friends or family have gotten pregnant without planning it (reference is none). Finally, *efficacy* represents a series of dummies for high and medium personal efficacy, with low as the reference, coded as discussed above. As previously discussed we coded a global and conservative version of efficacy. Table 5 shows models with the global measure of efficacy, informed by contraceptive as well as other forms of efficacy, while Table 6 is identical except that it uses the more conservative (to our hypothesis) measure of efficacy, excluding anything regarding contraceptive efficacy.

Dyad-Level Dataset. Working from the textual fields in NVivo, a team of trained coders (including four of the coauthors) created numeric codes for a large set of variables for each partner-respondent dyad. The data set has as many observations for each woman as the number of her sexual partners. The result was a data set with 583 observations, one for every dyad, and clustered around 102 respondents. Since we asked women about all their sexual partners, these

dyads vary in seriousness and length; they include "one night stands," a short series of casual hookups, non-exclusive dating, and boyfriend and girlfriend relationships. Descriptive statistics for these data, divided into dyads that lasted a month or less, or more, are presented in Table 3. Table 4 presents descriptive information on the proportion of women in different lengths of partnerships that ever had unprotected sex, and that ever used each type of contraception with that partner.

Quantitative Analysis with Dyad-Level Dataset. For our analyses using the dyad-level data, the outcome is defined as a dichotomous variable that equals 1 if respondent *i* always used contraception consistently with partner *j*, and 0 if she ever had unprotected intercourse with him. We used logistic regression to explain consistency in contraceptive use at the dyad level. Dyad observations are not independent within respondents, so we use clustered standard errors in all estimations. The model to explain consistency at the dyad-level is:

Eq. 2

$$Consistent\_contraception_{ij} = \beta_0 + \beta_1 Now\_baby_{ij} + \beta_2 Future\_baby_{ij} + \beta_3 Intoxication_{ij} + \beta_4 Partner\_opposed\_condom_{ij} + \beta_5 Age_{ij} + \beta_n Length_{ij} + \beta_z Race_i + \beta_6 Community\_college_i + e_{ij}$$

where the outcome is a dichotomous variable that captures whether respondent *i* ever had unprotected sex in dyad *j*, as described above; *now_baby* equals 1 if respondent wanted a pregnancy at the time of the relationship with partner *j*; *future_baby* equals 1 if respondent envisioned having a baby in the future with her partner in dyad *j*; *intoxication* equals 1 if respondent mentioned she had intercourse with partner in dyad *j* under the influence of drugs or alcohol; *partner_opposed_condom* equals 1 if the partner in dyad *j* was reluctant to use condoms,

and 0 otherwise; *age* captures how old respondent *i* was when she had the first intercourse with partner in dyad *j*; *length* represents a series of three dichotomous variables that register how long the dyad *i* stayed sexually active: more than one night but no more than one month, two to 18 months, and 19 months or more (reference is only one night); *race* represents two respondent-level dichotomous variables for whether the respondent is Black (the reference category), White, or other race (Asian and Latina or Native American); and finally, *community_college* equals 1 if respondent *r* attends either Laney or Foothill, and 0 if she goes to Berkeley or Stanford. The dyad-level variables in this model were all coded from the qualitative data, partner by partner.

This analysis allows us good purchase on whether an interest in having a baby with this partner—now or only in the future—affects whether the couple always contracepted. Unfortunately, since we weren't able to code efficacy partner by partner, we only have one measure related to efficacy in these models—whether the respondent reports having had sex with this partner while under the influence of alcohol or drugs.

First, we ran the model specified in Equation 2 for the whole sample of dyads. Second, we restricted the sample to those dyads about which the respondent stated, when asked, that she never wanted to have a baby while involved in the partnership. These models attempt to identify factors predicting the circumstances under which women who never wanted to get pregnant during a partnership nonetheless did not use contraception consistently. Thus, they omit the variable *now_baby* (which would be a constant at 0 among not wanting a baby during the partnership). Third, we run the model for the subset of dyads just discussed (where the woman didn't want a baby) that lasted 2 months or more. In this latter case, an indicator variable for length category "19 months or more" is included in the model, and "2-18 months" is the reference category. Of course, these models also omit *now_baby*.

For dyad-level analyses, we show results for both weighted and unweighted regressions, where weights are the result of dividing 1 by the total number of partners a respondent had. In the weighted regressions, each of the dyads of a respondent with more than one partner is weighted less than the single dyad of a woman that has only had one partner, whereas in the unweighted analysis women with many partners influence the results more. There are reasons to prefer weighted or unweighted estimations; it must be kept in mind that weighted analysis gives less importance to dyads involving respondents with many partners, but the same importance to each respondent, while unweighted analysis gives every dyad the same importance, no matter the total number of sexual partners the respondent has had, and thereby implicitly weights the experiences of respondents with many partners more heavily.

A number dyads have missing values for at least one of the variables used in the regression analysis. To cope with this problem, we implement Multiple Imputation by Chained Equations (MICE) using the command 'ice' in Stata 11, as described by Royston and White (2011). First, we dropped the observations that had missing values in the dependent variable (whether ever had unprotected sex with this partner) and in the length of partnership variables. That left us with 472 (81% of the original 583) dyads, 13% of which still had missing values in at least one variable. We used imputation to fill in these missing values. MICE assumes that missing values are randomly distributed and regresses variables with missing values against all other variables in the model to impute values. We imputed missing values using five cycles. Results for the dyad-level models using the imputed data set are shown in Table 7. Appendix A-1 shows the same estimations using the non-imputed data; coefficients and p-values vary slightly, but broad conclusions are the same.

RESULTS

Quantitative Results from Respondent-Level Dataset

Tables 5 and 6 present odds ratios from ordered logistic regressions using respondent-level data to predict women's overall level of contraceptive consistency. The only difference between the models in the two tables is that the global measure of efficacy that includes contraceptive efficacy is in models in Table 5, while the more conservative measure of efficacy that excludes consideration of contraceptive efficacy in coding is in Table 6. We discuss results across the two models focusing on the variables of paramount interest—wanting a baby during at least one partnership and efficacy.

Women who ever—even ambivalently—wanted a baby during the time they were seeing at least one of their partners are less than half as likely to contracept more versus less (see odds ratios of .30 to .44. for "ever wanted baby during partnerships" in Tables 6 and 7). (More precisely, if a women wanted a baby with some partner during the relationship, the odds are only .30-.44 as high as those for a woman who never wanted a baby during a partnership that she is in the top two versus the bottom consistency category, or that she is in the top versus the bottom two consistency categories. We will use the briefer language below.) This effect is very large, although given its standard error and our N of only 102, in some models, this is only significant at the .10 two-tailed level.

Efficacy strongly predicts consistent contraception, with large effects that are significant in most in all models. The effects are much larger for the measure of efficacy that includes contraceptive efficacy. Using this global measure, compared to those with low efficacy, those with high efficacy have over 40 times the odds of being in a higher (rather than lower) category of consistency, and those with medium efficacy having more than 7 times the odds of higher

consistency (Table 5). If we use the "conservative" measure of efficacy which does not base any part of the coding on reports of contraceptive efficacy, but bases coding only on planfulness, organization, assertiveness, sense of mastery, and self-regulation exhibited in *other* arenas of life, we find smaller, but still strikingly large effects. Relative to those with low efficacy, those with medium efficacy are over twice as likely to have higher consistency, while those with high efficacy are approximately 4 times as likely to have higher consistency (Table 6). This is quite striking, as it says that women who are more efficacious in *noncontraceptive* areas of their life also contracept more consistently.

Looking at effects of control variables, those with higher educational aspirations are more consistent, as theories of opportunity cost would predict, as long as the model does not include efficacy. However, when either measure of efficacy is added to the models, education is typically rendered nonsignificant. This could mean that opportunity costs are less important than economists have thought, although these are not the ideal data from which to advance that interpretation, so we do not (Musick et al. 2009 provide more compelling evidence for this skepticism). The proportion of her partners who opposed condom use has large negative effects on consistency, although they are typically not statistically significant. Women who thought they were sterile at some point do not contracept any less consistently. Those who are surrounded by friends and family that had early are unplanned pregnancies are less likely to contracept consistency, suggesting peer or neighborhood effects.

Quantitative Results from Dyad-Level Dataset

In the dyad-level analysis, the dependent variable is whether this dyad had perfectly consistent contraception. It has advantages over the respondent-level analysis. First, there are two quite precise measures of wanting a baby—whether the woman says she wanted to get

pregnant *during the time she was seeing this partner* and whether she mentioned that she might want to have a baby *in the future* with this partner. By contrast, in the respondent-level analysis we had to simply ask whether the woman *ever* wanted a baby during the time she was seeing any partnership. A second advantage is the larger N. A disadvantage is that no good measure of global or contraceptive efficacy could be constructed at the dyad-specific level, so the only way we could capture efficacy was by one of its subcomponents that the qualitative analysis showed to be occasionally important—whether she had sex with this partner while inebriated from drugs or alcohol. Results are in Table 7 and the Appendix table, discussed together.

When all dyads are included in the analysis, we see that if the woman wanted to get pregnant at the time of the partnership, she was more likely to have unprotected sex (Table 7 and Appendix table).[5] (The effect is significant whether we use imputation or not, and whether or not dyads are weighted so that those with many partners do not get more weight, although it is twice as large in the unweighted analysis.) This is, however, relatively uninteresting, as it is hard to imagine finding anything but this. If you really want a baby right now, barring an unwilling partner, why would you contracept? What is more interesting is the effect of wanting a baby in the future with this partner (but not wanting one with him now). This too is significant in all models—whether all dyads are included, only those 2 or more months long, whether things are weighted or not, whether or not imputation is used, and whether all women who said they wanted a baby now with this partner are simply removed from the regressions. Odds ratios are between .28 and .42—a large negative effect. This is strong evidence that failure to contracept at least sometimes indicates motivation for a pregnancy—or at least a weakening of motivation against it; even among those who say they don't want a pregnancy right now, those who aspire to have a

[5] In results not shown, using dyads involving two months or more, when we leave in the 7% of dyads about which women reported they had wanted a pregnancy *during* the relationship, the variable measuring this desire, has a large negative effect on consistentcy of contraception, just as it did for all those who don't want a kid now.

baby with this partner in the future are more likely to let contraception wane. This supports the claim of sociologists like Edin and Kefalas (2007) who argue that even among those who aren't explicitly planning pregnancy, and don't think right now is the ideal time, noncontraception in some cases is indicative of some sort of a desire to have a child.

If wanting a future baby with this man lessens contraception, what about the seriousness of the relationship? Surprisingly, this appears not to encourage inconsistency in the absence of an interest in having a present or future baby with this partner. However, at first glance it looks otherwise. Relationships between 1 night and 1 month in length are less likely to feature perfect contraception than are one-night liaisons, and relationships lasting more than 2 months are even less likely. One might be tempted to interpret this to mean that the seriousness of the relationship has an effect, however, we believe such an interpretation is in error. First, given that our measure of consistency taps whether or not something (sex without contraception) *ever* happened, the probability of having a contraceptive lapse can only stay the same or go up as the relationship proceeds—it cannot go down; so this may explain the effects. Second, effects (relative to one-night liaisons) are not much different for those 19 months or more than for those 2-18 months; but one would expect longer relationships to be more serious. Finally, in results not shown, we included a variable that measured whether the respondent said, in answer to a question about how she saw the future of the relationship when she was in it, that she foresaw the couple being together long-term, and/or getting married. These women did not have lower consistency of contraception in models that controlled for whether they said they wanted a baby with the partner in the future; the measure of relational seriousness never was significant in any model.

We have only one measure tapping a small part of efficacy available at the dyad level—whether the woman had sex with this partner while under the influence of drugs or alcohol. In all models this drastically reduces the odds of contracepting every time with this partner. Odds ratios are from .11 to .35 in various models (Table 7 and the Appendix table).

Not surprisingly, and relevant to external constraints, couples were much less likely to contracept consistently when the male partner opposed condom use and these effects are significant in most models (Table 7, Appendix); Table 3 shows that this was true in 9% of dyads one month or less and 13% of longer dyads.

Qualitative Analysis

In this section, we draw on the qualitative data, and use three case studies to provide more in-depth illustrations of how having low efficacy seems to relate to the inconsistency of some young women's contraception.

When we talked with **Kim** (all names are pseudonyms) she was 24 years old. She is biracial, with a black father and Jewish (white) mother who became an Evangelical Christian after her parents divorced. Kim has two sisters attending Ivy League schools, and she is probably intellectually able, since she got into Berkeley, the most selective of the University of California campuses. After a couple of years at Berkeley, she dropped out for a time, having fun and living on a few hundred dollars a month her mother sent her from an inheritance from her grandmother. Kim has returned to Berkeley and wants to finish her degree, but she hangs out with what sounds like a largely white punk-rock crowd not enrolled in school.

Although she has been pregnant three times, having one miscarriage and two abortions, she is one of the few women in the sample who doubts that she ever wants kids. When asked if

she wanted to get pregnant at age 15 with her first sexual partner, a 25-year-old tattoo artist she met at a "punk show," she says her attitude was "God, no…I'm going to college."

Kim's relationship with a fellow Berkeley student when she was 20 led to a pregnancy while they were effectively cohabiting in campus housing. She shows a hint of ambivalence about her disposition toward getting pregnant with him before the fact, saying that, in a way ,"I wouldn't care because I loved him." But she also says that "we both kind of hate kids" and that "the closest thing we wanted to a baby was a cat or dog together." And she describes being terribly upset when realizing she had missed a period. She never seriously wanted to keep the baby once she discovered she was pregnant; the only debate was between adoption and abortion (she had an abortion). With other later partners, she clearly never wanted a pregnancy.

Despite not wanting kids, she is in the lowest score on contraceptive consistency—being consistent with less than half of her approximately 30 partners, many of them one-night-stands. She didn't like the pill; she tells us that she can't remember to brush her teeth sometimes, much less take pills. She also had a lot of "emotional shit" (i.e. side effects of mood swings) from the pill and gained weight. She has been on "Depo," the shot, and mentions no side effects of that, so it isn't clear why she hasn't kept that up. Mostly she has relied on condoms, but inconsistently. Luckily, she has not had the serious problems some women report with partners who resist condom use, but a lot of time she just doesn't bring condoms or bring up the issue.

Kim's efficacy seems low. She describes a typical day as sleeping through her first class, going to some classes, going to work, "trying" to study in the library and realizing she doesn't want to, and going to a bar in the evening and "getting smashed." She's dropped lots of classes. As against calling this a lack of efficacy in achieving her own goals, one could argue that her lack of academic conscientiousness is a rational choice reflecting the fact that her current career

goal is to do highly paid underground welding, or something in the "technical arts," and these jobs do not require a college degree, which she now views as "back up." But other habits also suggest that Kim has trouble organizing herself around her *own* goals. She smokes cigarettes despite bemoaning her "unhealthy life style." Once she threw an ex-boyfriend through a glass window; she probably wanted to hurt him, but we doubt that she wanted to be incarcerated, which could have been the result. All these things may signal a generalized lack of efficacy that is likely to spill over into contraception. In addition, her alcohol and drug use sometimes affects her contraceptive efficacy. About her boyfriend at age 20 she says "Most of the time we would just be way too drunk to use a condom; we would be like wasted out of our gores."

Maria, 26, a Latina, is attending Foothill Community College. She now lives at home with her parents, her younger siblings, and her daughter. She has had three unplanned pregnancies, and two abortions.

Maria has contracepted consistently with just two of her four sexual partners, putting her in our lowest consistency category, which includes people who were consistent with less than two-thirds of their partners. As a 17-year-old high schooler, she had sex for the first time in a relationship with a 23 year-old boyfriend. They used condoms every time largely because he wanted to avoid a pregnancy. She agreed that she didn't want to get pregnant, but guesses that if she had gotten pregnant they would have moved in together and "dealt with it." During her senior year of high school their relationship fizzled out from her side with no drama.

As a senior in high school, Maria started a relationship with Tom, age 22, who had fathered a baby when he was 15. She wasn't on hormonal contraception. When asked if they used condoms, she laughs and says "I think the first couple of times we were and after that it all kind of left." She soon got pregnant and they decided on an abortion. She then moved in with

Tom shortly after she graduated. To avoid another pregnancy, she got on the pill, but took it inconsistently, leading to a second pregnancy. Maria described her decision to have this baby: "At that point I was like…I think people would expect for me to eventually get pregnant….I already graduated, I'm out of school, I'm not necessarily doing anything; I think I can handle being a mom." They had a little girl, who arrived with Down's Syndrome. She then got on Depo-Provera, the shot. Although Maria says it made her gain weight, she liked it because all she had to do was remember to get one shot every few months. Shortly after the birth Tom lost his job. During the next several years Tom struggled with complications of Diabetes and died.

Maria then went off Depo because she wasn't seeing anyone. But she caught up with an old acquaintance in the year before the interview, and sex "just happened," culminating in a casual liaison that involved sex once a month or so. They used condoms every time. In part because the sex wasn't very good, she stopped seeing him soon.

Recently, she saw old high school friend and "things happened." The used a condom. The second time she saw him, things again got sexual and, as she tells the story of why they didn't use a condom, "I think he said 'should I,' and I said, 'yeah,' and then it just never happened, like he never actually physically got up and did." She decided to make an appointment to get a Merina IUD, but she was already pregnant. She decided to abort.

With the two of her partners she calls boyfriends, Maria thought she could imagine having a child sometime in the future, but she is clear that she never wanted to get pregnant at the time of any of these partnerships. Although she gained weight on Depo-Provera, the shot, that doesn't seem to have bothered her. So why was her contraception inconsistent? It appears lack of efficacy played a role; we gave her the lowest score on both measures of efficacy, and she describes herself as having a hard time remembering to take the pill, saying "I wasn't really

good at taking it." Regarding her early relationship with the father of her child, and why they didn't use condoms she says "I was just not thinking about it." Maria's is *not merely* a case of a nonpecuniary "cost" of contraception leading someone to decide contraception isn't worth it because abortion is available as backup, because although she has had two abortions, she expresses moral qualms about abortion. She says that "it's a bad thing to go ahead and have an abortion, but if you're not gonna do the things the way you need to, it's like balance it out a little, you know." Notice how her assessment of her own contraceptive past seems to be that she didn't "do the things the way you need to."

Maria's relatively low efficacy seems to extend beyond her contraceptive practices. She calls her study habits "really bad." She is also an example of the sub-dimension of efficacy that entails having a fatalistic attitude about things, and doubting that your efforts can have an effect. For example she says "I don't think there's a right time for anything; it's just it happens…because…it's gonna happen….I'm not a person that really like tries to plan that far ahead because you never know what happens, especially with my experiences."

Nancy's story involves serious drug addiction. At various times she has used methamphetamines, marijuana, cocaine, and ecstasy, and has been to rehab. She is a white 24-year-old Foothill Community College student, and has one daughter.

Back in high school she had a boyfriend who was "caught selling weed," and was in and out of jail. Her parents got a restraining order to keep him away from her, but she saw him on the sly at a friend's house. They used condoms the first time they had sex, but after that "not a lot." Soon she was pregnant. "My whole world turned upside down…I cried…I didn't have my family to tell because I was so scared to tell them. She says that her parents "actually scheduled an abortion for me and since I found out they did that, I was all for the baby, out of spite for my

parents." She gave birth to her daughter, and when she finished breastfeeding, she got on Depo-Provera, the shot.

Nancy saw her next partner for a few months casually, while he had another girlfriend. During this time, she quit Depo because of weight gain, but they always used condoms. Then a period ensued where she had some casual partners. She tells us "I used protection with everyone that I slept with; I was just drinking a lot and using a lot of drugs." When asked who provided the condoms, she clarifies that "all the boys I slept with had their own condoms." It didn't take much efficacy to be consistent with them.

By the time of her fifth partner, at age 18, she had gotten on the pill, not for birth control, but to regulate her period. About her consistency, she says, "I was taking it when I remembered." They also used condoms "sometimes."

She used no contraception with her next partner, at age 19. It quickly got serious: "In two weeks we were saying we loved each other. It was like crazy, he bought me a truck and he helped me take care of my daughter…. I was on drugs, he wasn't. He would babysit my daughter for me and I'd take the truck and I'd go out and he would leave my daughter with my best friend and come hunt me down….Every time…he would cry and try to get me not to do it and then I would just kind of laugh at him and do it anyway." Asked why she wasn't using any birth control, she says "I was just on drugs. I don't know. I wasn't thinking straight." Asked if she wanted a baby with him then, she deflects the question and says *he* may have: "I think he wanted me to settle down. I think he might have wanted me to be pregnant, just so I'd stay at home…..cause he moved in with us, with me and my mom and my mom's girlfriend….So they'd be at home and I'd be out at a kegger….He was just thinking 'why can't you just stay your ass at home?' But I didn't." She got pregnant with him. Then, she says, "it didn't stop me, so…I still

partied, I still did what I wanted to do and then…three months into my pregnancy, like he had enough of my shit and he left. He started dating someone else and I was still hanging around doing drugs and when I was almost five months pregnant I got an abortion."

After her breakup and abortion, several one-night stands ensued where she used no contraception and was continually on drugs. Then she met a new guy on the street. "His weed dealer was my meth dealer…. we were inseparable for three years. We were crazy about each other. We had a very abusive relationship, but he was good to my daughter and when I wasn't doing drugs and when I was civilized he was good to me too." Asked about the abuse, she says "We would beat the crap out of each other. I knocked one of his teeth out, he's given me a couple fat lips." Yet she says that "we were talking about having a baby together when we first got together.…We fell in love with each other instantly….We were both so, so broken, that we needed each other. It was unhealthy." They never talked about birth control and didn't use it. Looking back on it, she says "I think we both wanted a baby just because we both needed more love in our life." But she never got pregnant. They broke up after a physical fight that started when he found incriminating pictures in her camera, she threw a pumpkin at him, she got arrested, and her mom took her daughter to her dad's house.

Next Nancy had a partner that would not let her drink or have drugs when he was with her and made sure condoms were used every time. She drank and used drugs with her next partner, and they used condoms "sometimes." She's currently with Chris, and isn't using anything, because "we're actually trying to conceive."

We coded Nancy in the lowest consistency category—using consistently with less than two-thirds of her partners. A first question we always have to ask before attributing inconsistent contraception to low efficacy is the evidence for the alternative explanation that the woman

simply wanted a pregnancy, or at least ambivalently wanted one. In Nancy's case, it is indeed true that she had varying degrees of desire to have a baby with 3 of her 12 partners. With others, she thought a pregnancy would be a disaster, yet often contracepted inconsistently. Why?

Whenever asked why she didn't use protection with particular partners, Nancy's own explanation is often her drug use. We agree that it was a huge factor. Yet, threaded throughout her stories are also other indicators of low efficacy. With one partner, she didn't have enough self-regulation to keep from hitting him when he threw her camera in his own jealous anger. Her arrest for hitting him was very consequential—the loss of custody of her daughter. Nancy's lack of efficacy may sometimes be rooted in not having enough of a sense of self to feel entitled to be assertive. For example, she stayed with her second partner while he had another girlfriend. As she explains: "I felt so shitty about myself that it really didn't matter." She elaborates, using lingo she probably learned in a 12-step program while in rehab, "When I find a boyfriend, he becomes my higher power."

DISCUSSION

Central to research on unplanned pregnancies is the finding that most of them happen to women who know about contraception, use it sometimes, and say they intend to use it most of the time, but are inconsistent. Our empirical goal was to use this mixed-method study to identify predictors of contracepting consistently versus inconsistently. Our conceptual goal was to shed light on a debate between two claims: 1) that not contracepting reflects a desire—albeit perhaps ambivalent—to get pregnant, as economists following revealed-preference rational choice principles and some qualitative sociologists assert, and 2) that contraception involves many steps, some quite onerous, and thus takes substantial efficacy, which can impede consistent

contraception even when women truly do not want a pregnancy. We conclude that both factors are operative.

Our quantitative analyses showed that women who even ambivalently wanted a child at the time of even one partnership were less likely to contracept consistently overall. It also showed, using dyad level data, that even among women who stated they hadn't wanted a baby at the time of a partnership, if they thought they would like to have a child with this partner in the future, they were less likely to always contracept with him. In this sense, we confirm the odd alliance between economists and qualitative sociologists on the importance of even ambivalent or prospective motivation to have a child on contraception.

On the other hand, part of our contribution is to introduce the neglected concept of efficacy into our understanding of contraception. Women may be clear that it would be a disaster to have a child and intend to contracept consistently, but find themselves without the belief that they can affect outcomes, or without the skills to plan strategies, engage in the necessary assertiveness, and self-regulate to keep contraception consistent. Our quantitative analysis showed that two measures of efficacy (one including and one excluding contraceptive efficacy) both had strong positive effects on consistency of contraception. Our qualitative analyses showed the ways in which specific kinds of efficacy, when lacking, contributed to breakdowns between the intent to contracept and the execution of contraception. The qualitative analysis also illustrated how often many dimensions of efficacy go together, with some women being high on most of them, and others being lower, leading to more gaps between their behaviors and their own goals.

Table 1. Number and Proportion of Respondents and Dyads at Each College

College	Respondents	%	Dyads	%
Laney	24	23.3	110	18.87
Foothill	27	26.21	164	28.13
Berkeley	23	22.33	151	25.9
Stanford	29	28.16	158	27.1
Total	103	100	583	100

Table 2. Descriptive Statistics for Respondent-level Dataset

	Mean	SD
Consistency		
Sometimes (with <66% partners)	0.24	0.43
Mostly (with >66%, <100% partners)	0.25	0.44
Always (with 100% partners)	0.51	0.50
Ever even ambivalently wanted baby during 1 or more partnerships	0.27	0.45
Efficacy (including contraceptive efficacy)		
Low	0.30	0.46
Medium	0.40	0.49
High	0.29	0.46
Efficacy (excluding contraceptive efficacy)		
Low	0.34	0.48
Medium	0.41	0.49
High	0.25	0.43
Race		
White	0.42	0.50
Black	0.25	0.43
Other race	0.33	0.47
Educational Attainment Plans		
< BA	0.19	0.39
BA	0.37	0.49
>BA	0.44	0.5
Proportion partners opposing condoms	0.14	0.25
Ever thought she was sterile	0.31	0.47
Friends/family had unplanned pregnancy		
None	53.92	0.5
A few	12.75	0.34
A lot	33.33	0.47
N	102	

Table 3. Descriptive Statistics for Dyad-level Dataset[†]

	1 month or less						2 months or more					
	All		Never had unprotected sex		Ever had unprotected sex		All		Never had unprotected sex		Ever had unprotected sex	
	Mean	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**	**N**	**Mean**	**N**
Respondent characteristics:												
R ever had unprotected sex with partner	0.10	199	0.00	179	1.00	20	0.29	273	0.00	195	1.00	78
Race:												
R is White	0.40	203	0.40	179	0.35	20	0.51	275	0.54	194	0.42	78
R is Black	0.32	203	0.31	179	0.4	20	0.25	275	0.21	194	0.35	78
R is Asian	0.16	203	0.17	179	0.1	20	0.10	275	0.09	194	0.14	78
R is Latina or Native American	0.12	203	0.12	179	0.15	20	0.15	275	0.17	194	0.09	78
R attends a community college	0.48	203	0.47	179	0.50	20	0.50	276	0.45	195	0.60	78
R's religion affects views on sex or birth control	0.13	201	0.14	177	0.15	20	0.17	272	0.17	192	0.17	77
R had sexual education at school	0.76	195	0.75	171	0.85	20	0.89	259	0.91	182	0.84	74
R's mother encouraged contraception use	0.54	203	0.55	179	0.50	20	0.50	276	0.50	195	0.50	78
R's age at first intercourse*	15.92	203	16.01	179	15.20	20	16.14	276	16.32	195	15.79	78
Total number of sexual partners R has had*	13.44	203	13.56	179	12.45	20	7.71	276	7.48	195	8.26	78
Dyad characteristics:												
R's age at first intercourse with partner*	19.43	190	19.50	166	18.45	20	18.90	265	18.95	185	18.87	77
Length of sexual partnership (in months)*	1.32	202	1.01	179	4.26	19	18.84	273	15.41	195	28.17	75
Length of sexual partnership (categories):												
One night stand	0.66	203	0.68	179	0.45	20	0.00	276	0.00	195	0.00	78
More than 1 night and up to 1 month	0.66	203	0.68	179	0.45	20	0.00	276	0.00	195	0.00	78
2 - 18 months	0.00	203	0.00	179	0.00	20	0.74	276	0.74	195	0.73	78
19 months or more	0.00	203	0.00	179	0.00	20	0.26	276	0.26	195	0.27	78
R ever wanted a child with a previous partner	0.07	203	0.05	179	0.30	20	0.09	276	0.07	195	0.12	78
R was ever pregnant by a previous partner	0.37	203	0.37	179	0.35	20	0.22	276	0.19	195	0.27	78
Partner actively helped contraception	0.00	203	0.01	179	0.00	20	0.03	276	0.04	195	0.00	78
Partner opposed condom	0.09	202	0.08	178	0.15	20	0.13	276	0.10	195	0.19	78
R ever had side effects of contraception with a previous partner	0.40	203	0.43	179	0.15	20	0.29	276	0.28	195	0.31	78
Ever had sex with partner while R was under effect of drugs or alcohol	0.32	174	0.32	152	0.20	20	0.09	275	0.05	194	0.22	78
Ever had sex while partner was under effect of drugs or alcohol	0.26	171	0.26	151	0.20	20	0.07	275	0.03	194	0.18	78
There were breakups in sexual partnership	0.01	202	0.01	179	0.00	19	0.20	274	0.19	193	0.22	78
R wanted a baby during the relationship	0.02	200	0.01	176	0.15	20	0.07	269	0.02	191	0.21	76
R wanted a baby with partner in the future	0.03	203	0.02	179	0.10	20	0.27	276	0.21	195	0.42	78
Relationship status:												
Casual	0.89	201	0.91	178	0.70	20	0.23	271	0.26	193	0.16	76
Dating	0.05	201	0.04	178	0.15	20	0.14	271	0.15	193	0.13	76
In a relationship	0.06	201	0.05	178	0.15	20	0.62	271	0.59	193	0.71	76
R ever used pullout with partner	0.08	173	0.07	153	0.20	20	0.28	276	0.24	195	0.41	78
R ever used condom with partner	0.79	173	0.84	153	0.35	20	0.87	276	0.93	195	0.73	78
R ever used shot with partner	0.13	203	0.15	179	0.00	20	0.09	275	0.07	195	0.12	78
R ever used pill with partner	0.22	178	0.25	154	0.05	20	0.39	275	0.42	195	0.35	78
R ever used IUD with partner	0.03	178	0.02	154	0.10	20	0.05	275	0.04	195	0.08	78
R ever used calendar with partner	0.01	178	0.01	154	0.05	20	0.02	275	0.01	195	0.04	78
R ever used Plan B with partner	0.08	178	0.08	154	0.05	20	0.22	276	0.17	195	0.32	78
R ever used other type of contraception with partner	0.03	178	0.03	154	0.00	20	0.14	275	0.15	195	0.13	78

[†] Imputation not used. Unweighted.

* All but these variables are dichotomous and range from 0 to 1.

Table 4. Whether Respondent Ever Used Selected Contraceptive Method and Ever Had Unprotected Sex in Specific Parnership, By Length of Sexual Partnership (Using Dyad-Level Dataset)[†]

	One night	>1 night, <2 months	2 to 18 months	19 months or more	All
Ever had unprotected sex	6.9%	15.9%	28.2%	29.6%	20.8%
Pullout	4.8%	13.0%	25.4%	36.6%	20.5%
Condom	74.0%	85.5%	85.4%	91.5%	83.7%
Shot	18.7%	1.4%	6.9%	14.1%	10.5%
Pill	19.3%	27.5%	35.3%	50.7%	32.7%
IUD	2.8%	2.9%	4.9%	5.6%	4.2%
Calendar	0.9%	1.4%	1.0%	4.2%	1.5%
Plan B	5.5%	11.6%	16.6%	36.6%	16.3%
Other	2.8%	2.9%	12.7%	18.3%	9.7%
Number of dyads	130	69	202	71	472

[†] Unweighted sample. Percentages for every type of contraceptive method indicate the share of dyads in which respondent ever used that strategy. N may vary for every cell due to missing values. Reported number of dyads for each length of partnership is the N those that have values for both length and dependent variable (whether ever had unprotected sex).

Table 5. Odds Ratios from Ordered Logistic Regression Predicting Respondent's Overall Contraceptive Consistency From Desire for a Baby, Efficacy (measure includes contraceptive efficacy), and Controls, Using Respondent-level Data

	(1)	(2)	(3)	(5)	(6)	(7)
Race (Ref=Black)						
White	1.72	1.38	2.18	2.23	2.23	1.77
	[0.81]	[0.68]	[1.19]	[1.23]	[1.24]	[1.05]
Other	3.84*	3.11*	4.22*	4.70*	4.69*	4.08*
	[2.09]	[1.75]	[2.63]	[2.98]	[3.02]	[2.72]
Education Plans (Ref=<BA)						
BA	4.57**	3.81*	1.97	2.27	2.26	1.97
	[2.49]	[2.12]	[1.20]	[1.42]	[1.44]	[1.28]
>BA	6.79**	5.11**	1.04	0.97	0.97	1.05
	[3.75]	[2.94]	[0.70]	[0.68]	[0.68]	[0.76]
Wanted a baby at time of relationship at least once (even ambivalently)		0.44+	0.32*	0.30*	0.30*	0.34+
		[0.21]	[0.17]	[0.17]	[0.17]	[0.20]
Efficacy (Ref=Low)						
Medium			7.73**	8.64**	8.65**	9.57**
			[4.46]	[5.10]	[5.10]	[5.80]
High			41.82**	51.88**	51.76**	56.33**
			[32.39]	[41.75]	[42.01]	[47.76]
Proportion partners opposing condoms				0.17+	0.17+	0.11*
				[0.17]	[0.17]	[0.12]
Ever thought she was sterile					0.99	1.25
					[0.48]	[0.65]
Unplanned pregnancies of family/friends						
A few						0.17*
						[0.12]
A lot						0.36+
						[0.21]
Constant Cut 1	1.81	0.98	2.19	1.91	1.9	0.89
	[0.89]	[0.60]	[1.47]	[1.32]	[1.41]	[0.75]
Constant Cut 2	7.34**	4.14*	13.92**	12.76**	12.68**	6.62*
	[3.95]	[2.62]	[10.31]	[9.62]	[10.19]	[5.85]
Observations	102	102	102	102	102	102

Robust standard errors in brackets.

** p<0.01, * p<0.05, + p<0.1

Table 6. Odds Ratios from Ordered Logistic Regression Predicting Respondent's Overall Contraceptive Consistency From Desire for a Baby, Efficacy (measure excluding contraceptive efficacy), and Controls, Using Respondent-level Data

	(1)	(2)	(3)	(5)	(6)	(7)
Race (Ref=Black)						
White	1.72	1.38	1.23	1.24	1.19	0.9
	[0.81]	[0.68]	[0.62]	[0.63]	[0.61]	[0.50]
Other	3.84*	3.11*	3.28*	3.50*	3.18+	2.61
	[2.09]	[1.75]	[1.90]	[2.06]	[1.90]	[1.60]
Education Plans (Ref=<BA)						
BA	4.57**	3.81*	3.21*	3.52*	3.24*	2.94+
	[2.49]	[2.12]	[1.83]	[2.03]	[1.89]	[1.75]
>BA	6.79**	5.11**	2.73	2.74	2.66	2.99
	[3.75]	[2.94]	[1.74]	[1.74]	[1.69]	[1.99]
Wanted a baby at time of relationship at least once (even ambivalently)		0.44+	0.40+	0.39+	0.39+	0.44
		[0.21]	[0.20]	[0.20]	[0.20]	[0.23]
Efficacy (Ref=Low)						
Medium			2.72*	2.68*	2.69*	2.44+
			[1.31]	[1.30]	[1.31]	[1.21]
High			4.37*	4.59*	4.50*	3.83+
			[2.93]	[3.09]	[3.03]	[2.66]
Proportion partners opposing condoms				0.37	0.43	0.33
				[0.34]	[0.39]	[0.30]
R ever thought she was sterile					0.68	0.86
					[0.30]	[0.41]
Unplanned pregnancies of friends/family						
A few						0.23*
						[0.15]
A lot						0.39+
						[0.21]
Constant Cut 1	1.81	0.98	1.32	1.21	0.98	0.45
	[0.89]	[0.60]	[0.84]	[0.78]	[0.67]	[0.36]
Constant Cut 2	7.34**	4.14*	6.01**	5.55*	4.53*	2.24
	[3.95]	[2.62]	[4.00]	[3.73]	[3.22]	[1.82]
Observations	102	102	102	102	102	102

Robust standard errors in brackets.

** p<0.01, * p<0.05, + p<0.1

Table 7. Odds Ratios from Logistic Regression Predicting whether Respondent Consistently (Always) Contracepted in the Sexual Partnership, Using Dyad-Level Dataset (Using Imputation for Missing Values)

	(1)	(2)	(3)	(5)	(6)	(7)
	All/W	Don't want kid/W	2 months or more/Don't want kid/W	All/UW	Don't want kid/UW	2 months or more/Don't want kid/UW
Dyad characteristics:						
R wanted a baby during the relationship	0.15**			0.07**		
	[0.10]			[0.03]		
R wanted a baby with partner in the future	0.30**	0.33*	0.30*	0.38**	0.38**	0.33**
	[0.14]	[0.16]	[0.16]	[0.13]	[0.13]	[0.13]
Ever had sex while R was under effect of drugs or alcohol	0.32*	0.35*	0.21*	0.31**	0.29**	0.11**
	[0.16]	[0.18]	[0.16]	[0.12]	[0.11]	[0.05]
Partner opposed condom	0.37+	0.38+	0.34+	0.37**	0.37**	0.35*
	[0.19]	[0.20]	[0.20]	[0.14]	[0.14]	[0.16]
R's age at first intercourse with partner	1.02	1.01	1.02	1.07	1.07	1.07
	[0.08]	[0.08]	[0.09]	[0.06]	[0.06]	[0.07]
Length of sexual partnership:						
More than 1 night and up to 1 month	0.29*	0.28*		0.40+	0.43	
	[0.17]	[0.17]		[0.22]	[0.25]	
2 - 18 months	0.19**	0.18**		0.17**	0.17**	
	[0.09]	[0.09]		[0.08]	[0.08]	
19 months or more	0.21*	0.18**	1.01	0.27*	0.27*	1.56
	[0.13]	[0.11]	[0.53]	[0.15]	[0.15]	[0.63]
Respondent characteristics:						
Race (Ref=Black)						
White	2.55*	2.24+	2.34	2.24*	2.08*	2.45*
	[1.11]	[1.04]	[1.30]	[0.74]	[0.70]	[0.92]
Other race	1.67	1.35	1.3	1.89+	1.74	1.94
	[0.85]	[0.72]	[0.81]	[0.64]	[0.60]	[0.83]
R attends a community college	0.93	0.86	0.91	0.62+	0.61+	0.58+
	[0.37]	[0.35]	[0.45]	[0.17]	[0.16]	[0.19]
Constant	13.23+	18.20+	3.36	5.71	5.94	1.31
	[19.90]	[28.42]	[5.74]	[6.67]	[7.48]	[1.73]
Observations	471	446	251	471	446	251

Robust standard errors in parentheses. W=Weighted regressions; UW= Unweighted regressions
** p<0.01, * p<0.05, + p<0.1

APPENDIX

Table A-1. Odds Ratios from Logistic Regression Predicting whether Respondent Consistently (Always) Contracepted in the Sexual Partnership, Using Dyad-Level Dataset (Not Using Imputation for Missing Values)

	(1)	(2)	(3)	(5)	(6)	(7)
	All/W	Don't want kid/W	2 months or more/Don't want kid/W	All/UW	Don't want kid/UW	2 months or more/Don't want kid/UW
Dyad characteristics:						
R wanted a baby during the relationship	0.17*			0.08**		
	[0.12]			[0.03]		
R wanted a baby with partner in the future	0.30*	0.30*	0.28*	0.42*	0.39**	0.33**
	[0.14]	[0.15]	[0.15]	[0.15]	[0.14]	[0.13]
Ever had sex while R was under effect of drugs or alcohol	0.32*	0.35*	0.24+	0.32**	0.30**	0.12**
	[0.17]	[0.18]	[0.18]	[0.13]	[0.11]	[0.06]
Partner opposed condom	0.39+	0.41	0.37	0.35**	0.35**	0.32*
	[0.21]	[0.22]	[0.23]	[0.14]	[0.14]	[0.16]
R's age at first intercourse with partner	1	1	1	1.04	1.05	1.06
	[0.07]	[0.07]	[0.08]	[0.06]	[0.06]	[0.07]
Length of sexual partnership:						
More than 1 night and up to 1 month	0.28*	0.26*		0.46	0.48	
	[0.17]	[0.17]		[0.24]	[0.28]	
2 - 18 months	0.20**	0.18**		0.21**	0.20**	
	[0.11]	[0.10]		[0.09]	[0.09]	
19 months or more	0.24*	0.21*	1.16	0.33*	0.34*	1.75
	[0.15]	[0.13]	[0.64]	[0.17]	[0.18]	[0.73]
Respondent characteristics:						
Race (Ref=Black)						
White	2.81*	2.77*	2.82+	2.65**	2.73**	3.10**
	[1.25]	[1.26]	[1.50]	[0.89]	[0.91]	[1.13]
Other race	1.67	1.47	1.39	2.11*	2.09*	2.22+
	[0.87]	[0.78]	[0.85]	[0.71]	[0.70]	[0.94]
R attends a community college	0.86	0.73	0.74	0.62+	0.57*	0.51*
	[0.35]	[0.30]	[0.37]	[0.17]	[0.16]	[0.17]
Constant	15.34+	20.21*	3.79	6.38+	6.16	1.32
	[21.58]	[29.01]	[5.95]	[7.16]	[7.36]	[1.67]
Observations	414	397	241	414	397	241

Robust standard errors in parentheses. W=Weighted regressions; UW= Unweighted regressions
** p<0.01, * p<0.05, + p<0.1

Note: Models are identical to those in Table 7 except that imputation was not used for missing values in Table 7.

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