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Comparing Rates of a First Visit for Infertility Services by Parity Status

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Abstract

Is there a significant difference in the rates of a first visit for infertility services between nulliparous women and parous women? Applying statistical models common to fertility studies, this research uses discrete-time event history models to estimate the hazard of a first visit for infertility treatment across two groups of women based on their parity status. Parity status for this study is dichotomized into nulliparous women and parous women. Using retrospective data from the National Survey of Family Growth about the month and year of the first visit for infertility treatment as well as pregnancy histories from female respondents, results indicate that nulliparous women are 38% more likely to have a first visit for infertility compared to parous women. The higher rates of nulliparous women who seek infertility treatment compared to parous women are incongruent with self-reported fertility expectations among women to have at least two children. This study provides insight into why parity status influences the rates of seeking infertility assistance in spite of fertility expectations.

Keywords

Infertility services, parity status, event history models

Introduction

Recent reports from the 2006-2010 continuous data survey by the National Survey of Family Growth indicate that 7.3 million women aged 15-44 have ever used infertility services (Chandra, Copen and Hervey-Stephen, 2014; NHSR, 2012). This current trend of women who have ever used infertility services has declined to 12% from its highest levels between 1982 and1995 (Chandra, Copen and Hervey-Stephen, 2014; NHSR, 2012). Since not all women who experience any lifetime infertility will seek treatment, it is important to identify the factors that influence decisions to seek treatment (Greil et al., 2009; Greil and McQuillan, 2004). Speculating on why the percentage of women seeking infertility assistance has declined since its peak may be attributed to the financial cost and accessibility of infertility treatments, to the various levels of social and emotional support available, perhaps based on whether the woman was aware that her infertility was occurring in spite of actively trying to get pregnant, or she was cognizant of health complications that could contribute to difficulty getting pregnant (Boivin, Collins and Nygren, 2007; Bunting and Boivin, 2007). This study expands beyond these indicators and considers how parity can influence the decision to seek help to get pregnant or help to carry a pregnancy to term.

Previous studies that have examined the reasons women seek infertility treatment often utilize cross-sectional data that reflect the sociodemographics of couples seeking assistance at one specific time in their reproductive life course (Johnson and Fledderjohann, 2012). This study employs a unique approach to better understand what factors influence a woman's decision to pursue infertility treatment. Specifically, event-history models, which are commonly utilized in studies analyzing fertility trends, are used to examine the relationship between parity and first-ever use of infertility services for help getting pregnant or to carry a pregnancy to term. Parity status for this study is dichotomized as nulliparous and parous. Nulliparous women have never been pregnant or have never had a pregnancy end in a live birth; they are identified as experiencing primary infertility. Parous women have had at least one pregnancy end in a live birth and are identified as experiencing secondary infertility.

Parity status, for several reasons, is an important determinant to consider in regards to understanding why women decide to use infertility services. For example, while the percentage of women who used infertility services in the last year are higher among nulliparous women, it is assumed that there is a much larger and unaccounted percentage of parous women who experience secondary infertility and do not elect to pursue infertility treatments (Chandra, Copen and Hervey-Stephen, 2014; Simmons, 2000). Likewise, parous women who are experiencing secondary infertility may decline infertility assistance because of the guilt associated with already having at least one child, or for lack of social support geared for women experiencing secondary infertility, or due to the financial and time constraints that are associated with raising existing children that cannot be funneled towards infertility services (Chandra and Hervey-Stephen, 2010; Boivin, Bunting, Collins and Nygren, 2007; Simmons, 2000). In addition, competing social realities and advancing maternal reproductive age influence the timing and circumstances of childbearing. In spite of this, there remains an omnipresent fertility expectation that women will have two, or at least one, child during their prime reproductive years (Greil et al., 2011; McQuillan et al., 2008; Guzick and Swan, 2006).

Furthermore, the infertility experience for nulliparous and parous woman is very different, and this difference has yet to be fully explored in the reproductive health research. Women experiencing secondary infertility, or parous women, present a unique infertility experience. On one hand, they are not

necessarily infertile because they have had at least one pregnancy end in a live birth, but on the other hand they are not necessarily fertile because they are unable to have another successful pregnancy. The dual status of fertile/yet infertile distinguishes the parous woman from the nulliparous woman not only in how they identify and measure their infertility status, but in how and why they decide to pursue infertility treatments.

Parity status

The focus of this paper is to examine if parity status is a predictor of the rates for a first-visit for infertility services. It is not the intention to compare rates of visits for infertility among women who self-identify as infertile because the data for that group is limited to women who are cohabiting or married and have been engaging in fertility behaviors for the last 12 months. Focusing on women who self-identify as infertile would not provide enough variation among parous and nulliparous women to compare the rates of a first visit for infertility by parity status (Chandra, Copen and Hervey-Stephen, 2014; NHSR 2012).

As previously mentioned, parity status in this study is dichotomized as nulliparous and parous. Nulliparous women have never been pregnant, or have never had a pregnancy end in a live birth, and are identified as experiencing primary infertility. Parous women have had at least one pregnancy end in a live birth and are identified as experiencing secondary infertility. It should be noted that secondary infertility is not solely defined by the presence or absence of infertility complications in the first or any subsequent pregnancies (Greil and McQuillan, 2010; Greil et al., 2011; Collins et al., 1986). For example, a parous woman who successfully completed her first pregnancy without the use of any infertility treatment but seeks infertility treatments for a subsequent pregnancy is identified as experiencing secondary infertility. Likewise, a parous woman who utilized infertility treatments for her first pregnancy and is seeking infertility treatments for any subsequent pregnancies is also identified as experiencing secondary infertility. Therefore, in this research, parous women experiencing secondary infertility are not defined by the presence or absence of infertility treatments for prior pregnancies.

This study hypothesizes that there is a significant difference in the rates of a first-visit for infertility services between women who were nulliparous or parous at the time of the first visit for infertility. Although the proportion of women experiencing secondary infertility is presumed to be larger than the proportion of women experiencing primary infertility, this paper hypothesizes that the rates of nulliparous women seeking infertility treatments will be significantly higher than the rates of parous women seeking infertility treatments (Becker and Nachtigall, 2000). The overarching contribution of this research to the existing literature is the application of event-history models to examine time-variant parity status and infertility treatments using retrospective versus cross-sectional data. This study proposes that using event-history models will help to identify additional indicators that can predict the decision to seek treatment for infertility.

Data and methods

Data for this study were derived from retrospective accounts of a first visit for infertility treatment and pregnancy histories in the female respondent survey of the 2006-2010 National Survey of Family Growth (NSFG) continuous data files. The study conducted discrete-time event history analyses to compare the

rates of infertility treatments by parity status. This is a unique approach to examine the effects of parity status on using infertility services because other studies on this topic largely consider a cross-sectional approach of parity status on using infertility services. The discrete-time event-analysis allows for a retrospective examination that is innovative in this line of research.

Since behaviors for seeking help to get pregnant or prevent miscarriage are measured monthly by the NSFG, the transition to seeking infertility services are conceptualized as discrete time units, rather than continuous time. Therefore, person-months are the unit of analysis. Although using person-months for the unit of analysis increases the sample size substantially, discrete-time methods are appropriate for these analyses for two reasons. First, discrete-time methods do not deflate the standard errors. Second, the probability of seeking infertility services within a given month are so small that the estimates provided through discrete-time methods are very similar to estimates from continuous methods (Barber, 2001; Allison, 1999; Allison, 1982).

Logistic regression models are used to estimate the log-odds of a first visit for infertility services occurring in a person-month as a function of a woman's parity status:

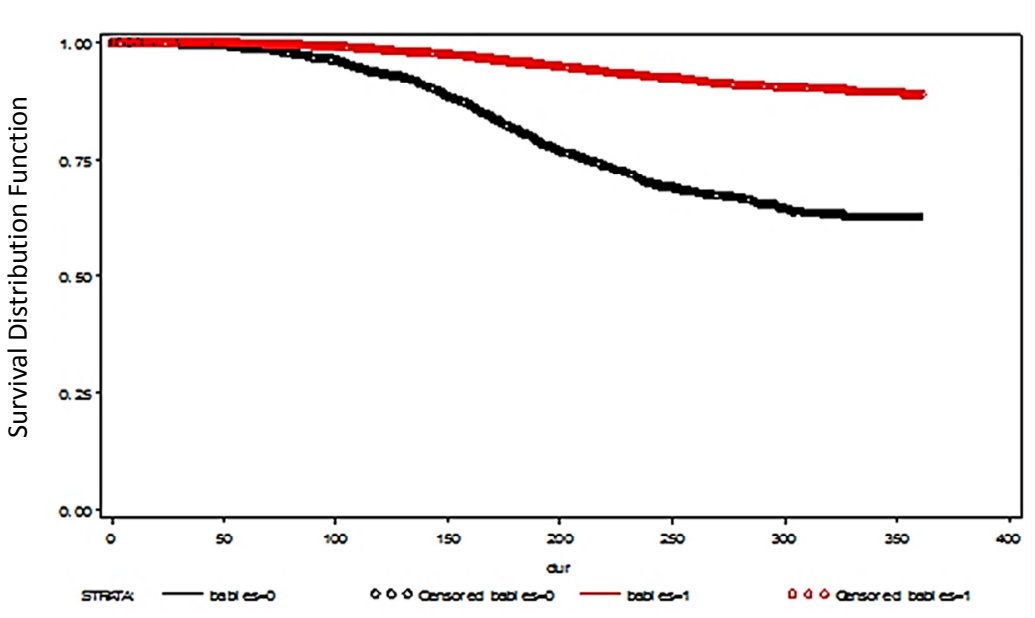
$$\text{Ln}[p/(1-p) = \alpha + \sum(\beta k)(Xk)$$

In this formula, *p* is the monthly probability of seeking infertility services and *p/(1-p)* is the monthly odds that an infertility treatment visit occurred. In the logit model, coefficients indicate the log-odds of seeking infertility treatment for a one unit change in the main effect. The coefficients from the models are presented as exponentiated log-odds, or odds ratios. This allows for interpretation of the coefficients as the monthly odds of using any infertility services. Odds ratios greater than 1 indicate a positive effect, odds ratios less than 1 indicate a negative effect, and odds ratios equal to one indicate no effect.

The outcome measure is the rate of first-visits for infertility treatments. The NSFG asked all female respondents who reported that they have had sexual intercourse with a male, or are 18 or older, if they had ever sought any medical help to get pregnant or prevent a miscarriage (NSFG variable: INFEVER). The NSFG did not collect dated information for each subsequent visit for infertility treatment, therefore, only first visits for infertility treatments were considered. Of the 12,279 female respondents, 1,243 women reported that they had ever used infertility services, and they were asked to report the date of their first visit for help to get pregnant (NSFG variable: CMPGVIS1). From this sample (N = 1,243), 865 women provided the month and year of their first visit for infertility treatments. The outcome measure was set at 0 for every person month that a female respondent reports no visit for infertility treatment. When there was a century month with a reported first visit for infertility services, the outcome was coded 1 and the respondent was removed from the analysis (figure 1). At the end of the observation period, which was the end date for the interview survey, any respondents with no reported first visits for infertility treatments were censored from the analysis.

Parity status is the primary main effect used to predict rates of first visits for infertility services. All respondents in the NSFG were asked to report the total number pregnancies ending in a live birth (NSFG variable: PARITY). Parity status for this study was coded as nulliparous (NSFG variable PARITY = 0) or parous (NSFG variable PARITY $\geq$ 1).

Figure 1: Kaplan Meier curve estimating the number of female respondents predicted to use infertility services, stratified by parity status (nulliparous/experiencing primary infertility = black line and parous/experiencing secondary infertility = red line)



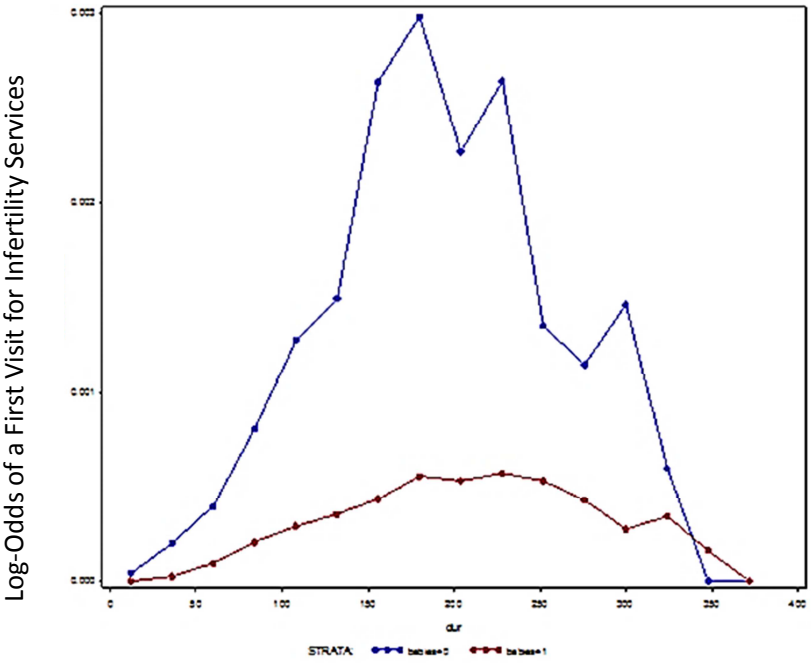
Source: National Survey of Family Growth, 2006-2010 Continuous Data File
Notes: Age in Century Months starting at age 15 (0) and ending at age 44 (400); strata by Parity Status where Nulliparous = ----- and Parous = -----

Although there is a potential secondary within-in group effect of parity on the likelihood of seeking infertility services, such that the rates of seeking treatment will be influenced by the total number of children a woman has, it is beyond the scope of this paper to examine the effect of each subsequent pregnancy. Therefore, the dichotomized coding of the parity status variable suggests that having at least one live birth, or being parous, is a permanent effect that will influence the outcome of first visits for infertility differently when compared to a nulliparous woman. In this study, the permanent effect was assumed constant even in the presence of more than one pregnancy.

To compare the main effect of parity status on using infertility services, a discrete-time event history analysis was employed that compares the century month of the first visit for infertility treatment for women who are nulliparous to women who are parous. An additional time-variant variable was included in the analyses (NSFG variable: CMFSTPG) that provides the month and year that a woman reports her first pregnancy ended in a live birth. This unique approach allows for an estimate how the hazard of the event (first visit for infertility services) varies across subgroups based on parity status and provides standard errors around the estimates. Thus, the data provide insight into whether nulliparous women or parous women are more or less likely to seek infertility treatments.

In these analyses, the hazard for nulliparous women experiencing primary infertility begins at age 15 (figure 2). This is the earliest age-at-first-sex reported by a respondent in this sample. Admittedly, the

Figure 2: Hazard function of age when using infertility services, stratified by parity status (blue line = nulliparous/experiencing primary infertility and red line = parous/experiencing secondary infertility)



Source: National Survey of Family Growth, 2006-2010 Continuous Data File
Notes: Age in Century Months starting at age 15 (0) and ending at age 44 (400); strata by Parity Status where Nulliparous = ——— and Parous = ———

likelihood of seeking infertility treatment at an age younger than 18 is very low, however, starting the hazard at age 15 is based on the logic that once a woman engages in behaviors that expose her to pregnancy, she is also exposing herself to the risk of not getting pregnant or not being able to carry a pregnancy to term, thus needing infertility assistance. For parous women who experience secondary infertility, the hazard begins at the century month of the first successful birth. In this paper, the hazard begins at first birth because a woman cannot be identified as parous and experiencing secondary infertility, if she has not already had at least one successful pregnancy.

Time-invariant controls for this study include race/ethnicity and a series of variables from the respondent's childhood that are used as a proxy for current socio-economic status. Time-variant controls include age, educational attainment and relationship status. Time-varying controls are measured the month prior to the observation period. The decision to control for age and parameterize the baseline hazard through a series of five, 5-year age groups for women (aged 15-24, 25-29, 30-34, 35-39 and 40-45) was based on the

relatively low rates of infertility service used by women age 15-24 (based on the small sample size of women reporting ever using infertility service). Additionally, the last cohort is a 6-year cohort because a small sample of female respondents (N=4) were age 44 at the time of interview screener but had their 45th birthday prior to the actual interview. Respondents younger than age 18 and who never have had sex with a man were removed from the analysis because they were not asked any of the questions about ever seeking infertility treatments based on the survey design and skip patterns of the NSFG. In total, 902 cases were removed because respondents were not asked the about the questions about ever seeking help to get pregnant or help to carry a pregnancy to term, resulting in a final sample size of 11,210 cases.

Results

To capture the effect of parity status on the rates of a first visit for infertility, separate pairs of models were estimated using discrete-time event history analyses for nulliparous women and for parous women. Estimating model pairs for nulliparous and parous women allows for the underlying hazard of seeking infertility services to be observed within each group of women by parity status while maintaining the power needed to estimate the coefficient of infertility seeking at the person-month level. A third set of discrete-time event history models were run to estimate the occurrence and timing of the first visit for infertility services, as log-odds in each person-month, as a function of the female respondents parity status. This fully-interactive set of models allowed the parity covariate to be compared across all women in the sample. For example, the fully interactive model estimates the odds of seeking a first visit for infertility by interacting parity status with time, over a specified duration. For this study, the duration of time was from age 15 to age 44. If the interaction model produces significant results, this indicates that the stratified covariate, parity status, has a significant effect on the odds of a first visit for infertility, and models can be estimated using various states of parity status to examine the degree of difference in the odds of seeking infertility for nulliparous women to parous women (Griffin, 1993). The fully-interactive model is the most flexible estimate of the effect of parity status on seeking infertility services because it captures any differences that occur in the rates of first visits for infertility services based on parity status (Griffin, 1993). Therefore, any significant outcomes observed when controlling for parity status are supported by the results of the interactive model. Coefficients are presented as the predicted logged odds of having a first visit for infertility services. The descriptive statistics can be seen in table 1 (see appendix to the present document) which include information on the time variant and time invariant measures.

Results from the model pairs estimating the rates of a first visit for infertility services for nulliparous and parous women are shown in table 2 (see appendix to the present document). Model 1 in table 2 shows the logged odds of a first visit for infertility for nulliparous women only. The results support previous research regarding the topic of infertility. For example, the odds of a first visit for infertility for a nulliparous woman with a graduate degree are 292% higher than the odds of a first visit for infertility for nulliparous women without a graduate degree. Likewise, the odds of a first visit for infertility for a married nulliparous woman are 141% higher than the odds of a first visit for infertility for a nulliparous woman who is not married.

In Model 2 of table 2, the logged odds of a first visit for infertility are presented for parous women, which provide similar outcomes in the rates of a first visit for infertility as their nulliparous counterparts. For

example, the odds of a parous woman with a graduate degree seeking a first visit for infertility are 154% higher than the odds of a first visit for infertility for a parous woman without a graduate degree. In addition, the odds of a married parous woman seeking a first visit for infertility are 174% higher than the odds of a first visit for infertility for an unmarried parous woman. These results are consistent with previous studies that identified social cues (e.g. educational attainment and relationship status contributing to advancing maternal age at birth and delayed childbirth) which can increase the risks for infertility complications and subsequently the likelihood of seeking infertility services (Greil et al., 2013).

The third set of discrete time event history models is a fully interactive model that estimates the interaction between parity status and the odds of a first visit for infertility. This interactive model estimates whether the difference in the odds of a first visit for infertility is significantly influenced by parity status as a discrete entity. The effect of parity status as either nulliparous or parous was discussed above and presented in table 2. The purpose of the interactive model is to determine whether parity status is a significant covariate in predicting the log odds of a first visit for infertility. Results from the interactive model, presented in table 3 (see appendix to the present document), suggest that the odds of a first visit for infertility services are 38% higher when parity status is considered a covariate compared to the odds of a first visit for infertility services when parity status is not included in the estimate. This is significant at the $p < .05$ level and supports the overarching hypothesis that there is a significance difference in the rates of a first visit for infertility services based on parity status.

Conclusion

Between 2006 to 2010, 12% of women aged 15-44 reported ever using infertility services for help to get pregnant or carry a pregnancy to term, suggesting a decline of infertility treatment utilization reported from earlier cycles of the NSFG survey. Interpreting this apparent decline requires careful examination of the factors that influence the decision to seek or not seek infertility treatments. This study focused specifically on the effect of parity status in predicting the rates of a first visit for infertility, using event history models and retrospective data to estimate whether nulliparous or parous women were more likely to report a first visit for infertility services. Results from the analyses suggest that there is a significance difference in the rates of a first visit for infertility assistance by parity status. Nulliparous women are 38% more likely to report a first visit for infertility compared to parous women.

Trying to understand why nulliparous women are more likely than parous women to seek infertility treatments begins with an assessment of the General Help Seeking Model. According to this model, when a person perceives that there is a medical problem, they will be more likely to seek medical treatment. Therefore, a nulliparous woman trying to get pregnant will be more likely to seek treatment when she is unable to get pregnant or carry a pregnancy to term because she will be more concerned that the lack of pregnancy indicates a medical problem. Alternatively, a parous woman will be less likely to seek treatment for infertility complications because she will consider her previous successful pregnancy an indicator of “good” health and that a subsequent pregnancy will eventually occur. Applying both the General Help Seeking Model and the results from this study provides a broader understanding of general health-seeking behaviors for nulliparous and parous women and explains why parous women are less likely to seek treatment due to their previous and successful fertility status.

A second implication of this research is that it provides further evidence of the social stigma imposed on women to have children. This socio-fertility expectation, that women have two or at least one child, encourages the nulliparous women to seek out infertility treatment as soon as they perceive that they have a problem related to pregnancy. Failure to engage in infertility treatments to meet the socio-fertility expectation indicates a failure on the part of the nulliparous woman. Alternatively, a parous woman who has trouble becoming pregnant or carrying a pregnancy to term after subsequent pregnancies will be less likely to seek infertility treatment because she has ultimately met the socio-fertility expectation.

In light of the fact that parity status influences the likelihood of a first visit for infertility services, the next step is to look at couple-level effects and total parity-number effects on these rates. An analysis at the couple-level would provide further insight into how parity status interacts with couple-level effects on infertility seeking behaviors. In addition, future research should consider the impact of parity status on subsequent visits for infertility treatments as well as the types of services a woman is likely to utilize to meet her fertility needs. Given data restrictions on the retrospective data collected by the NSFG, looking into subsequent infertility visits would require analyses of additional data surveys.

Numerous theoretical models suggest that:

- Women seek out infertility services only if they think that they have a medical problem;
- Women are influenced by the social stigma to have children, which compels nulliparous women to seek out medical assistance to meet this social demand; and
- Implicit financial, emotional or time restraints that come with parenting an existing child deter parous women from seeking infertility assistance.

Regardless of what these models suggest, the fact remains that women have self-identified expectations for two or more children (NHSR, 2012). Because of the fertility expectation to have two or more children over a woman's reproductive life course, we would expect to see rates for a visit for infertility treatments among parous women to be higher than similar rates among nulliparous women. However, the results from this study indicate that nulliparous women are more likely to report a first visit for infertility assistance.

The overarching implication of these findings is that parous women are not having their fertility needs met. Parous women experience a unique sense of guilt in their pursuit of infertility treatments that stems from feeling ashamed for wanting more than one child (while other couples desperately try to have just one) and from the perception that there is greater social support for nulliparous women experiencing primary infertility. This research promotes the social need to investigate the infertility experience in terms of parity status because the infertility experience is significantly different for nulliparous women who experience primary infertility compared to parous women who experience secondary infertility.

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Appendix

Table 1: Means and Standard Deviations for N = 11, 210 female respondents

	Mean	Std. Dev.	Min.	Max.
Ever use Infertility Services	0.11	0.31	0	1
Nulliparous at time of Infertility Use	0.33	0.25	0	1
Parous at time of Infertility Use	0.67	0.34	0	1
Parity Status (at time of interview)				
Nulliparous	0.42	0.49	0	1
Parous	0.58	0.49	0	1
Educational Attainment				
No High School Degree/GED	0.35	0.48	0	1
High School Degree	0.51	0.50	0	1
Bachelor's Degree	0.12	0.33	0	1
Graduate Degree (MA or PhD)	0.02	0.13	0	1
Employment Status				
Full- or Part-Time Employment	0.63	0.48	0	1
Unemployed/Working Unpaid Labor	0.37	0.29	0	1
Cumulative Years of Employment				
Full- or Part-Time Years of Employment	13.4	2.71	1	20
Relationship Type				
Married	0.35	0.17	0	1
Cohabiting	0.18	0.25	0	1
Single	0.47	0.23	0	1
Relationship Duration				
0 to 1 years	0.11	0.12	0	1
1 to 3 years	0.39	0.15	0	1
3 to 5 years	0.28	0.11	0	1
5 or more years	0.22	0.12	0	1

Source: National Survey of Family Growth, 2006-2010 Continuous Data File

Table 1 *(continued):* Means and Standard Deviations for N = 11, 210 female respondents

	Mean	Std. Dev.	Min.	Max.
Age Cohorts				
Age 15-19	0.33	0.47	0	1
Age 20-24	0.27	0.44	0	1
Age 25-29	0.19	0.39	0	1
Age 30-34	0.12	0.33	0	1
Age 35-39	0.07	0.25	0	1
Age 40-45	0.02	0.15	0	1
Race/Ethnicity				
Non-Hispanic White	0.52	0.50	0	1
Non-Hispanic Black	0.21	0.41	0	1
Hispanic	0.22	0.41	0	1
Non-Hispanic Other	0.05	0.23	0	1
Childhood Sociodemographics				
Biological parents married at birth	0.78	0.42	0	1
Mother's Education				
No High School Diploma/GED	0.25	0.44	0	1
High School Diploma/GED	0.32	0.47	0	1
Two Years of College	0.24	0.42	0	1
Bachelor's Degree	0.19	0.39	0	1
Mother worked full or part time	0.72	0.45	0	1
Mother's age at first baby				
Age 19 or younger	0.37	0.48	0	1
Age 20 to 24	0.37	0.48	0	1
Age 25 to 30	0.18	0.38	0	1
Age 30 or older	0.08	0.27	0	1

Source: National Survey of Family Growth, 2006-2010 Continuous Data File

Table 2: Pairs of Models Presenting the Effect of Parity Status on the Rates of a First Visit for Infertility Services

Model	1	2
Parity Status	Nulliparous	Parous
Educational Attainment[1]		
High School Degree (GED Equivalent)	1.57*	1.18**
Bachelor Degree	1.99*	2.49**
Graduate Degree (Masters or PhD)	3.92**	2.54**
Relationship Status[2]		
Cohabiting	1.84**	2.53**
Married	2.41**	2.74**
Age Categories[3]		
20-24	1.43	1.89
25-29	1.76**	1.07
30-34	2.28**	1.89
35-39	1.66	1.41
40-45	1.10	1.09
Race/Ethnicity[4]		
Non-Hispanic Black	0.57	0.67*
Hispanic	0.41	0.69*
Non-Hispanic Other	0.27	0.77
Childhood Sociodemographics		
Biological parents married at birth[5]	0.70	0.96
Mother's Education[6]		
High School/GED	1.06	0.84
Two Years College	1.13	0.94
Bachelor's Degree	1.13	1.19
Mother's age at first baby[7]		
Age 20 to 24	0.87	0.89
Age 25 to 29	0.87	0.84
Age 30 or older	0.47	0.62
Person Months	1,096,316	86, 8176
N	11, 210	11, 210

Coefficients are odds ratios *p<.05; **p<.01; ***p<.001

[1] Ref. group is less than a high school degree; [2] Ref. is single/not in a relationship
[3] Ref. age 15 to 19; [4] Ref. non-Hispanic white; [5] Ref. parents not married at birth
[6] Ref. group is less than high school degree; [7] Ref. is age 19 or younger

Source: National Survey of Family Growth, 2006-2010 Continuous Data File

Table 3: Fully Interactive Model Presenting the Effects of Parity Status on the Rates of a First Visit for Infertility Services

Model	1
Parity Status	1.38*
Educational Attainment[1]	
High School Degree (GED Equivalent)	1.54
Bachelor Degree	2.14*
Graduate Degree (Masters or PhD)	3.23
Relationship Status[2]	
Cohabiting	2.29
Married	2.38*
Age Categories[3]	
20-24	1.66
25-29	1.41
30-34	2.09
35-39	1.54
40-45	1.10
Race/Ethnicity[4]	
Non-Hispanic Black	0.62
Hispanic	0.55
Non-Hispanic Other	0.52
Childhood Sociodemographics	
Biological parents married at birth[5]	0.83
Mother's Education[6]	
High School/GED	0.95
Two Years College	1.03
Bachelor's Degree	1.16
Mother's age at first baby[7]	
Age 20 to 24	0.88
Age 25 to 29	0.86
Age 30 or older	0.54
Person Months	1,096,316
N	11, 210

Coefficients are odds ratios *p<.05; **p<.01; ***p<.001

[1] Ref. group is less than a high school degree; [2] Ref. is single/not in a relationship
[3] Ref. is age 15 to 19; [4] Ref. is non-Hispanic white; [5] Ref. parents not married at birth
[6] Ref. group is less than high school degree; [7] Ref. is age 19 or younger
Source: National Survey of Family Growth, 2006-2010 Continuous Data File