Does it Matter How You Ask?: Question Wording and Males' Reporting of Contraceptive Use at Last Sex[*]

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Abstract

Men's contraceptive use has been gaining increasing attention among family and demographic researchers. A unique split-sample experiment embedded in the Cycle 6 NSFG survey of males allows us to examine how manipulating the format of questions about contraceptive methods affects men's reports. The experiment involves two different formats of questions about the contraceptive methods that respondents and their last sexual partners used. Part of the sample received a single question and the other part received separate questions about male and female contraceptive use. Findings show that question format has a significant effect on contraceptive use reporting. Men who received the two question format reported more contraceptive use, especially more use of female methods such as oral contraceptive pills. Importantly, the effect of the question format was greater for blacks than for non-blacks. Directions for future research are discussed.

Research on family and fertility behaviors has focused largely on women, at least partly because women physically bear children and have held primary responsibility for child rearing throughout history (Watkins 1993). Most fertility studies, including past cycles of the U.S. national fertility survey the National Survey of Family Growth (NSFG), interview only women. More general data collection efforts, which have interviewed both men and women, have indicated important differences in fertility behaviors and attitudes across the sexes. For example, data from the National Survey of Families and Households (NSFH) reveals significant differences in male, female, and couple childbearing preferences (Thomson 1997). An important body of work using studies of male fertility behaviors suggests men also think differently about contraceptive use, and their awareness and reporting of contraception may be different than among women (e.g. Billy et al. 1993; Catania et al. 1990; Forste and Morgan 1998; Grady et al. 1996; Grady, Klepinger, and Nelson-Wally 1999; Koenig, Simmons, and Misra 1984; Marsiglio 1993; Santelli et al. 2001). We add to this body of literature by investigating men's reports of contraceptive use with an important new measurement resource – NSFG Cycle 6.

Cycle 6 of the NSFG was the first round of the NSFG to gather measures of contraceptive use from men. Because of the expected gender differences in reporting of contraceptive use, and the desirability of creating comparable measures of men and women within the NSFG context, Cycle 6 gave special attention to the measurement issues involved in understanding men's contraceptive use. A large scale split-sample experiment embedded in the Cycle 6 survey of males allows us to examine how manipulating the format of questions about contraceptive method use affects men's reports. The experiment involves two different formats for questions about the contraceptive methods that men and their most recent sexual partners used. Thirty

percent of the sample received a single question and the other seventy percent received separate questions about own and partner's contraceptive use.

This paper analyzes the results of the experiment with three main goals. First, we compare the responses of the single- and two-question groups to determine the consequences of this question format difference for men's reports of contraceptive use. Second, we test the sensitivity of multivariate model estimates of contraceptive use to the difference in question formats. Third, we investigate whether the effect of the question format varies by key characteristics of the respondent, such as age, race, and relationship status with sexual partner. For each of these we investigate reports of any contraceptive use, reports of multiple method use, and reports of use of specific contraceptive methods.

The Challenges of Gathering Data on Contraceptive Use from Men

There are several challenges in asking men about the contraceptive methods they and their partners use. First, men may not share a common understanding of what constitutes a contraceptive method or, moreover, their understanding may not match the intent of the question. Second, men may not know which methods their partner used or may have difficulty recalling this information. Third, respondents may feel uncomfortable reporting the contraceptive methods they and their last sexual partner used. We expect that the two question format, which asks separate questions about men's own and their female partners' method use, improves respondents' understanding, aids recall, and decreases any negative effects of social desirability of reporting contraceptive use. As a result, we hypothesize that the two question format will result in higher reports of contraceptive use and a higher number of methods reported. We expect to find particularly strong effects on the reporting of female contraceptive methods that are not coitally specific.

<u>Ensuring that respondents share a common understanding of contraceptive methods</u>

The first challenge to measurement is ensuring that all respondents share the same understanding of the question's meaning. In measuring contraceptive use it is particularly important for respondents to think about both male and female methods when processing questions about contraceptive methods. The aim of the researcher is often the design of questions that encourage respondents to report all methods, not just those for which the respondent was primarily responsible. The single question format may be susceptible to this threat because it asks about both one's own and one's partner's contraceptive use at the same time. Respondents may only respond to the first part of the question about their own method use resulting in underreporting of contraceptive method use. A useful approach for the design of questions suffering from this threat is to include definitions in the question wording. However, given the large number of contraceptive options available, adding words or phrases to define them into questions of contraceptive use produces wording that is overly cumbersome. The two question format helps to reduce potential misinterpretation of the question by using less complex questions. The first question asks respondents to report only the contraceptives that they used and the second question asks them about the contraceptive methods their partners used. This is a way of simplifying the reporting tasks for respondents. As a result, we anticipate that respondents will report more contraceptive use and more types of contraceptive methods, particularly female methods, when asked the two question format.

<u>Ensuring that Respondents Know and are Able to Recall the Answer</u>

The second measurement challenge is ensuring that respondents are asked questions to which they know the answers. This is particularly a problem when using proxy respondents, such as asking men to report the contraceptive methods their partner used. It is possible that

some men have never known about the contraceptive methods their last sexual partner used. Many female contraceptive methods can be hidden from the male partner's knowledge (Salem, Mandal, and Richey 2004). For example, men may not know if their partners have had injections unless they were physically present at the time of the injection or they had engaged in a conversation with their partner about contraceptive methods. Unfortunately, design of better survey measures cannot remedy this error in reporting contraceptive use.

On the other hand, strong measurement design can improve the chances that those who had the information at some point are able to recall the information accurately or in the detail required. Strong design can ensure that men who witnessed or were told about the contraceptive methods their last partner used can recall them. Respondents often need special encouragement to invest the effort to recall things that may not be particularly salient to their current lives. One strategy for improving recall is to ask a long, rather than short, question. Long questions provide more time for respondents to retrieve the information (Tourangeau and Smith 1996; Cannell and Marquis 1972). The two question format is a longer format. As a result, the two question format should help men recall the methods they and their last sexual partner used.

Another strategy for improving recall is to ask multiple questions (Cannell, Marquis, and Laurent 1977; Sudman and Bradburn 1982). Asking a second question provides respondents another opportunity to reach back into their memory to recall information about contraceptive use. Studies have found that focusing the second question on information that is particularly likely to be forgotten increases recall. For example, Cannell and Fowler (1965) found that one-day stays in hospitals are underreported at higher rates than other hospital admissions, but asking respondents a second question focused on short hospital stays was found to improve reporting. In addition, asking two questions also may underscore the importance of the information for the

survey and therefore help motivate the respondent, increasing their level of dedication to the question. Given that many respondents provide only the answers that require the least amount of effort, that is, they only report enough information to answer the question at a basic level and do not provide full information, motivating respondents can be critical to producing accurate reasons (Groves et al. 2004). For these reasons, we anticipate that asking two questions, as compared to one, will help improve recall and increase men's reporting of contraceptive use and the variety of methods used.

Finally, behaviors that are commonplace for the respondent are also more difficult to distinguish in memory and therefore the respondent is less likely to accurately recall and report details about any specific event (Groves et al. 2004; Schwarz 1999). The more complex one's history and the less salient each individual event in that history, the greater the likelihood for measurement error in survey reports about those individual events. Given this line of reasoning, we would expect that sexual intercourse is a fairly common activity for most men so answering questions about a particular episode (even the most recent) might be challenging. Therefore, not only would we expect a priming effect in the two-question format – the question about his method use primes thoughts about her method use, we might also expect that the differences between answers produced by the single versus two questions to be larger for those men who have had more sex partners and/or relationships of shorter duration (see also Catania et al. 1990). Likewise, being asked to report on an event that happened in the more distant past also increases the difficulty of remembering specific details about that event, therefore the difference should also be larger for those whose last sex was longer in the past.

Ensuring that Respondents are Willing to Answer

The last challenge in asking men about contraceptive use is asking questions that they are willing to answer. Social desirability is a term used to describe the phenomena whereby respondents distort their answers in a way that they believe will reflect positively or will avoid embarrassment (Fowler 1995). We recognize two potential causes of social desirability bias when asking men about female and male contraceptive methods. One possibility is that men will feel that their female partners' contraceptive methods are private and that knowing or reporting their partners' methods would be inappropriate. A second possibility is that men who have relinquished contraception to their partners may be concerned about appearing irresponsible.

The format and wording of questions can help minimize respondents' desire to distort their answers. In particular, asking separately about male and female contraception signals to respondents it is acceptable for men to know about their partner's contraceptive methods and to share this information in the interview. Asking separate questions also acknowledges that both male and female methods are acceptable. We expect that respondents will feel more comfortable reporting contraceptive use with the two question format and will report greater usage of contraception and a greater variety of methods.

Data and Methods

We use data from Cycle 6 of the NSFG to examine these issues. The overall response rate of 79 percent generated 7,643 completed interviews of females and 4,928 completed interviews of men. We analyze data from the 4,109 men aged 15 to 45 who reported having had sexual intercourse. Hispanics, African Americans, and teenagers were intentionally over-sampled. For a detailed discussion of sampling procedures and study design see (Groves et al. 2005; Lepkowski et al. 2006).

Measure of question format: the experiment

Split-sample experiments have long been a part of questionnaire pre-testing and allow the researchers to isolate the effects of specific features such as question wording (Moore et al. 2004; Tourangeau 2004). The NSFG Cycle 6 survey of males included a split-sample experiment involving questions about contraceptive methods used by men and their last sexual partners. Respondents were randomly assigned to receive either the single- (30 percent) or two-question (70 percent) format. We created a dichotomous measure equal to one if the respondent received the two question format and zero if he received the single question format.

Measures of contraceptive use at last sex

Respondents in the first group were asked "…that last time [you had sexual intercourse with (current wife/partner or recent partner)], what methods did you and (current wife/partner or recent partner) use to prevent pregnancy or sexually transmitted disease."[1] The response categories, which were shown on a card, included condom or rubber, withdrawal or pulling out, vasectomy or male sterilization, pill, tubal ligation or female sterilization, injection, hormonal implant, spermicidal foam/jelly/cream/film/suppository, rhythm or safe period, or something else. Respondents were asked to list all that apply and the first four methods mentioned were coded.

The two question format first asked the respondent about his own contraceptive use: "…That last time that you had sexual intercourse with (current wife/partner or recent partner), did <u>you, yourself</u>, use any methods to prevent pregnancy or sexually transmitted disease?" The response options included only male methods (condom, withdrawal, vasectomy, or something else), and again respondents could list up to four methods. Respondents were then asked a similar question about the methods their partner used: "…That last time that you had sexual

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[1] This question and the method questions in the two question format were preceded by a feeder question "That last time you had sexual intercourse with (current wife/partner or recent partner), did you or she use any methods to prevent pregnancy or sexually transmitted disease?"

intercourse with (current wife/partner or recent partner), did <u>she</u> use any methods to prevent pregnancy or sexually transmitted disease?" The response options for this question included only female methods (oral contraceptive pills, tubal sterilization or other female sterilization, injection (Depo-Provera or Lunelle), hormonal implant (Norplant or Implanon), rhythm or safe period, contraceptive patch (Ortho-Evra), vaginal contraceptive ring (Nuva Ring), or something else) with the potential to record as many answers as applicable and the first four methods mentioned were coded.

Combining responses from these three questions we created 14 measures of contraceptive use at last sex. The first measure is dichotomous and equals one if the respondent reported using any contraceptive method and zero otherwise. We also created a count measure of the number of contraceptive methods reported—this measure ranges from zero to four. The third measure equals one if the respondent reported using any female contraceptive methods (see list above) and zero otherwise. Again, we created a count measure of the number of female methods reported—this measure ranges from zero to two. Finally, we created a series of ten dichotomous measures for specific contraceptive methods each equal to one if the respondent reported using condoms, withdrawal, vasectomy, pills, female sterilization, injection, spermicide, hormonal implant, rhythm, or other contraceptive method, respectively, and zero otherwise.

<u>Control Variables</u>

To ensure proper specification of our models, we control for various characteristics of the respondent that might influence the likelihood of contraceptive use. We control for age because contraceptive use has been found to increase over the life course (Luker 1996; Piccinino and Mosher, 1998). We created four separate age dummies for the age groups 15-19, 20-24, 25-30,

and 30-45. Each of these age groups had a separate sampling scheme. The oldest age group, 30-45 is the reference group in our analyses.

We control for race by creating three dichotomous indicators of the respondent's self reported "best" describing racial group: white, black, and other. White is the omitted group; effects of the other two groups are relative to this group. We also control for ethnicity. Respondents who self-identified as Hispanic are coded "1" and others are coded "0." Studies have shown that contraceptive use and specific methods used vary by race and ethnicity (Piccinino and Mosher 1998; Stephen, Rindfuss, and Bean 1988).

We also control for the duration of time since last sex. This measure is calculated by subtracting the month and year of last sex from the month and year of the interview. The variables are coded as five dichotomous indicators: less than one month, 1 to 3 months, 4 to 6 months, 7 to 11 months, and 12 or more months. The excluded group is those whose last sex was less than one month ago; all other groups are reported relative to this group. Research has shown that specific events are more difficult to recall as time passes (Rubin and Wetzel 1996). As the duration of time since last sex increases, respondents' difficulty recalling the contraceptive methods used is likely to increase.

The relationship between two sexual partners is likely to influence their contraceptive use as well as men's knowledge of the methods their partners used. Studies have shown that the gap in reporting contraception used between members of a couple decreases as the level of couple interaction is increased (Koenig, et al. 1984; Menon et al. 1995). We control for respondents' relationships with their last sexual partners using three dichotomous dummy variables: married, cohabiting, or some other relationship. The "other" category includes people in a range of relationships from having just met to being in a serious committed relationship but not living

together. Although the degree of commitment within this category is certainly likely to influence both contraceptive use and men's likelihood of knowing his partner's non-coitally specific contraceptive use, we believe the largest differences will be between coresidential and non-coresidential sexual partners. Men who share living space with their partners are much more likely to see evidence of non-coitally specific methods such as pill packs or knowing when their partners are receiving injections. Men who were married to their last sexual partners represent the omitted group in all analyses.

Finally, we control for religious affiliation during childhood due to the potentially strong influence of religious beliefs on contraceptive usage, the choice of contraceptive methods, and the individual's willingness to report contraceptive use (Goldscheider and Mosher, 1991; Tanfer, Cubbins, and Brewster, 1992; Studer and Thornton, 1987). We use five dichotomous indicators of religious affiliation: Catholic, moderate/liberal Protestant, conservative Protestant, some other affiliation, and no affiliation. Liberal Protestants are the omitted category; effects of the other four groups are relative to this group.

Analytic Strategy

Our analysis consists of two parts. First, we compare reported contraceptive use for the single and two question format groups. We use chi-square tests to determine whether the means of the dichotomous measures were statistically different from one another. We conduct similar tests using the t-statistic for the number of methods and number of female methods. To correct for differences in sample selection and response probabilities among the different subgroups interviewed we adjust the means for these variables using the weights provided in the dataset.

Second, we estimate multivariate models of contraceptive use at last sex. We estimate the models with the dichotomous measures of contraceptive use as the dependent variable with logistic regression in the form:

$$\text{logit}(p) = \beta_0 + \beta_1 R + \boldsymbol{\beta_2 X}$$

where $p_{it} = P[Y = 1 | R, \boldsymbol{X}]$; Y is "1" if the respondent reported using contraception, and "0" otherwise; β_0 is the intercept, R is the variable for which question format the respondent randomly received, β_1 is the coefficient on R, $\boldsymbol{X}$ is a vector of explanatory variables, and $\boldsymbol{\beta_2}$ is a vector of coefficients.

For the models with number of methods or number of female methods as the dependent variable we estimate ordinary least squares (OLS) regressions of the form:

$$C = \beta_0 + \beta_1 R + \boldsymbol{\beta_2 X}$$

where C is the number of contraceptive methods reported. All other components are the same as in the logistic regressions.

For our second and third objectives we use a nested-model approach. We first estimate zero-order models of the effects of various individual characteristics on contraceptive use at first sex. Then, to determine whether the effect of the question format varies by key characteristics of the respondent, we create interaction terms between the measure of question format and the dichotomous variables for age, race, and time since last sex. We then separately enter these interaction terms into the zero-order models one at a time. That is, one model will contain the interaction term of the question format and one age group and the next model will contain the interaction term of the question format with another age group.

Results

Table 1 shows the results of our comparison of means of contraceptive use at last sex for the single- and two-question format groups. Men were significantly more likely to report any contraceptive use, more contraceptive methods, any female contraceptive use, more female contraceptive methods, and more use of oral contraceptive pills if they received the two question format rather than the single question. This result is as we expected based on our review of the methodological issues involved in obtaining men's reports of contraceptive use. Female use of oral contraceptive pills is exactly the type of contraceptive use men are most likely to omit in the single question format – it is not coitally specific and men are not directly involved in using the method. Increased reporting of female use of pills may explain the increased reports of any use and number of methods used – oral contraceptive pills are particularly likely to be used in combination with other contraceptive methods.

(Table 1, about here)

Next we turn to multivariate models of contraceptive use. Table 2 presents the results of our logistic regression estimates of the dichotomous measures of contraceptive use at last sex. The first model in each section, Models 1,4, and 7, show the zero-order models—the effect of question format and individual characteristics on the likelihood of using contraceptives at last sex. We see that for any contraceptive use (Model 1), use of any female contraceptive method (Model 4), and use of oral contraceptive pills specifically (Model 7), receiving the two question format corresponded with increased reports of contraceptive use. Men who received the two question format were approximately 30 percent more likely to report using any contraceptive methods, any female contraceptive methods, and oral contraceptive pills than men who received the single question format. These results provide evidence that men are not fully processing the

single question. These results do not reveal the specific mechanism—whether men are misunderstanding the single question or whether they require increased exposure to the topic in order to report use—but it is clear that question wording does matter for estimates of contraceptive method use.

(Table 2, about here)

In the second column of models in each section, Models 2, 5, and 8, we add in the interaction term between the question format and whether the respondent was black. When we look at the main effect terms we see that again men who received the two question format were more likely to report contraceptive use and blacks were less likely. In Models 5 and 8 we see that the interaction term for black is also positive and significant. That is, the increased likelihood of reporting any female contraceptive method or oral contraceptive pills when asked the two question format is larger for blacks than for non-blacks. In general, black men are much less likely than white men to report female methods and pill use, but the two question format greatly increases the likelihood black men will report those methods.

The third column of models, Models 3, 6, and 9, show the interaction term between question format and relationship status with last sexual partner. This effect is positive for the models of use of any female contraceptive method. Men whose last sexual partner was not a spouse or cohabiting partner were much more likely to report using any female contraceptive method, and this effect is even larger for men who received the two question format. These results constitute evidence that men who are less familiar with their sexual partner (that is they are not living together and therefore have less opportunity to observe their contraceptive habits) are more likely to report their partner's method use if they are asked explicitly about that partner.

None of the other interaction terms were statistically significantly related to reported contraceptive use. Younger men were more likely to report any contraceptive use or to report using oral contraceptive pills than men aged 30-44. This may be because older men are more likely to be having sex so their partner *will* become pregnant and will therefore not be using contraceptive methods. Oral contraceptive pills are a more common form of contraception among younger women than older women so it is also not surprising that younger men are more likely to report that their partner used oral contraceptive pills at last sex.

Both blacks and non-black/non-whites were less likely to report any contraceptive use, any female contraceptive use, and oral contraceptive pill use. Hispanics were more likely to report all three of these categories of contraceptive use. These findings are similar to other findings about men and women's contraceptive use (Brauner-Otto and Axinn Under review; Brewster 1994; Browning, Leventhal, and Brooks-Gunn 2004).

The findings for the remaining controls were also as expected. In general, when last sex was more recent men were more likely to report contraceptive use. Men who were married to their last sexual partner and moderate or liberal Protestants were also more likely to report contraceptive use.

Table 3 displays the results from our OLS regressions of the number of any and female contraceptive methods reported. As with the dichotomous variables, men who received the two question format reported using more contraceptives and more female contraceptive methods. The only interaction term that was significant was that between the question format and blacks in the model of the number of female contraceptive methods used. Blacks reported using fewer female contraceptive methods than whites. However, those who received the two question format reported more methods—the decrease in the number reported for blacks is lessened if

they received the two question format. Alternatively, men who received the two question format reported using more female methods than those who received the single question and this increase is even more likely among black men.

(Table 3, about here)

Discussion

Reproductive health has long been centered on women, with a relatively small body of research devoted to reproductive health among men. Psychological, sociological, and methodological research into gender differences in comprehension, attitudes, and mental processing imply that investigating contraception from a male perspective may provide important new information about sexual behavior.

This paper examines one piece of the male perspective of contraceptive use by exploring the results of a survey methodology experiment on question format embedded in the largest national study of contraceptive use, the NSFG. These findings yield valuable information on how men approach survey questions in general and how they think about contraceptive use in particular. They also highlight important pathways for future research.

The results from the question format experiment in the NSFG show that it does matter how you ask men questions. Men who received two separate questions provided statistically different results than men who received the single question. Specifically, when given the extra time or additional probe of a second question, men were more likely to report that they and their partner used any contraceptive methods, any female contraceptive methods, and oral contraceptive pills and they reported using more contraceptives methods, both female and any.

As with much research, the analyses presented here spark as many new questions as they answer. These analyses do not reveal the specific reasons for the differences in the contraceptive

use reports for the two different question format groups. One possible explanation is social desirability. Our first instinct when looking at the findings presented here may be to draw the conclusion that the two question format is the better or right option. However, it is equally possible that the two question format leads to over-reporting of contraceptive methods, specifically of female methods. The first time respondents are asked about their method use they may respond quite honestly. When asked a very similar question immediately following they may feel pressure to report additional methods even if they did not actually use them. This hypothesis is supported by other analyses which find that men report higher rates of contraceptive use than women (Abma, Porter, and Sonenstein, 2003).

The results in this paper may also point to a communication breakdown between sexually active couples. If men are in fact over-reporting use of female contraceptive methods, notably the pill, it may be that they truly believe that their partner is taking oral contraceptives when in fact she is not. The results presented here and additional data available within the NSFG cannot adjudicate among all these multiple explanations for the different reporting. Since true contraceptive method use is probably not knowable, it is unlikely we will be able to determine whether men are in fact over-reporting the use of female contraceptive methods.

References

Abma, J., Porter, L., and Sonenstein, F. 2003. Men's reports of contraceptive use: The effect of question variation and the extent of uncertainty. Paper presented at the Annual Meeting of the Population Association of America (Minneapolis).

Billy, J.O.G., Tanfer, K., Grady, W.R., and Klepinger, D.H. 1993. The sexual behavior of men in the United States. *Family Planning Perspectives* v25(2): 52-60.

Cannell, C. and Fowler, F. (1965). Comparison of hospitalization reporting in three survey procedures. *Vital and Health Statistics* (Series 2, No. 8). Washington, DC: Government Printing Office.

Cannell, C.F., and Marquis, K.H. (1972). Reporting of health events in household interviews: Effects of reinforcement, question length and reinterviews. *Vital and Health Statistics* (Series 2, No. 45). Washington, DC: Government Printing Office.

Cannell, C., Marquis, K., and Laurent, A. (1977). A summary of studies. *Vital and Health Statistics* (Series 2, No. 69). Washington, DC: Government Printing Office.

Catania, J.A., Gibson, D.R., Chitwood, D.D., and Coates, T.J. 1990. Methodological Problems in AIDS Behavioral Research: Influences on Measurement Error and Participation Bias in Studies of Sexual Behavior. *Psychological Bulletin* v108(3): 339-362.

Forste, R. and Morgan, J. 1998. How relationships of U.S. men affect contraceptive use and efforts to prevent sexually transmitted diseases. *Family Planning Perspectives* v30(2): 56-62.

Fowler, F.J. (1995). *Improving Survey Questions:Design and Evaluation*. Thousand Oaks, CA: Sage Publications, Inc.

Goldscheider, C., and Mosher, W.D. Patterns of contraceptive use in the United States: The importance of religious factors. *Studies in Family Planning*, *22*, 102-115.

Grady, W.R., Klepinger, D.H., and Nelson-Wally, A. 1999. Contraceptive characteristics: The perceptions and priorities of men and women. *Family Planning Perspectives* v31(4): 168-175.

Grady, W.R., Tanfer, K., Billy, J.O.G., and Lincoln-Hanson, J. 1996. Men's perceptions of their roles and responsibilities regarding sex, contraception, and childrearing. *Family Planning Perspectives* v28: 221-226.

Groves, R.M., Fowler, F.J., Couper, M.P., Lepkowski, J.M., Singer, E., and Tourangeau, R. 2004. *Survey Methodology*. New York: Wiley.

Groves, R.M., Benson, G., Mosher, W.D., et al. 2005. *Plan and operation of cycle 6 of the National Survey of Family Growth*. National Center for Health Statistics. Vital Health Stat 1(42).

Koenig, M.A., Simmons, G.B., and Misra, B.D. (1984). Husband wife inconsistencies in contraceptive use response. *Population* Studies, 38, 281-298.

Lepkowski, J.M., Mosher, W.D., Davis. K.E.,et al. 2006. *National Survey of Family Growth, Cycle 6: Sample design, weighting, imputation, and variance estimation*. National Center for Health Statistics. Vital Health Stat2(142).

Luker, K. (1996). *Dubious Conceptions: The Politics of Teenage Pregnancy*. Cambridge, MA: Harvard University Press.

Marsiglio, W. 1993. Adolescent males' orientation toward paternity and contraception. *Family Planning Perspectives* 25: 22-31.

Menon, G., Bickart, B., Sudman, S., and Blair, J. (1995). How well do you know your partner? Strategies for formulating proxy-reports and their effects on convergence to self-reports. *Journal of Marketing Research*, *32*, 75-84.

Moore, J., Pascale, J., Doyle, P., Chan, A., and Griffiths, J.K. (2004). Using field experiments to improve instrument design. In *Methods for Testing and Evaluating Survey Questionnaires*, ed. S. Presser, J.M. Rothgeb, M.P. Couper, J.L. Lessler, E. Martin, J. Martin, and E. Singer. New York: Wiley.

Piccinino, L.J., and Mosher, W.D. (1998). Trends in contraceptive use in the United States: 1982-1995. *Family Planning Perspectives*, *30*, 4-10+46.

Rubin, D., and Wetzel, A. (1996). One hundred years of forgetting: A quantitative description of retention. *Psychological Review*, *103*, 734-760.

Salem, R.M, Mandal, M., and Richey, C.E. (2004). Men's surveys: New findings. *Population Reports*, *32*, 1-23.

Santelli, J.S., Lindberg, L.D., Abma, J. McNeely, C.S., and Resnick, M. 2000. Adolescent sexual behavior: Estimates and trends from four nationally representative surveys. *Family Planning Perspectives* v32(4): 156-194.

Schwarz, N. 1999. Self-Reports: How the Questions Shape the Answers. American *Psychologist* v54(3): 93-105.

Sletto, R. (1950). Pretesting of Questionnaires. *American Sociological Review* 5:193–200.

Stephen, E.H., Rindfuss, R.R., and Bean, F.D. (1988). Racial differences in contraceptive choice: complexity and implications. *Demography*, *25*, 53-70.

Studer, M., and Thornton, A. (1987). Adolescent religiosity and contraceptive usage. *Journal of Marriage and the Family*, *49*, 117-128.

Sudman, S., and Bradburn, N. (1982). *Asking questions*. San Francisco: Jossey-Bass.

Tanfer, K., Cubbins, L.A., and Brewster, K.L. (1992). Determinants of contraceptive choice among single women in the United States. *Family Planning Perspectives*, *24*, 155-161+173.

Thomson, E. (1997). Couple childbearing desires, intentions, and births. *Demography*, *34*, 343-354.

Tourangeau, R. (2004). Experimental design considerations for testing and evaluating questionnaires. In *Methods for Testing and Evaluating Survey Questionnaires*, ed. S. Presser, J. M. Rothgeb, M.P. Couper, J.L. Lessler, E. Martin, J. Martin, and E. Singer. New York: Wiley.

Tourangeau, R., and Smith, T. (1996). Asking sensitive questions: The impact of data collection, question format, and question context. *Public Opinion Quarterly*, *60*, 275-304.

Watkins, S.C. (1993). If all we knew about women was what we read in *Demography*, what would we know? *Demography*, *30*, 551-577.

Table 1. Contraceptive method use at last sex by experimental group (comparison of means)

	Single Question Format	Two Question Format
Used any method	0.69	0.72***
Number of methods reported[a]	0.82	0.91***
Used any female specific methods[b]	0.37	0.39***
Number of female specific methods reported[a]	0.38	0.40***
Reported using male methods:		
Condoms	0.32	0.32
Withdrawal	0.05	0.07
Vasectomy	0.05	0.05
Reported using female methods:		
Oral contraceptive pills	0.24	0.26***
Female sterilization	0.08	0.08
Injection (Depo-Provera or Lunelle)	0.03	0.03
Spermicidal foam/jelly/cream/film/suppository	0.02	0.01
Hormonal implant (Norplant or Implanon)	0.00	0.01
Rhythm or safe period	0.01	0.12
Other contraceptive method	0.02	0.07***

[a]Statistical tests were t-tests.

[b]Female methods include oral contraceptive pills, female sterilization, injection (Depo-Provera or Lunelle), spermicidal foam/jelly/cream/film/suppository, hormonal implant (Norplant or Implanon), rhythm or safe period, contraceptive patch (Ortho-Evra), or vaginal contraceptive ring (Nuva Ring).

* $p < .05$; ** $p < .01$; *** $p < .001$; Chi-square tests with 1 degreee of freedom

Table 2. Logisitic regression estimates of the effect of the experiment on men's report of using contraceptives at last sex

	Any contraceptive use			Any female contraceptive use			Oral contraceptive pills		
	1	2	3	4	5	6	7	8	9
Received two question format	1.30***	1.31**	1.25*	1.29***	1.17*	1.15+	1.32***	1.21*	1.16
	(3.27)	(2.89)	(2.25)	(3.44)	(1.97)	(1.34)	(3.34)	(2.11)	(1.19)
Interaction terms									
2 questions* black		0.99			1.65**			1.69*	
		(0.06)			(2.56)			(2.25)	
2 questions* partner not spouse or cohabiting partner			1.11			1.24+			1.25+
			(0.63)			(1.47)			(1.34)
Age at interview[a]									
Aged 25-30	1.42***	1.42***	1.42***	1.09	1.09	1.09	1.69***	1.69***	1.69***
	(3.58)	(3.58)	(3.56)	(0.95)	(0.95)	(0.93)	(5.22)	(5.23)	(5.21)
Aged 20 -24	1.87***	1.87***	1.87***	1.43***	1.42***	1.43***	2.09***	2.08***	2.09***
	(5.55)	(5.55)	(5.56)	(3.91)	(3.87)	(3.93)	(7.48)	(7.45)	(7.50)
Aged 15-19	2.41***	2.41***	2.41***	0.99	0.98	0.99	1.31*	1.30*	1.31*
	(5.52)	(5.52)	(5.52)	(0.11)	(0.16)	(0.10)	(2.22)	(2.18)	(2.22)
Race[b]									
Black	0.67***	0.68**	0.67***	0.49***	0.34***	0.49***	0.47***	0.31***	0.47***
	(4.04)	(2.35)	(4.04)	(7.85)	(6.19)	(7.86)	(7.34)	(5.46)	(7.35)
Other race	0.79*	0.79*	0.79*	0.63***	0.63***	0.63***	0.58***	0.58***	0.58***
	(1.99)	(1.99)	(1.98)	(4.11)	(4.11)	(4.11)	(4.16)	(4.16)	(4.16)
Ethnicity									
Hispanic	1.06**	1.06**	1.06**	1.06**	1.06**	1.06**	1.11***	1.11***	1.11***
	(2.40)	(2.40)	(2.41)	(2.56)	(2.60)	(2.57)	(4.1)	(4.13)	(4.11)
Time since last sex[c]									
Last sex was 1-3 months prior	0.88	0.88	0.88	0.73***	0.73***	0.72***	0.76**	0.77**	0.76**
	(1.20)	(1.20)	(1.22)	(3.54)	(3.48)	(3.59)	(2.67)	(2.62)	(2.72)
Last sex was 4-6 months prior	0.95	0.95	0.95	0.74*	0.74*	0.73*	0.90	0.90	0.90
	(0.26)	(0.26)	(0.27)	(2.00)	(1.99)	(2.02)	(0.66)	(0.67)	(0.68)
Last sex was 7-11 months prior	0.53***	0.53***	0.53***	0.56***	0.56***	0.57***	0.55**	0.55**	0.55**
	(3.30)	(3.30)	(3.27)	(3.20)	(3.16)	(3.15)	(2.93)	(2.89)	(2.90)
Last sex was 12 or more months prior	0.73**	0.73**	0.73**	0.68***	0.68***	0.68***	0.81*	0.81*	0.81*

(2.53)	(2.53)	(2.53)	(3.61)	(3.60)	(3.62)	(1.81)	(1.80)	(1.82)

Relationship with last sexual partner[d]

Last partner was cohabiting partner								
1.25*	1.25*	1.25*	1.68***	1.68***	1.68***	1.75***	1.75***	1.75***
(2.20)	(2.20)	(2.20)	(5.04)	(5.09)	(5.04)	(4.73)	(4.77)	(4.74)
Last partner was not spouse or cohabiting partner								
4.18***	4.18***	3.89***	1.52***	1.52***	1.30*	2.09***	2.10***	1.78***
(14.47)	(14.47)	(8.97)	(4.78)	(4.79)	(1.91)	(7.30)	(7.31)	(3.62)

Religion during childhood[e]

Catholic								
0.83	0.83	0.83	1.08	1.09	1.08	1.26+	1.26+	1.25+
(1.26)	(1.26)	(1.26)	(0.63)	(0.65)	(0.61)	(1.62)	(1.64)	(1.59)
Conservative Protestant								
0.90	0.90	0.90	1.25*	1.25*	1.25*	1.18	1.17	1.17
(0.69)	(0.69)	(0.68)	(1.74)	(1.71)	(1.73)	(1.12)	(1.10)	(1.10)
Other religious affiliation								
0.82+	0.82+	0.82+	1.39**	1.4**	1.39**	1.21	1.22+	1.21
(1.29)	(1.30)	(1.29)	(2.45)	(2.48)	(2.44)	(1.28)	(1.30)	(1.27)
No religious affiliation								
0.97	0.97	0.97	1.25+	1.24+	1.24+	1.38*	1.38*	1.38*
(0.13)	(0.13)	(0.13)	(1.39)	(1.37)	(1.38)	(1.88)	(1.87)	(1.86)
-2Loglikelihood								
4267	4267	4266	5219	5212	5217	4445	4440	4444

[a]Reference group is age 35 or older.

[b]Reference group is white.
[c]Reference group is last sex was less than 1 month prior.

[d]Reference group is spouse.

[e]Reference group is moderate/liberal Prrotestant.

* *p* < .05; ** *p*<.01; *** *p*<.001; one tailed tests

Table 3. OLS regression estimates of the effect of the experiment on men's report of the number of contraceptives used at last sex

	Number of methods			Number of female methods		
	1	2	3	4	5	6
Received two question format	0.12***	0.11***	0.11***	0.06***	0.04*	0.03
	(5.44)	(4.36)	(3.38)	(3.38)	(1.92)	(1.07)
Interaction terms						
2 questions* black		0.05			0.09*	
		(0.93)			(2.25)	
2 questions* partner not spouse or cohabiting partner			0.03			0.06*
			(0.60)			(1.82)
Age at interview[a]						
Aged 25-30	0.14***	0.14***	0.14***	0.02	0.02	0.02
	(4.95)	(4.95)	(4.94)	(1.04)	(1.05)	(1.01)
Aged 20 -24	0.25***	0.25***	0.25***	0.09***	0.09***	0.09***
	(8.59)	(8.57)	(8.59)	(4.23)	(4.20)	(4.25)
Aged 15-19	0.30***	0.30***	0.30***	0.01	0.01	0.01
	(8.44)	(8.42)	(8.45)	(0.41)	(0.36)	(0.42)
Race[b]						
Black	-0.14***	-0.17***	-0.14***	-0.16***	-0.23***	-0.16***
	(-5.01)	(-3.62)	(-5.02)	(-8.01)	(-6.42)	(-8.03)
Other race	-0.06+	-0.06+	-0.06+	-0.10***	-0.10***	-0.10***
	(-1.60)	(-1.61)	(-1.60)	(-3.90)	(-3.91)	(-3.90)
Ethnicity						
Hispanic	0.02**	0.02**	0.02**	0.01**	0.01**	0.01**
	(2.56)	(2.58)	(2.57)	(2.59)	(2.62)	(2.61)
Time since last sex[c]						
Last sex was 1-3 months prior	-0.05*	-0.05*	-0.05*	-0.08***	-0.07***	-0.08***
	(-1.92)	(-1.89)	(-1.94)	(-3.66)	(-3.61)	(-3.73)
Last sex was 4-6 months prior	-0.02	-0.02	-0.02	-0.07*	-0.07*	-0.07*
	(-0.39)	(-0.39)	(-0.40)	(-1.92)	(-1.91)	(-1.95)
Last sex was 7-11 months prior	-0.16**	-0.16**	-0.16**	-0.13***	-0.12***	-0.12***
	(-3.05)	(-3.03)	(-3.03)	(-3.21)	(-3.17)	(-3.14)
Last sex was 12 or more months prior	-0.09**	-0.09**	-0.09**	-0.08***	-0.08***	-0.08***
	(-2.69)	(-2.68)	(-2.69)	(-3.39)	(-3.37)	(-3.40)
Relationship with last sexual partner[d]						
Last partner was cohabiting partner	0.16***	0.16***	0.16***	0.12***	0.12***	0.12***
	(5.02)	(5.04)	(5.03)	(5.03)	(5.07)	(5.04)
Last partner was not spouse or cohabiting partner	0.46***	0.46***	0.44***	0.10***	0.10***	0.05*
	(16.76)	(16.76)	(10.36)	(4.80)	(4.81)	(1.71)
Religion during childhood[e]						
Catholic	0.00	0.00	0.00	0.02	0.02	0.02
	(0.05)	(0.06)	(0.04)	(0.57)	(0.59)	(0.55)

Conservative Protestant	0.05	0.04	0.05	0.05*	0.05*	0.05*
	(1.12)	(1.11)	(1.12)	(1.70)	(1.67)	(1.70)
Other religious affiliation	0.04	0.04	0.04	0.08**	0.08**	0.08**
	(0.90)	(0.91)	(0.90)	(2.49)	(2.51)	(2.48)
No religious affiliation	0.03	0.03	0.03	0.05+	0.05+	0.05+
	(0.61)	(0.60)	(0.61)	(1.38)	(1.36)	(1.37)
R squared	0.15	0.15	0.15	0.04	0.04	0.04

[a]Reference group is age 35 or older.
[b]Reference group is white.
[c]Reference group is last sex was less than 1 month prior.
[d]Reference group is spouse.
[e]Reference group is moderate/liberal Prrotestant.
* $p< .05$; ** $p<.01$; *** $p<.001$; one tailed tests