

“Contraceptive Method Switchers: Does Contraception Method Vary Among Married, Cohabiting and Single Women in the U.S.?”

ABSTRACT

It is unlikely that the same type of contraception will be used throughout women’s life course and so a large proportion of women practice contraceptive method switching. This study provides contemporary estimates of contraceptive method switching and the types of methods that women switch to by union status. The National Survey of Family Growth (2006-10) was used to create an analytic sample of 1,899 women ages 21-44 years who switched contraception and had valid responses on the contraceptive method history calendar and marital and cohabitation dates over a 3-year period. Contraceptive method switching was measured based on women’s report of different use of contraception in consecutive months as well as a change from nonuse of contraception to use of contraception or vice versa. Most married women switched to most effective methods, cohabiting women switched to least effective methods and single women switched mostly to the pill and condom. Multivariate analysis revealed that single women, more than married and cohabiting women, were more likely to switch to condoms relative to least effective contraception. Contraceptive method switching behavior is driven by single women while married and cohabiting women are more analogous. Less variation is found in the types of contraceptive methods women switch to when union status is considered. Studies on women’s reproductive health should include more analysis that moves beyond point estimates and incorporates the fluidity of contraceptive behavior, such as contraceptive method switching during the reproductive life course. Health care providers should deliberately address the needs of single sexually active women who are more at risk of negative reproductive health outcomes which may be associated with contraceptive method switching behavior.

INTRODUCTION

The dynamics of understanding contraceptive behavior is not limited to one particular stage in the life course nor does it entail one specific behavior that is practiced by all individuals. From a life course perspective (Elder 1994) contraceptive behavior is a fluid process which affects individuals differently based on context and time. Access to contraception has increased over the last two decades (Rocca et al. 2013), however, for ideal fertility goals to be met, sexually active women are required to effectively use contraception for about 30 years as they remain at risk for unintended pregnancy (Frost, 2011). The use of contraception is also relevant beyond the

reproductive life course of women, as exposure to sexually transmitted infections (STIs) remains a serious health concern among older populations (Lindau et al. 2007). It is highly unlikely that women will use the same method of contraception over this period and so a large percentage of women tend to switch contraception (Grady et al. 2002).

Of equal importance are changes in the demographic landscape in the United States, for example, postponements in timing of marriage, growth in the prevalence of cohabitation, increases in non-marital fertility and high levels of sexual activity among single women at different stages of the life course (Kim and Raley 2015; Lindberg and Singh 2008; Manning, Brown and Payne 2014; U.S. Census 2011). These shifts in union formation and fertility outcomes are also related to changing patterns in contraceptive behaviors. A number of studies have examined contraceptive use by union status (Mosher and Jones 2010; Sweeney 2010); however, a contemporary examination of married, cohabiting and single women in the United States who switch contraception and the type of contraceptive methods used following the switch, has not been explored.

Contraceptive method switching research grew out of extensive work on contraceptive discontinuation (Vaughan et al. 2008). There are at least three types of contraceptive discontinuation associated with inconsistent contraceptive use and women's overall reproductive health - contraceptive failure (Trussell 2009), abandonment of contraceptive use (while in need of contraception) (Vaughan et al. 2008) and method switching (Grady et al. 2002). While contraceptive failure and abandonment are two important outcomes to study because they lead to immediate risk of unintended pregnancy, a key limitation when analyzing these outcomes is that women's choice of a new method of contraception are not taken into account. In contrast, method switching is important within a woman's reproductive life course because the rate of

switching and type of switching negatively or positively affects reproductive health outcomes (Steele and Curtis 2003). On one hand, contraceptive method switching may compromise women's protection and, as such, make them more vulnerable to unintended pregnancy (Grady et al. 2002; Vaughan et al. 2008). Conversely, it may improve women's overall reproductive health if they switch from less to more effective contraception.

Studies related to contraceptive method switching in the United States are rare. Most of these studies are based on convenient samples drawn from health clinics, disadvantaged neighborhoods, and from higher risk of STI group of women (Davidson et al. 1997; Sang-Haghpeykar et al. 1995; Santelli et al. 1995). The use of convenient samples and fact that there are no analyses determining the characteristics of individuals who switch because the population is homogenous by composition, are key limitations of these research. Research using specialized samples have also explored the patterns of contraceptive use among switchers. Frost and colleagues (2007) found that more than one-quarter (26%) of women switched from one method of contraception to another during a year. More specifically, of the 6% that switched to hormonal or long-acting methods, 4% were initial barrier/traditional users and 2% were former nonusers. Eleven percent of women switched to barrier/traditional methods (9% were initial hormonal users and 2% former nonusers). Of the 10% of women who switched to nonuse of contraception, 4% and 6% were former hormonal/long-acting and barrier/traditional users respectively. Barber, Gatny and Kusunoki (2012) using an experimental design to capture data on pregnancy and contraceptive use found that among 18-19 year old women 10% of contraceptive users in the control group and 14% in the journal group switched to a more effective method during the study. In another study Grady and colleagues (2002) using 1995 data from the National Survey of Family Growth (NSFG) examined switching differentials by marital

status and found that the rates of switching were high for married and unmarried women. The authors suggested that women's decision to switch contraception may have been motivated by contraceptive effectiveness and health risks associated with contraceptive use. A key limitation of Grady and colleagues (2002) research was the examination of women by marital status (married and unmarried) not union status (married, cohabiting, and single).

Several studies have been specific in the examination and classification of contraceptive methods. Frost and colleagues (2007) classified more effective methods as pills, condoms, injectable, patch/ring, IUD/implants while less effective methods include condoms, diaphragm, spermicides, withdrawal and natural family planning. Trussell and Vaughn (1999) also provided a hierarchy for contraceptive methods: sterilization, implant, injectable, IUD, pill, condom, and other reversible. Barber and colleagues (2012) ordered types of contraception in terms of typical use (1: IUD/Implanon, 2: Depo-Provera, 3: patch/ring, 4: pills, and 5: other). Based on prior literature, this study employs the following four-group typology of contraceptive use after a switch. The first group is labelled 'most effective methods' and comprises sterilization and hormonal methods. The second and third groups are 'pills' and 'condoms.' The fourth group is labelled 'least effective methods' and includes non-use of contraception and other methods of contraception. Hormonal methods are grouped with sterilization due to the low rate of use (Jones et al, 2012; Finer and Zolna 2011). The use of pills and condoms are analyzed separately because of their high prevalence rate among women in the U.S. (Jones et al. 2012). For example, more than one-third (34%) of currently married women use the pill and condom, almost half (48%) of currently cohabiting women use both methods and more than two-thirds (68%) of never-married, not cohabiting women use the pill and condom. Finally, while both methods are user-dependent, use of the pill does not need the intervention of women's partners; in contrast,

the use of condoms is dyadic and coitus dependent. The fourth group includes mostly of those women who report nonuse of contraception.

With demographic shifts in union and family formation in the United States, it is critical to apply a more nuanced approach in examining contraceptive method switching by exploring differences among married, cohabiting and single women. Delays in first marriages (U.S. Census 2011) have been associated with increased proportion of couples cohabiting (Manning et al. 2014) as well as individuals becoming involved in non-marital romantic relationships (Arnett 2004). Other studies suggest that the transitory nature of marital and cohabiting unions means that women are remaining single, though sexually active, at different stages of the life course (Lindberg and Singh 2008).

Prior studies indicate that union status is a significant predictor of contraceptive use (Mosher and Jones 2010; Jones et al. 2012; Sweeney 2010). Jones and colleagues (2012) provide a recent examination of contraceptive use by union status using the 2006-2010 NSFG while other studies rely on earlier national data sets (e.g., Sweeney 2010) or more specialized samples (e.g., Frost and Darroch 2008; Lindberg and Singh 2008). Jones and colleagues find that among married women sterilization (30.2%) is most popular followed by the pill (19%) and condoms (15%). Among cohabiting women contraception ranking is different with 32.2% relying on the pill, 24% sterilized and 15.8% using condoms. The most popular contraceptive method among single women is the pill (46.6%), followed by the condom (22%) and other hormonal methods (12%). The variation in contraceptive use by union status has implications for women's reproductive behavior. These studies lend support to the need for exploration of contraceptive method switching by union status.

This paper presents an up-to-date description of an understudied contraceptive behavior, contraceptive method switching. Using a nationally representative survey of reproductive age women in the United States, and based on prior literature, six hypotheses are proposed. First, single and cohabiting women compared to married women, are less likely to switch to most effective methods relative to least effective methods (H_1). Second, cohabiting women more than single are more likely to switch to most effective methods compared to least effective methods (H_2). Third, single women compared cohabiting and married women are more likely to switch to the pill relative to least effective methods (H_3). Fourth, single women compared to cohabiting and married women are more likely to switch to the condom relative to least effective methods (H_4). Fifth, cohabiting women more than married women are likely to switch to the pill compared to least effective methods (H_5). Sixth, compared to married women, cohabiting women are more likely to switch to the condom relative to least effective methods (H_6).

METHODS

Data

The female file of the National Survey of Family Growth (NSFG), 2006-2010 comprised 12,279 non-institutionalized women, ages 15-44 years. The NSFG includes detailed retrospective contraception, marriage and cohabitation histories as well as socio-demographic variables that are associated with contraceptive method switching. The NSFG also contains a contraceptive method history calendar in which dates of respondent's use of contraception in each month during the four years preceding the interview is recorded. This enabled the calculation and examination of a first contraceptive method switch during a three-year observation period.

The inclusion of women with valid union (marital and cohabitation start and end dates) histories reduced the sample to 10,761. Retaining only valid responses to contraceptive method switching questions from the method history calendar further lessened the sample (N=9,470). The sample was further limited to women observed during a three-year period (N= 4,674). Following the merging of contraceptive method switching file and the NSFG data file containing variables used as control covariates the sample was 3,122 respondents. Two analytic samples were provided for this study. The first analytic sample was based on the inclusion women ages 21-44 years with non-missing responses on age, race/ethnicity, education, poverty status, religious affiliation, mother's education, age at first sex and parity (N=2,986). This sample provided descriptive statistics on contraceptive method switchers and non-contraceptive switchers (stable users versus stable non-users of contraception). The second analytic sample also included women ages 21-44 years with non-missing responses on age, race/ethnicity, education, poverty status, religious affiliation, mother's education, age at first sex and parity but only captured women who switched contraception during the observation period (N=1,899).

Dependent Variable

The dependent variable was contraception used following an initial switch during the 3-year observation period. This categorical variable was based on four types of contraception, 'most effective' (sterilization and hormonal methods); pill; condom; and 'least effective' (none and other methods).

Independent Variable

The main independent variable was union status. Women's union status at the time of interview does not tell us about the union context during contraceptive method switching. Therefore, union status was measured as a time invariant characteristic using retrospective dates

of marital and cohabitation histories at the time of observation. At the start of the observation period women were either in a marital or cohabiting union. If there were no marital or cohabitation dates that corresponded to the commencement of the observation period, women were classified as single. Women in a marital union at observation did not denote first marriage but any marriage at that time. Also, cohabiting women at observation may have been in previous marital and cohabiting unions and single women may have been in prior marital and cohabiting unions as well as they may have never been married and/or had never cohabited.

Sociodemographic Characteristics

Age was measured at the time of interview and was a continuous variable measured in years. Women's race/ethnicity was also included based on the 1997 Office of Management and Budget (OMB) standards which was recoded to create a four category response measure: *non-Hispanic white* (reference category), *non-Hispanic black*, *Hispanic*, and *multiracial*. Women's education (measured at time of interview) was included in the analyses and coded into four categories: *less than high school degree*, *high school/GED* (reference category), *some college* and *college degree or higher*. Poverty status was based on the federal eligibility criteria for subsidized family planning services and women were grouped into dichotomous variable: 1= at/above the poverty line (federal poverty is $\geq 100\%$) and 0 = below the poverty line (federal poverty is 0-99%).

Background Characteristics

Family type was a dichotomous variable based on a NSFG recode of intact status of childhood family where 1) women have two biological/adoptive parents from birth or childhood and 2) women have anything other than women two biological/adoptive parents from birth or childhood. Women's religious affiliation while growing up was also included and coded into

four categories: *no religion* (reference category), *Protestant*, *Catholic* and *other religious affiliation*. Women's mother's education was taken into account and categorized as: *less than high school degree*, *high school/GED* (reference category), *some college* and *college degree or higher*.

Fertility Characteristic

Age at first sex was recoded and measured as a continuous variable based on the question. Women's parity at observation captured the total number of live births including multiple births. A dichotomous variable was created for parity, '1' = have at least one child and '0' = have zero births.

Measure of Time

A continuous measure of time, measured in months was used in the regression analyses. The variable counted the number of months of women's contraceptive use during the observation period which was not interrupted by any period of sexual abstinence. Women were censored (removed from analyses) if there is change in union status during the observation period and for those women who do not switch contraception at time of interview.

RESULTS

Descriptive Statistics

Table 1 showed that during a three-year observation period, among women 21-44 years, approximately 40%, engaged in contraceptive method switching. Among the remaining non-switchers, 17% of women were stable nonusers of contraception and 43% were stable users of contraception. Analyses showcasing differentials according to union status indicated that single and cohabiting women were more likely to switch contraception than cohabiting and married women. Overall, 53% of cohabiting women switched methods of contraception compared to

50% of single women and 35% of married women. Married women were more likely to remain as stable nonusers of contraception compared to single and cohabiting women. Further, married women relative to cohabiting and single women were more likely to be stable users.

[Table 1 about here]

Table 2 showed descriptive statistics for women who switch contraception over the three year observation period. One-fifth (20%) of women switched to most effective methods (i.e., sterilization and hormonal methods), a little more than one-tenth (14%) switched to the pill, 21% switch to condom and almost half (44%) switched to least effective methods (i.e., none and other methods). Analyses highlighting types of contraception used according to union status revealed that married women (24%) were more likely to switch to most effective methods compared to cohabiting women (15%) and single women (13%). Single women, compared to married and cohabiting women, were more likely to switch to pill and condom. Cohabiting women (53%) were more likely than married (44%) and single (42%) women to switch to least effective methods.

Differentials in sociodemographic, background and fertility characteristics according to union status among contraceptive switchers were also presented in Table 2. The average age in the sample was 31 years. Married and single women were more likely to be non-Hispanic white compared to cohabiting women. The modal category of education was college degree or higher. However, there were variations according to union status. Compared to married and single women, cohabiting women were more likely to have less than high school education and least likely to have a college degree or higher. Married women (45%) were more likely to have a college degree or higher compared to single (44%) and cohabiting (10%) women. Regardless of union status, the majority of women were at or above the federal poverty line. Married women

(72%) compared to cohabiting (52%) and single women (64%), were more likely to report they were raised in a two biological/adoptive parent household prior to age 18. Most women reported being raised as Catholics (45%) and more than one-third (36%) report being raised as Protestants. This pattern is similar across union status. Mothers of cohabiting women compared to mothers of single and married women were more likely to have a high school diploma. On the other hand, mothers of single women compared to their married and cohabiting counterparts, were more likely to have some college as well as a college degree or higher. The average age at first sex for women in the sample was 18 years. On average, cohabiting women engaged in first sexual intercourse at younger ages than married and single women.

[Table 2 about here]

Regression Analyses

Discrete-time multinomial logistic regression models were estimated to examine women's methods of contraception following a switch with the emphasis on union status at the start of the observation period. The regression models compared the odds of switching to most effective methods (i.e., sterilization and hormonal methods) versus least effective methods (no contraception and other methods), switching to pill versus least effective methods, and switching to condom versus least effective methods. All multinomial logistic analyses included a time-varying indicator, which was the number of months women remained in their respective union statuses and were at risk to different contraceptive outcomes.

The first column of Table 3 showed zero-order results for women's risk of switching to most effective methods relative to least effective methods of contraception. Single women compared to married women had a 53% lower risk of switching to most effective methods relative to least effective methods. Cohabiting and married women shared similar odds of

switching to most effective relative to least effective methods. In addition single and cohabiting women shared similar odds of switching to most effective methods relative to least effective methods (results not shown). Women's age and religious affiliation were also associated with switching to most effective methods compared to least effective methods. With each additional year the risk of switching to most effective methods relative to least effective methods was increased by 4%. Women raised in other religiously affiliated groups compared to women not raised in any religiously affiliated group had a 29% lower risk of switching to most effective methods than least effective methods.

[Table 3 about here]

At the zero order level, union status was not associated with women's risk of switching to the pill relative to least effective methods (Table 3, column 2). However, religious affiliation was independently related to the above mentioned contraceptive outcome such that women who reported being raised in other religiously affiliated groups compared to women who were not been raised in any religious context, had a 482% higher risk of switching to the pill relative to least effective methods.

In column 3 of Table 3 zero order results revealed that single women compared married women had an 83% higher risk of switching to condom relative to least effective methods. Cohabiting and married women shared similar risks of switching to condom relative to least effective methods. In supplemental analysis results indicated that single women compared to cohabiting women had a 112% higher risk of switching to condom relative to least effective methods (results not shown). Race/ethnicity and education were two covariates associated with switching to condom compared to least effective methods. Compared to non-Hispanic white women, Hispanic women had a 62% lower risk of switching to the pill relative to least effective

methods. The educational attainment of women produced two different switching pathways for condom use. Women with less than high school education, compared to women having a high school diploma, had a 45% lower risk of switching to condom relative to least effective methods. On the other hand, women having some college degree compared to women with a high school diploma, had a 63% higher risk of switching to condom relative to least effective methods.

In Table 4 only union status, sociodemographic and background variables were included in the discrete-time multinomial logistic regression analyses. Union status was not associated with women's risk of switching to most effective relative to least effective methods (Table 4, column 1). Age was the only sociodemographic variable independently related to the odds of women switching to most effective compared to least effective methods. With each year increase in age women's risk of switching to most effective methods relative to least effective methods is increased by 3%. The second column of Table 4 indicated union status was not associated with women's risk of switching to the pill relative to least effective methods. However, religious affiliation was associated with the odds of women switching to the pill compared to least effective contraception. Relative to women who were never raised in a religious context, women who were raised as Protestants, Catholics or other religiously affiliated groups had higher risks of using the pill following a switch relative to using less effective contraceptive methods. The third column of Table 4 shows that relative to married women, single women had a 72% increased risk of switching to condom versus least effective methods. There were no differences between cohabiting and married women as well as between single and cohabiting women (results not shown). Hispanic women compared to non-Hispanic white women, had a 50% lower risk switching to condom relative to least effective methods.

[Table 4 about here]

In Table 5 union status and fertility characteristics were included in the models to predict different switching outcomes. Union status is not associated with the risk of switching to most effective methods relative to least effective methods (Table 5, column 1). Women with at least a child at observation had a 101% increased risk of switching to most effective methods relative to least effective methods. In this model, parity seems to fully mediate the relationship between single women and switching to most effective methods relative to least effective methods. This may be due to the fact that a little more than one-third of single women had a child at observation and therefore switching to most effective methods may not be appropriate given fertility intentions. As was the case at the zero order level, union status was not associated with switching to the pill compared to least effective methods when fertility characteristics were included in the model (column 2, Table 5). In the last column of Table 5 union status is not associated with the risk of switching to condom relative to least effective methods.

[Table 5 about here]

The full model (Table 6) revealed that union status was only related to women's risk of switching to condom relative to least effective. Compared to married women, single women had a 63% higher risk of switching to condom relative to least effective methods (Table 6, column 3). In supplemental analysis single women compared to cohabiting women had an 84% higher risk of switching to condom relative to least effective methods (results not shown). Hispanic women compared to their non-Hispanic white counterparts, had a 48% lower risk of switching to condom relative to least effective methods. The non-association between union status and switching outcomes (most effective versus least effective, and pill versus least effective) may be explained by the mediating effect of parity and religious affiliation (see Table 6, columns 1 and 2, respectively).

[Table 6 about here]

Summary of Hypotheses

Although single and cohabiting women compared to married women had lower odds of switching to most effective methods relative to least effective methods, the odds were not significant therefore H_1 was not supported. The second hypothesis was not supported as cohabiting and single women shared similar odds of switching to most effective methods compared to least effective methods. Single women compared cohabiting and married women had increased odds of switching to the pill relative to least effective methods but the result failed to achieve significant. Therefore H_3 was not supported. Single women compared to cohabiting and married women were more likely to switch to the condom relative to least effective methods, so H_4 was supported. The fifth and six hypotheses were not supported as cohabiting and married women had similar odds switching to the pill and condom compared to least effective methods.

DISCUSSION

The findings indicate that contraceptive method switching behavior is driven in large part by single women, who, more than cohabiting and married women are much more likely to switch contraception than remain as stable users and nonusers of contraception. Among contraceptive switchers most (44%) switched to least effective methods (nonuse and other methods), one-fifth switched to most effective methods (sterilization and hormonal methods), 21% switched to condom and 14% switched to the pill. Further, the types of contraception used following a switch varied according to union status. Married women compared their single and cohabiting counterparts were more likely to switch to most effective methods. Cohabiting women were more likely to switch to least effective methods compared to single and married women. On the

other hand, single women compared to married and cohabiting women, were more likely to switch to the pill and condom. Multivariate analysis revealed that single women, more than married and cohabiting women, were more likely to switch to condoms relative to least effective contraception.

This study contains a few limitations. First, due to retrospective nature of the contraceptive method history calendar, reasons for contraceptive method switching could not be ascertained. Second, the analysis based on the contraceptive method calendar did not account for women whose first month of contraceptive use occurred before the start of the observation period and who continued using contraception until the end of the observation period. Lastly, there was also the methodological issue of recall of events. However, starting with the NSFG cycle 6 (2002) and now in subsequent surveys, the female interview uses a life history calendar as a recall aid for the pregnancy and contraceptive history portions of the interview (see Groves et al. 2005).

This current investigation provided two main contributions. Prior research on contraceptive method switching typically examined method switching using small, clinical and disadvantaged samples to establish switching patterns. However, these results were not generalizable to the U.S. population of reproductive age women. This research presented current data with a recent cohort of reproductive age women to examine the prevalence of contraceptive method switching. Second, prior studies on contraceptive method switching examined behavior among married women only as this was the primary context of childbearing. However, this study on contraceptive method switching examined union status (married, cohabiting and single) at the start of the observation period which allowed a more accurate analyses of women who switch methods.

The results of this study further supports the point that contraceptive behavior cannot be examined based on point estimates, for example, whether contraception is used at ‘last month’ or ‘year’. It also extends the conversation of measuring contraceptive behavior by providing possible explanations for inconsistent contraceptive use. Another contribution of this study is that it complements research on contraceptive patterns among women during the reproductive life course. It can be inferred that because of a large proportion of switching of contraception, the methods that are used following a switch are captured as current use in other studies.

From a public health standpoint understanding the prevalence and correlates of contraceptive method switching among women during their reproductive life course will enable more effective sexual and reproductive health planning in areas of counseling, knowledge of contraceptive methods and contraceptive availability and accessibility. Based on the ‘Healthy People 2020’ initiative the core family planning goal is to improve pregnancy planning and spacing and prevent unintended pregnancy. For sexually active women, the most effective method of unintended or unplanned pregnancy is correct and consistent use of contraception. However, the main finding indicated that single women were not switching to the pill and condom relative to least effective methods but less likely to switch to hormonal methods, considered the most effective (except for sterilization). Therefore, health care providers, policy makers and practitioners should work together to develop a programs geared not only for single women during teenage and early adolescence but those at older ages during their reproductive life course and beyond.

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Table 1. Means (and standard errors) and Percentages of Women by Union Status (N= 2,986)

Characteristics	All Women			Married			Cohabiting			Single		
	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range
<i>Contraceptive outcomes</i> ^{a,b,c}												
Switchers	39.83			35.45			52.96			50.16		
Non-Switchers	60.17			64.53			47.03			49.83		
Stable nonusers	17.31			20.82			9.89			7.84		
Stable users	42.86			43.71			37.14			41.99		
N (unweighted)		2,986			1,927			386			657	

Note: All results are weighted. Ns are unweighted. Figures may not add to 100% due to rounding errors. Significant subgroup differences ($p < 0.05$) are denoted by subscripts a,b,c.

Subscript a: differences between married and cohabiting women; subscript b: differences between cohabiting and single women; and subscript c: differences between married and single women. Source: 2006-2010 National Survey of Family Growth (Female data file).

Table 2. Means (and standard errors) and Percentages of Women who Switch Contraception by Union Status (N= 1,899)

Characteristics	All Women			Married			Cohabiting			Single		
	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range
<i>Contraceptive Methods Used After Switch</i> ^{a,b,c}												
Sterilization ¹	9.95			13.15			4.66			3.26		
Hormonal ²	10.26			10.63			9.50			9.52		
Pill	14.36			13.04			12.60			18.68		
Condom	21.32			19.45			20.23			26.89		
Other ³	7.86			8.23			5.25			7.88		
None	36.27			35.50			47.76			33.78		
<i>Sociodemographic</i>												
Age	30.74	0.21	21-44	33.02	0.34	21-44	26.78	0.48	21-44	26.69	0.39	21-44
<i>Race/Ethnicity</i>												
Hispanic	17.69			18.79			16.17			15.58		
Non-Hispanic White	66.20			67.13			56.52			67.65		
Non-Hispanic Black	8.78			6.19			19.11			11.15		
Non-Hispanic Multiracial	7.31			7.88			8.19			5.59		
<i>Education</i>												
Less than high school	8.91			8.26			16.76			7.49		
High school/GED	21.01			20.02			40.25			16.05		
Some college	29.02			26.83			33.07			32.79		
College degree or higher	41.04			44.86			9.90			43.65		
<i>Federal Poverty Line (FPL)</i>												
At/Above FPL	84.47			87.67			71.37			83.24		
Below FPL	15.21			12.32			28.62			16.75		
<i>Background</i>												
<i>Family Type during Childhood</i>												
Two Bio/Adoptive Parent Household	68.08			72.21			52.10			63.86		
Non Two Bio/Adoptive Parent Household	31.98			27.78			47.89			36.13		

Characteristics	All Women			Married			Cohabiting			Single		
	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range	Mean/%	S.E	Range
<i>Religious Affiliation</i>												
None	7.94			7.01			13.00			8.29		
Protestants	35.54			34.97			32.31			34.34		
Catholics	44.71			44.10			51.37			43.65		
Other religious affiliation	12.79			13.90			3.29			13.71		
<i>Mother's Education</i>												
Less than high school	21.37			22.74			28.36			15.36		
High school/GED	32.00			33.20			41.15			25.56		
Some college	23.06			21.37			13.84			30.75		
College degree or higher	23.54			22.68			16.63			28.31		
<i>Fertility</i>												
Age at first sex	18.10	0.10	10-40	18.55	0.24	10-40	16.41	0.65	10-40	17.66	0.43	10-40
Parity - 1 or more children	68.04			83.81			54.21			34.90		
N (unweighted)	1,899			1,150			262			487		

Note: All results are weighted. Ns are unweighted. Figures may not add to 100% due to rounding errors. Significant subgroup differences ($p < 0.05$) are denoted by subscripts a,b,c. Subscript a: differences between married and cohabiting women; subscript b: differences between cohabiting and single women; and subscript c: differences between married and single women. Subscript 1 and 2 denotes most effective methods. Hormonal methods include: Depo-Provera, Hormonal implant, IUD, Lunelle injectable, contraceptive patch and vaginal contraceptive ring. Subscript 3 and none category denotes least effective method. 'Other' methods include withdrawal, rhythm, safe period, female condom, diaphragm, foam, and cream. Source: 2006-2010 National Survey of Family Growth (Female data file); period of observation is 3 years.

Table 3 Zero Order Discrete-Time Event History Models Predicting Contraceptive Method Use among Women Who Switch Contraception (N=1,899)

	Most Effective ¹ (vs. Least Effective ²)		Pill (vs. Least Effective)		Condom (vs. Least Effective)	
	Odds Ratio	S.E.	Odds Ratio	S.E.	Odds Ratio	S.E.
<i>Union Status at start of observation</i>						
Married (ref.)						
Cohabiting	0.51	† 0.10	0.82	0.48	0.86	0.19
Single	0.47	* 0.11	1.33	0.47	1.83	* 0.20
<i>Sociodemographic</i>						
Age	1.04	** 0.02	0.98	0.03	0.98	0.02
<i>Race/Ethnicity</i>						
Hispanic	0.82	0.09	0.68	0.13	0.38	* 0.07
Non-Hispanic White (ref.)						
Non-Hispanic Black	0.84	0.14	0.85	0.37	0.59	0.11
Non-Hispanic Multiracial	0.95	0.14	0.41	0.16	0.62	0.25
<i>Education</i>						
Less than high school	1.44	0.68	0.68	0.27	0.55	* 0.03
High school/GED (ref.)						
Some college	1.29	0.40	0.90	0.28	1.63	* 0.11
College degree or higher	0.80	0.29	1.23	0.58	1.60	0.29
<i>Federal Poverty Line</i>						
At/Above FPL	0.98	0.23	1.15	0.07	1.38	0.18
Below FPL (ref.)						
<i>Background</i>						
<i>Family Type during Childhood</i>						
Two Bio/Adoptive Parent Household	1.04	0.08	0.85	0.23	1.15	0.27
Non Two Bio/Adoptive Parent Household (ref.)						
<i>Religious Affiliation</i>						
None (ref.)						
Protestants	0.63	0.19	2.37	† 0.56	0.71	0.23

	Most Effective ¹ (vs. Least Effective ²)		Pill (vs. Least Effective)			Condom (vs. Least Effective)		
Catholics	0.74	0.15	2.77	†	0.78	0.83	0.38	
Other religious affiliation	0.71	* 0.02	5.82	*	2.42	0.62	0.53	
<i>Mother's Education</i>								
Less than high school	0.88	0.25	0.71		0.43	0.34	† 0.10	
High school/GED (ref.)								
Some college	0.67	0.23	0.86		0.31	1.00	0.43	
College degree or higher	0.74	0.18	1.26		0.79	1.14	0.26	
<i>Fertility</i>								
Age at first sex	0.93	0.03	0.97		0.07	0.98	0.02	
Parity - 1 or more children	2.61	† 0.64	0.90		0.07	0.59	0.11	

†p<.10; *p<.05; **p<0.01; ***p<0.001. Note: Reference category in parentheses. All analyses are weighted with SVY commands in STATA; measure of time is included and continuous; 25,666 person-months. Subscript 1 denotes most effective methods which include hormonal methods (excluding the pill) and sterilization. Subscript 2 denotes least effective methods and includes 'other' methods and none. Source: 2006-2010 National Survey of Family Growth (Female data file); period of observation is 3 years.

Table 4 Multivariate Discrete-Time Event History Using Union Status and Sociodemographic and Background Characteristics to Predict Contraceptive Method Use among Women Who Switch Contraception (N= 1,899)

	Most Effective (vs. Least Effective)		Pill (vs. Least Effective)		Condom (vs. Least Effective)		
	Odds Ratio	S.E.	Odds Ratio	S.E.	Odds Ratio	S.E.	
<i>Union Status at start of observation</i>							
Married (ref.)							
Cohabiting	0.48	0.18	0.89	0.34	0.93		0.04
Single	0.57	0.15	1.16	0.71	1.72	*	0.14
<i>Sociodemographic</i>							
Age	1.03	*	0.01	0.98	0.04		0.02
<i>Race/Ethnicity</i>							
Hispanic	0.56	0.19	0.73	0.23	0.50	**	0.02
Non-Hispanic White (ref.)							
Non-Hispanic Black	0.92	0.26	0.93	0.46	0.74		0.22
Non-Hispanic Multiracial	0.84	0.17	0.31	†	0.12		0.32
<i>Education</i>							
Less than high school	1.77	0.60	0.81	0.29	0.76		0.13
High school/GED (ref.)							
Some college	1.21	0.40	0.87	0.15	1.37	†	0.12
College degree or higher	0.58	0.21	1.16	0.41	1.10		0.17
<i>Federal Poverty Line</i>							
At/Above FPL	1.03	0.21	1.00	0.14	0.95		0.26
Below FPL (ref.)							
<i>Background</i>							
<i>Family Type during Childhood</i>							
Two Bio/Adoptive Parent Household	1.06	0.14	0.70	0.16	1.09		0.15
Non Two Bio/Adoptive Parent Household (ref.)							
<i>Religious Affiliation</i>							
None (ref.)							

Protestants	0.66	0.18	2.45	*	0.51	0.75	0.17
Catholics	0.84	0.14	3.55	*	0.70	1.18	0.57
Other religious affiliation	0.71	0.12	7.15	*	2.32	0.63	0.48
Mother's Education							
Less than high school	0.87	0.24	0.82		0.38	0.44	0.16
High school/GED (ref.)							
Some college	0.79	0.29	0.78		0.22	0.90	0.35
College degree or higher	0.94	0.26	1.11		0.49	1.11	0.13

†p<.10; *p<.05; **p<0.01; ***p<0.001. Note: Reference category in parentheses. All analyses are weighted with SVY commands in STATA; measure of time is included and continuous; 25,666 person-months. Subscript 1 denotes most effective methods which include hormonal methods (excluding the pill) and sterilization. Subscript 2 denotes least effective methods and includes 'other' methods and none. Source: 2006-2010 National Survey of Family Growth (Female data file); period of observation is 3 years.

Table 5 Multivariate Discrete-Time Event History Using Union Status and Fertility Characteristics to Predict Contraceptive Method Use among Women Who Switch Contraception (N= 1,899)

	Most Effective (vs. Least Effective)		Pill (vs. Least Effective)		Condom (vs. Least Effective)	
	Odds Ratio	S.E.	Odds Ratio	S.E.	Odds Ratio	S.E.
<i>Union Status at start of observation</i>						
Married (ref.)						
Cohabiting	0.52	0.13	0.76	0.56	0.73	0.13
Single	0.59	0.13	1.27	0.69	1.49	†
<i>Fertility</i>						
Age at first sex	0.92	0.04	0.98	0.08	0.98	0.02
Parity – 1 or more children	2.01	*	0.29	0.96	0.32	0.67

†p<.10; *p<.05; **p<0.01; ***p<0.001. Note: Reference category in parentheses. All analyses are weighted with SVY commands in STATA; measure of time is included and continuous; 25,666 person-months. Subscript 1 denotes most effective methods which include hormonal methods (excluding the pill) and sterilization. Subscript 2 denotes least effective methods and includes 'other' methods and none. Source: 2006-2010 National Survey of Family Growth (Female data file); period of observation is 3 years.

Table 6 Multivariate Discrete-Time Event History Using Union Status and All Characteristics to Predict Contraceptive Method Use among Women Who Switch Contraception (N= 1,899)

	Most Effective (vs. Least Effective)		Pill (vs. Least Effective)		Condom (vs. Least Effective)		
	Odds Ratio	S.E.	Odds Ratio	S.E.	Odds Ratio	S.E.	
<i>Union Status at start of observation</i>							
Married (ref.)							
Cohabiting	0.56	0.20	0.96	0.44	0.88	0.04	
Single	0.73	0.15	1.28	0.93	1.63	*	
<i>Sociodemographic</i>							
Age	1.03	†	0.01	0.98	0.05	1.00	0.02
<i>Race/Ethnicity</i>							
Hispanic	0.59	0.18	0.76	0.28	0.52	*	0.03
Non-Hispanic White (ref.)							
Non-Hispanic Black	0.83	0.27	0.87	0.40	0.75		0.20
Non-Hispanic Multiracial	0.89	0.13	0.32	†	0.11	0.73	0.31
<i>Education</i>							
Less than high school	1.68	0.50	0.79	0.26	0.77		0.13
High school/GED (ref.)							
Some college	1.26	0.38	0.89	0.19	1.35	†	0.13
College degree or higher	0.71	0.21	1.33	0.70	1.07		0.15
<i>Federal Poverty Line</i>							
At/Above FPL	1.13	0.31	1.03	0.14	0.94		0.25
Below FPL (ref.)							
<i>Background</i>							
<i>Family Type during Childhood</i>							
Two Bio/Adoptive Parent Household	1.15	0.21	0.75	0.12	1.10		0.12
Non Two Bio/Adoptive Parent Household (ref.)							
<i>Religious Affiliation</i>							
None (ref.)							
Protestants	0.68	0.19	2.44	*	0.51	0.75	0.18
Catholics	0.85	0.16	3.44	*	0.91	1.18	0.59
Other religious affiliation	0.91	0.13	8.14	*	2.04	0.63	0.48
<i>Mother's Education</i>							

Less than high school	0.90	0.24	0.86	0.47	0.44	0.16
High school/GED (ref.)						
Some college	0.78	0.31	0.77	0.20	0.91	0.37
College degree or higher	0.97	0.28	1.09	0.42	1.10	0.13
<i>Fertility</i>						
Age at first sex	0.92	0.04	0.95	0.10	0.99	0.01
Parity – 1 or more children	1.88	*	0.25	1.24	0.26	0.87

†p<.10; *p<.05; **p<0.01; ***p<0.001. Note: Reference category in parentheses. All analyses are weighted with SVY commands in STATA; measure of time is included and continuous; 25,666 person-months. Subscript 1 denotes most effective methods which include hormonal methods (excluding the pill) and sterilization. Subscript 2 denotes least effective methods and includes 'other' methods and none. Source: 2006-2010 National Survey of Family Growth (Female data file); period of observation is 3 years.