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Research Article

**Understanding patterns of contraceptive use
among never married Mexican American women**

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Understanding patterns of contraceptive use among never married Mexican American women

Kate H. Choi¹

Erin R. Hamilton²

Abstract

BACKGROUND

Non-marital fertility differs considerably by race, ethnicity, and nativity. These differences arise largely from racial and ethnic disparities in contraceptive practices. Empirical work has not assessed the relative importance of the various mechanisms proposed to account for racial, ethnic, and nativity differences in contraceptive behavior among never married women.

OBJECTIVE

Our objective is to describe racial, ethnic, and nativity disparities in contraceptive practices and determine the relative importance of the various mechanisms proposed to explain those disparities among never married, non-cohabiting women.

METHODS

Pooling data from the 2006–2010 and 2011–2013 National Survey of Family Growth (NSFG), we compare the age- and parity-standardized patterns of contraceptive use among never married, non-cohabiting Mexican immigrants, US-born Mexican Americans, Blacks, and Whites. We also examine the extent to which socioeconomic characteristics, access to family planning, and attitudes towards family life give rise to group differences in patterns of contraceptive use.

RESULTS

Never married, non-cohabiting Whites are more likely than their minority counterparts to use very effective methods of contraception. Socioeconomic disparities explain some of the group differences in contraceptive practice. Differing levels of access to family planning also explain a significant portion of the difference in contraceptive practice between Whites and Mexican immigrants.

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CONCLUSION

Policies aimed at alleviating socioeconomic inequality and differential access to family planning services may be effective at reducing disparities in contraceptive use between White and non-White never married, non-cohabiting women, especially White/Mexican-immigrant differences.

1. Introduction

Hispanic women in the United States have considerably higher non-marital fertility than women in other ethno-racial groups. In 2010, fertility among unmarried Hispanic women of reproductive ages was 80.6 per 1,000 women, as compared to 32.9 per 1,000 unmarried White women and 65.3 per 1,000 unmarried Black women (Martin et al. 2013). Understanding the sources of this racial and ethnic variation in non-marital fertility is essential because children of unmarried parents experience substantial disadvantages relative to children of married parents (McLanahan 2004). Because Black and Hispanic children are more likely to be born to unmarried parents than children in other groups, family structure is a key mechanism through which racial and ethnic disadvantage is perpetuated across generations (McLanahan and Percheski 2008). In the past, racial and ethnic variation in non-marital fertility emerged due to differences in sexual activity and post-conception marriage (Kim and Raley 2015). In recent decades, however, this difference arises primarily because unmarried Hispanic women are less likely than their non-Hispanic counterparts to use contraception, and when they do they are less likely than non-Hispanic women to use very effective methods of contraception (Kim and Raley 2015; Sweeney and Raley 2014).

Numerous studies have tried to identify the mechanisms giving rise to racial and ethnic differences in contraceptive practice (e.g., Deardroff et al. 2010; Jacob and Stanfors 2013; Minnis 2010; Sangi-Haypeykar et al. 2006; Wilson 2009). These studies commonly attribute these differences in contraceptive practice to family size preferences, fertility timing, socioeconomic inequality shaping opportunity costs of childbearing and affordability of contraception, and differential access to contraception (see Sweeney and Raley 2014 for review).

However, our understanding of the causes of racial and ethnic differences in contraceptive behavior is limited, for several reasons. First, existing work does not assess the relative importance of the various mechanisms identified as determinants of racial and ethnic differences in contraceptive practice. Rather, most studies focus on a single explanation (Deardroff et al. 2010; Minnis 2010; Sangi-Haypeykar et al. 2006). Second, past studies frequently combine women of distinct marital statuses, although

the pattern of racial and ethnic variation in contraceptive practices differs appreciably according to women's marital status, as do the mechanisms giving rise to these differences (Sweeney 2010). Third, prior work usually compares the contraceptive practices of pan-ethnic Hispanics with those of Whites, although it is well established that socioeconomic circumstances, access to family planning services, and attitudes towards nonmarital fertility differ markedly across Hispanic national origin groups (Landale and Oropesa 2007; White and Potter 2013; Wildsmith, Welti, and Manlove 2012). Finally, past work on this topic typically relies on convenience samples (Afable-Munsuz and Brindis 2006; Deodroff et al. 2010; Sangi-Haypeykar et al. 2006; Unger and Molina 2000). The external validity of these results should be confirmed with population-based samples.

To address these gaps in the literature, we pooled data from the 2006–2010 and 2011–2013 National Survey of Family Growth (NSFG) to compare the contraceptive practices of never married, non-cohabiting Mexican immigrant, US-born Mexican American, Black, and White women. Disaggregating Mexican-origin women by nativity status is essential because one-third of the Mexican-origin population in the United States is foreign-born (Gonzalez-Barrera and Lopez 2013) and the patterns of Hispanic women's fertility and contraceptive use vary by nativity status (Choi 2014; Frank and Heuveline 2005; White and Potter 2013). Examining nativity differences in contraceptive use among Mexican-origin women in comparison to native-born White and Black women will give some indication of how contraceptive behavior changes with prolonged exposure to the US context. Having established these patterns, we adjudicate between competing explanations of racial, ethnic, and nativity disparities in contraceptive behavior. Specifically, we examine the extent to which socioeconomic circumstances, unmet access to family planning, and attitudes towards family life account for group differences in contraceptive use among never married women.

2. Background

2.1 Race/ethnic differences in contraceptive behavior

Many of our insights about the contraceptive behavior of Mexican Americans come from work about the contraceptive practices of Hispanic women. Most research does not disaggregate the pan-ethnic Hispanic group into national-origin sub-groups, but Mexican Americans comprise the large majority (64.6 %) of the Hispanic population in the United States (Lopez, Gonzalez-Barrera, and Cuddington 2013; Passell, Cohn, and Lopez 2011). This body of work shows that abstinence, contraceptive non-use, and reliance on less effective methods of contraception are more common among Hispanic

women than among non-Hispanic women (Daniels, Daugherty, and Jones 2014; Sangi-Haghpeyker et al. 2006; Unger and Molina 2000; White and Potter 2013). These differences appear to be most pronounced among younger women, who are largely unmarried (Mestad et al. 2011; Secura et al. 2010; Sweeney and Raley 2014).

Acknowledging the heterogeneity in contraceptive practices in the Hispanic population, recent studies have begun to disaggregate Hispanic women according to their national origin and to examine the contraceptive behavior of Mexican Americans (Minnis 2010; White and Potter 2013; Wilson 2009). These studies consistently show that Mexican immigrants are less likely than non-migrant women in Mexico to use contraception and to rely on very effective methods of contraception (Minnis 2010; White and Potter 2013). Evidence, however, is mixed with respect to how the contraceptive practices of Mexican Americans change across generations, with Minnis (2010) finding that contraceptive non-use increases across immigrant generations and White and Potter (2013) finding the opposite. These discrepant accounts may emerge because White and Potter (2013) focus on the contraceptive practices of currently married and cohabiting women, whereas Minnis (2010) examines the contraceptive practices of women of varying marital statuses. That the results are contrasting suggests the importance of examining the contraceptive practices of women separately according to their marital status.

2.2 Explanations for differences in contraceptive practices

Three explanations are frequently invoked to account for the ethno-racial disparities in contraceptive use and efficacy. The explanations center on group differences in socioeconomic circumstances, access to family planning services, and attitudes towards family life, which simultaneously influence women's desires to use contraception and their access to different types of contraception.

Researchers commonly attribute Mexican American women's low rates of contraceptive use and reliance on less effective methods relative to US-born women to their socioeconomic disadvantage (Frank and Heuveline 2005; Lichter et al. 2012). On average, Mexican immigrants arrive in the United States with low levels of human capital and encounter a context of reception that offers few opportunities for upward mobility to the low-skilled (Portes and Zhou 1993). As non-Whites, US-born Mexican Americans face racial discrimination, which further hinders their prospects for educational and occupational mobility (McDaniels 1996; Telles and Ortiz 2008). According to this perspective, Mexican American women's limited prospects for social mobility reduce the opportunity costs of childbearing, which in turn reduces their desire to actively delay or avoid pregnancy (Hayford and Guzzo 2013; McDaniels 1996).

The cost and access barriers to using very effective methods of contraception may also contribute to racial, ethnic, and nativity differences in contraceptive practice (Potter Moore, and Byrd 2003; Secura et al. 2010). Very effective methods of contraception are costly and require a prescription from a medical professional; as a result, women with limited access to family planning services may be less likely to use very effective methods of contraception than those with regular access to these services (Potter, Moore, and Byrd 2003). Although family planning services are available to low-income and uninsured women, access to these services has declined in recent years and there is wide variation in the availability of these services by geographic region and immigrant legal status (James et al. 2009; White and Potter 2013). Mexican immigrants in the United States have fewer resources and are less likely to have health insurance than the US-born, which lead to lower rates of health care utilization (Wallace and Gutierrez 2005). Most states bar immigrants from receiving public health benefits for 5 years following receipt of a visa for permanent residency and permanently if immigrants are undocumented (Telles and Ortiz 2008; Wallace and Gutierrez 2005). Given their limited access to family planning services, we expect that women of Mexican origin, especially the foreign-born, will be less likely than women in other groups to use very effective methods of contraception.

Yet a third explanation attributes Mexican American women's low rates of contraceptive use and reliance on less effective methods to the cultural norms that have traditionally promoted pronatalist attitudes among the married while discouraging sexual activity outside of marriage-like unions (Bean and Tienda 1987; East 1998; Landale and Oropesa 2007; Lopez-Gonzales 2001; Oropesa 1996; Wildsmith and Raley 2006). Among unmarried women of Mexican origin, adherence to this cultural orientation implies higher rates of abstinence (Upchurch et al. 1998) and may have the unintended effect of creating barriers to contraceptive knowledge and use (Deardorff et al. 2010; Sangi-Haghpeyker et al. 2006). For example, Hispanics are more likely than non-Hispanics to understate their chances of becoming pregnant after sex as well as the effectiveness of birth control pills (Kaye, Suellentrop, and Sloup 2009; Sweeney and Raley 2014). Limited knowledge about contraceptive efficacy may result in low rates of contraception use, especially of very effective methods, among never married women of Mexican origin.

In equal measure, some researchers attribute the lower rates of contraception use among Mexican American women to their Catholic faith, which has historically opposed artificial birth control. The fact that higher shares of Mexican Americans identify as Catholics implies that they may be more likely than women in other groups to oppose artificial birth control on moral grounds (Donoso 2014). According to this view, Catholic beliefs have traditionally deterred contraceptive use among Mexican American women. However, religious affiliation alone may not account for group

differences, as affiliations capture substantial heterogeneity in adherence and commitment to the faith. Religiosity, or the degree of adherence and commitment to the faith, may better capture the extent to which religious doctrines affect contraceptive use (Studer and Thornton 1987; Lefkowitz et al. 2004).

There is varied empirical support for the three explanations. Prior work testing the role of norms and attitudes offers limited support, at least insofar as norms and attitudes are captured by desire for large family size (Hayford and Guzzo 2013; Rocca and Harper 2012). In equal measure, researchers have called into question the view that the lower rates of contraceptive use among Mexican American women is attributable to their Catholic faith, citing the fact that contraceptive use is high in Mexico despite the fact that over 80% of Mexican adults identify as Catholics (Cooperman et al. 2014; Hirsch 2008). Past studies also offer mixed support for the explanation that group differences in contraceptive practice emerge largely due to socioeconomic inequality, with studies finding that socioeconomic differentials account for Hispanic-White differences but not Black-White differences (Dehlendorf et al. 2011; Jacobs and Stanfors 2013; Sweeney and Raley 2014; Shih et al. 2011). Furthermore, the extent to which socioeconomic differences explain group differences in the contraceptive practices of never married women is largely unknown, as existing work combines women of all marital statuses. Empirical support for the explanation focusing on access to family planning services and unmet contraceptive need is available in studies testing the role of insurance coverage (White and Potter 2013), access to Title X programs for planning services (Desrosiers Arden, and Fisher 2013), and location of pharmaceutical purchases (Potter, Moore, and Byrd 2003, Potter, White, and Amaste 2010).

Overall, prior empirical studies have tended to focus on a single explanation and therefore have not assessed the relative importance of the three mechanisms. This is important insofar as norms, access to family planning, and socioeconomic disadvantage are correlated; analytical designs that simultaneously account for each are essential for understanding the unique roles of each for generating group differences in contraceptive practice. Accordingly, our study assesses the relative importance of the mechanisms by examining the extent to which group differences in contraceptive practice reflect socioeconomic circumstances, access to family planning, and attitudes towards family life.

3. Data and methods

3.1 Data

We pool data from the 2006–2010 and 2011–2013 continuous cycles of the National Survey of Family Growth (NSFG). This nationally representative, cross-sectional survey gathered data related to contraceptive practice, family life, and fertility behavior from 17,880 non-institutionalized, civilian women between the ages of 15 to 44 in the United States (Lepkowski et al. 2013).

This dataset is well suited for an analysis of the contraceptive practices of never married women, for several reasons. First, the NSFG collects detailed information about sexual activity and contraceptive use, which provides the information necessary to ascertain whether the respondent is sexually active, whether they use contraception, and the type of contraception used. Second, respondents report their race, ethnicity, and nativity status, which we can then use to identify foreign-born Mexican immigrants, US-born Mexican Americans, non-Hispanic (NH) Blacks, and NH Whites. Third, it collects detailed information about access to medical care, including the type of insurance coverage that respondents have and whether insurance coverage has been interrupted in the past 12 months. Finally, it gathers detailed information about family background, socioeconomic circumstances, attitudes to premarital sex and nonmarital cohabitation, fertility intentions, and religious intentions.

3.2 Sample

We limit our analysis to never married, non-cohabiting women who answered questions about sexual activity and contraceptive practices, with full information about access to medical facilities and insurance coverage.³ Although currently cohabiting and previously married women also contribute to nonmarital fertility, we exclude them because we do not have sufficiently large numbers of cohabiting or previously married Mexican immigrants who are sexually active to conduct a separate analysis for them, and the contraceptive practices of cohabiting and previously married women differ appreciably from those of never married women in several ways: (1) contraceptive use and reliance on very effective methods of contraception are considerably lower among never married women than among cohabiting women, and (2) never married women are more likely to rely on the pill but less likely to rely on sterilization than previously

³ Relative to their White and US-born Mexican American peers, higher shares of never married, non-cohabiting Black and foreign-born Mexican women have previously cohabited: about 40% of Blacks and foreign-born Mexicans versus less than a third of Whites and US-born Mexican Americans.

married women (Jones, Mosher, and Daniels 2012; Sweeney 2010). Heterogeneity in contraceptive practices prevents us from treating never married/non-cohabiting, cohabiting, and previously married women as a single group.

We rely on two analytical samples to describe racial, ethnic, and nativity status differences in never married women's contraceptive behavior. Our analysis of sexual activity uses a sample of never married, non-cohabiting women at risk of pregnancy. Women are said to be at risk of pregnancy if they are not pregnant and are not sterile because of reasons unrelated to contraception. These sampling restrictions yield an analytical sample of 6,468 never married women, comprised of 3,357 Whites, 2,122 Blacks, 760 US-born Mexican Americans, and 229 Mexican immigrants. Throughout the text, we refer to women in this subsample as 'never married' women.

For our analysis of type of contraceptive method, we further restrict the sample to never married women who had sex in recent months (i.e., they have engaged in sexual activity in the past 12 months).⁴ This restriction yields a sample of 3,702 women, comprised of 1,775 Whites, 1,456 Blacks, 387 US-born Mexican Americans, and 84 Mexican immigrants. Women in this subsample will be referred to as 'never married women who had sex in the last 12 months'.

3.3 Measures

3.3.1 Dependent variables

'Sexual activity' distinguishes never married women who are sexually active (i.e., ever had vaginal intercourse) from their peers who are sexually inactive (i.e., never had intercourse).

Using information available in the contraceptive method calendar, we ascertain the century month when the respondent last had sex and the contraceptive method used during that month. Once this information is obtained, we classify respondents into three categories of type of contraceptive method, ordered successively by efficacy of contraceptive method used in the month when respondent last had sex: (1) no method;

⁴ We also examined results for the sample of never married, non-cohabiting women who had sex in the three months prior to interview date. Restricting our sample to never married, non-cohabiting women who had sex within 3 months yields similar results to those obtained when restricting our sample to never married, non-cohabiting women who had sex within 12 months of the interview date. The only difference across the two analyses is the slightly higher rates of non-contraceptive use obtained for the sample of women who had sex in the last 3 months.

(2) effective or less effective method⁵ (e.g., periodic abstinence, withdrawal, condom, diaphragm, female condom, and male condom); and (3) very effective methods of contraception (e.g., pill, IUD, other hormonal methods, female sterilization,⁶ vasectomy). This definition uses the classification system developed by Trussell (2011) based on contraceptive failure rates.

3.3.2 Independent variables

Racial, ethnic, and nativity status is a categorical variable classifying women into four groups: (1) Mexican immigrants, (2) US-born Mexican Americans, (3) Blacks, and (4) Whites. ‘Mexican immigrants’ refers to women born outside the United States who self-identify as Mexican or Mexican American. ‘US-born Mexican Americans’ refers to women born in the United States who self-identify as Mexican or Mexican American. ‘Blacks’ refers to women born in the United States who self-identify as non-Hispanic and as Black. ‘Whites’ refers to women born in the United States who self-identify as non-Hispanic and as White.

We capture **respondent’s socioeconomic circumstances and family background** using years of schooling (≤ 9 ; 10 to 11; 12; ≥ 13); full-time employment (full-time; not full-time); school enrollment (enrolled; not enrolled); income relative to poverty line (below, 100%–199%, 200%–299%, 300%+ of poverty line); mother’s education (less than high school, high school degree, some college, college or more, missing); and family background at age 14 (two biological parents, step parent, single parent, and other).

Access to family planning is captured with measures of health insurance status (private, public, none) and whether coverage was interrupted in the 12 months preceding the interview (yes, no).

Attitudes towards family life, fertility intentions, and religious affiliation are also considered in our models. **Attitudes towards family life** are captured with measures of whether respondents approve of sex between unmarried adults if they share strong affection (yes, no)⁷ and whether respondents are okay with unmarried adults living together (yes, no). **Fertility intentions** are captured using measures of whether

⁵ Low shares of women report using less effective methods of contraception. We therefore collapsed effective and less effective methods of contraception into one category. We also examined results collapsing less effective methods of contraception with no method used, which were similar to those presented below.

⁶ Only 6% of our sample of never married, non-cohabiting women rely on contraceptive sterilization.

⁷ NSFG also asked respondents whether or not it is okay for unmarried 16-year-olds to have sex. This variable is highly correlated with the variable whether or not it is okay for unmarried 18-year-olds to have sex (i.e., variable currently included in the model). We cannot include them simultaneously due to multicollinearity problems.

the respondent wants a child in the future (yes, no) and whether the respondent would be upset if she became pregnant now (yes, no). **Religious affiliation** is captured by measuring religion in which they were raised (Catholic, Fundamentalist Protestant, and Other); importance of religion (no religion, matters little, matters somewhat, and very important); and religiosity (attended religious service more than once a week, once a week; one a month, and less than once a month).

Finally, all our models control for age (15–19; 20–24; 25–29; 30–44) and parity (0, 1, 2 or more) because it is well established that contraceptive practices, access to partners, and fertility intentions differ by age and parity (White and Potter 2003).

3.4 Analytical plan

We begin by comparing the share of women in each racial, ethnic, and nativity group who have ever had sex. Having established this pattern, we compare the contraceptive practices of never married, non-cohabiting women who had sex in the 12 months preceding the interview according to their race, ethnicity, and nativity status.

We assess the relative importance of various mechanisms identified as determinants of group differences in contraceptive practice for the subsample of never married, non-cohabiting women who had sex in the last 12 months. To do so, we first describe racial, ethnic, and nativity differences in socioeconomic circumstances and family background, access to medical and family planning services, and attitudes towards family life, fertility intentions, religious affiliation, and religiosity. We then conduct Wald tests of nonlinear hypothesis to determine whether the pattern of racial, ethnic, and nativity differences in contraceptive practice differ across the three categories of contraceptive practice. These statistical tests reveal that the demarcating difference in the pattern of racial, ethnic, and nativity variations in contraceptive use is observed between very effective methods of contraception and those with lower efficacy. By contrast, variations in the pattern of racial, ethnic, and nativity differences in contraceptive non-use and use of effective methods or less are not statistically significant. Based on this finding, we fit five logistic regression models to estimate the odds of using very effective methods (versus using less effective methods) among never married women who had sex in the last 12 months. Model 1, which is our baseline model, establishes group differences in contraceptive practices, net of age and parity. Model 2 examines the extent to which socioeconomic disparities and family background account for group differences in contraceptive practices by adding socioeconomic characteristics to Model 1. Model 3 adds access to family planning services to Model 1. Model 4 investigates the extent to which attitudes towards family life and religious affiliation explain racial, ethnic, and nativity differences in

contraceptive use by adding attitudes towards family life, fertility intentions, and religion into Model 1. Model 5 is our full model, which includes all covariates. Subsequently, we use the coefficients obtained from these models to compute the predicted probability of using very effective methods of contraception for women in each racial, ethnic, and nativity group and compare the predicted probabilities across these models to determine the extent to which socioeconomic circumstances, access to family planning services, and attitudes towards family life explain racial, ethnic, and nativity differences in contraceptive practices.

Two analytical steps are noteworthy. All analyses are weighted to ensure that our estimates are representative of the sexual activity and contraceptive use among never married Mexican immigrant, US-born Mexican American, Black, and White women who are not cohabiting at the date of interview. Furthermore, descriptive tabulations on fertility intentions are adjusted for age and parity (standardized to the distribution for Whites) to account for the fact that fertility intentions differ by age and parity and groups have unique age and parity distributions.

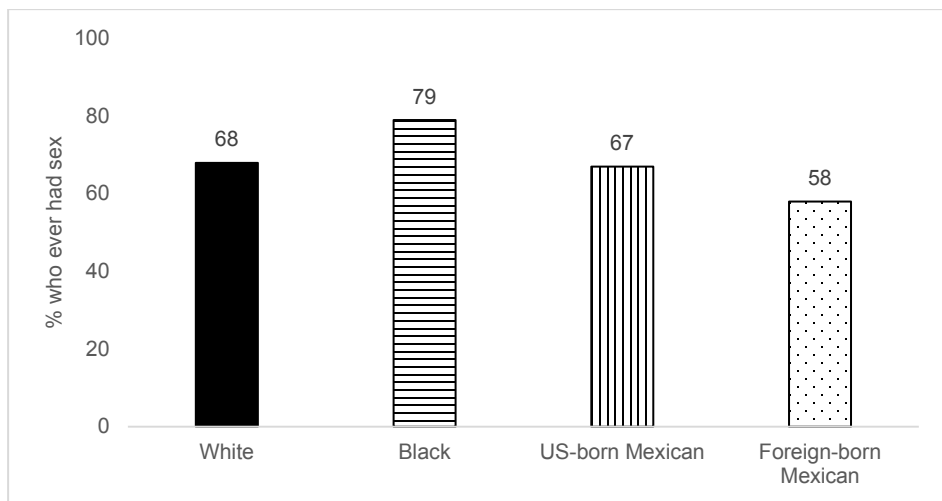
4. Results

4.1 Racial, ethnic, and nativity differences in sexual activity and contraceptive practices

We begin by comparing the share of sexually active women in each group.⁸ Figure 1 shows that never married, non-cohabiting Blacks are most likely and Mexican immigrants are least likely to have ever had sex. Seventy-nine percent of Blacks have ever had sex, as compared to 58% of Mexican immigrants and 68% of Whites. Supplementary analyses reveal that lower shares of never married Mexican immigrants would be sexually active if it weren't for the fact that they are older.

⁸ Tabular results describing sexual activity are standardized to the age and parity distribution of Whites.

Figure 1: Racial, ethnic, and nativity differences in share of never married women who ever had sex



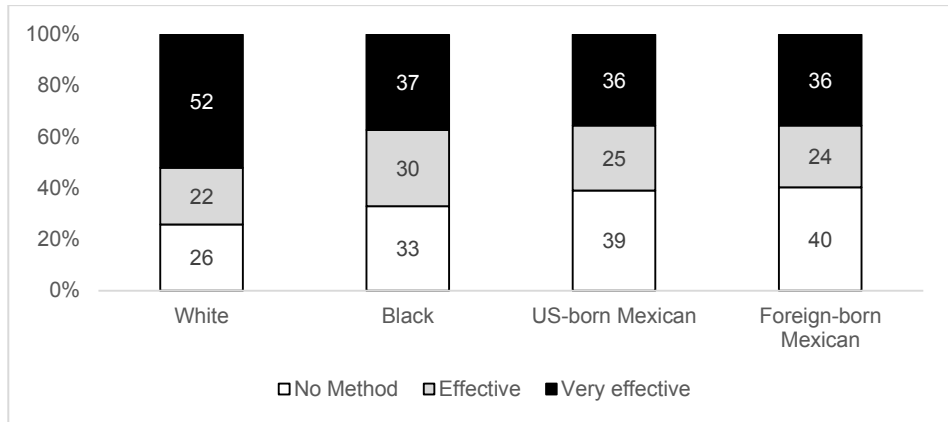
Sources: 2006-2010 and 2011-2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women

Notes: All analyses are weighted and standardized to the age and parity distribution of Whites. Differences between Blacks and non-Blacks are statistically significant at the 5% level.

Figure 2 describes racial, ethnic, and nativity differences in contraceptive practices among never married, non-cohabiting women who had sex in the 12 months before interview date. Contraceptive non-use is least common among Whites and most common among women of Mexican origin. Approximately 26% of Whites did not use contraception, as compared to 33% of Blacks and 40% of Mexican-origin women. When they use a method of contraception, Whites are more likely than non-Whites to use very effective methods of contraception: 52% of Whites versus approximately 35% of non-Whites. Supplementary analyses reveal that the rates of contraceptive use and use of very effective methods of contraception among Mexican immigrant women would have been even lower had it not been for their higher parity relative to US-born women and the fact that women with higher fertility are more likely to actively engage in family planning relative to women with fewer children.

Figure 2: Racial, ethnic, and nativity differences in contraceptive method use



Sources: 2006-2010 and 2011-2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women who have had sex in the last 12 months

Notes: All analyses are weighted and standardized to the age and parity distribution of Whites. Differences between Whites and non-Whites are statistically significant at the 5% level.

Overall, tabular results show that the reproductive behavior of US-born Mexican Americans fall somewhere in between those of Whites and Mexican immigrants, with their sexual activity mirroring those of Whites and their contraceptive behavior mirroring that of Mexican immigrants. Two-thirds of US-born Mexican Americans and Whites are sexually active, as compared to 58% of Mexican immigrants. Thirty-six percent of US-born Mexican Americans and foreign-born Mexicans use very effective methods of contraception, as compared to 52% of Whites.

4.2 Differences in socioeconomic circumstances, access to contraception, and attitudes towards family life

Table 1 presents the demographic profiles, socioeconomic circumstances, and family background of never married, non-cohabiting White, Black, US-born Mexican American, and foreign-born Mexican women who had sex in the 12 months preceding the interview. We begin by comparing the age and parity distribution across racial, ethnic, and nativity groups.⁹ On balance, never married, non-cohabiting Mexican immigrants are older than their US-born counterparts. For example, 37% of foreign-

⁹ These distributions are weighted, but not standardized by age or parity.

born Mexicans are in their thirties, as compared with 16% of Whites and 13% of US-born Mexican Americans. This pattern likely emerges because earlier marriages are more common among Mexican immigrants than among US-born women (Choi and Seltzer 2009; Raley, Durden, and Wildsmith 2004). Therefore, higher shares of younger Mexican immigrants select out of the never married status, which results in relatively lower shares of never married Mexican immigrants in their teens and early twenties. Black women are older than other US-born women. For example, 30% of Blacks are in their thirties, as compared to less than 13% of US-born Mexican Americans. This finding is attributable to the fact that Black women transition into first marriages at lower rates than non-Black women, and, as such, relatively higher shares of older Black women have never married (Raley 1996). Tabular results also reveal that never married, non-cohabiting Mexican immigrant and Black women have higher fertility than their White and US-born Mexican American peers. For example, approximately 43% of Black and 49% of Mexican immigrant women are childless, as compared to 81% of Whites and 70% of US-born Mexican Americans. This is not surprising given the strong links between age and parity and the fact that Mexican immigrants and Blacks are older than women in other groups.

Whites are the most and Mexican immigrants are the least socioeconomically advantaged, with these differences being particularly pronounced with respect to educational attainment and income. For example, 37% of Whites reside in households with incomes at least three-times the poverty line, as compared to 4% of Mexican immigrants, 17% of Blacks, and 21% of US-born Mexican Americans. Given the strong linkages between parents' and offspring's education (Mare and Maralani 2006), it is not surprising that Whites are most likely and foreign-born Mexican immigrants are least likely to be raised by mothers with higher levels of education. Two-thirds of Mexican immigrants were reared by mothers without a high school diploma, as compared to 9% of Whites and 18% of Blacks. Consistent with prior work (McLanahan 2004), Blacks are less likely than non-Blacks to grow up in two-parent families. About 40% of Blacks grew up in two-parent families, as compared to approximately 60% of non-Blacks. The socioeconomic circumstances and family background characteristics of US-born Mexican Americans consistently fall somewhere in between those of Whites and Mexican immigrants. For example, 14% of US-born Mexican Americans have college degrees, as compared to 28% of Whites and 9% of Mexican immigrants.

Table 1: Racial, ethnic, and nativity differences in socioeconomic circumstances and family background (column %)

	White 1,775	Black 1,456	US-born Mexican 387	Foreign-born Mexican 84
Age				
Less than 20	31	21	31	19
20–24	36	27	38	34
25–29	17	22	18	10
30–44	16	30	13	37
Parity				
None	81	43	70	49
One	10	23	18	20
Two or more	8	33	12	32
Education				
Less than high school	16	22	19	53
High school graduate	19	31	27	23
Some college	36	33	40	16
BA or more	28	15	14	9
Enrolled in school	46	34	48	23
Employment status				
Not working	11	23	22	19
Part-time	55	35	50	39
Full-time	34	42	28	42
Poverty				
<100% poverty line	22	48	35	52
100–199% poverty line	22	25	31	36
200–299% poverty line	19	11	13	9
300+ % poverty line	37	17	21	4
Mother's education				
Less than high school	9	18	36	66
High school	31	38	27	17
Some college	33	28	25	12
BA or more	27	15	9	3
Missing	0	1	3	1
Family structure at 14				
Two biological	62	39	61	61
Step	13	13	10	10
Single	19	36	20	16
Other	6	12	9	12

Sources: 2006-2010 and 2011-2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women who have had sex in last 12 months

Notes: Percentages are weighted. Percentages are column percentages and represent distribution of covariates for each racial, ethnic, and nativity status group. Sample sizes are not weighted.

Table 2 compares access to family planning services, attitudes towards family life, fertility intentions, and religious affiliation for women in the four groups. Mexican immigrants are least likely and Whites are most likely to have insurance at the date of interview or to have experienced an interruption in insurance coverage in the 12 months preceding the interview. For example, 60% of Mexican immigrants experienced an interruption in their insurance coverage, as compared to 25% of Whites and 37% of US-born Mexican Americans. When they do have insurance, Mexican immigrants are least likely and Whites are most likely to rely on private insurance. For example, 71% of Whites reported having private insurance, as compared to 47% of US-born Mexican Americans and 21% of Mexican immigrants. Among the US-born, Blacks are most likely to rely on public health insurance: 45% of Blacks versus 19% of Whites. Supplementary analyses reveal that the pattern of variation in the place of usual care and the likelihood of receiving specific family planning services mirror very closely the pattern of variation in type of insurance coverage. Together, these results suggest that Mexican immigrants are far less likely than the US-born to have access to health care, including family planning services. By contrast, Whites are more likely than non-Whites to have access to family planning services.

Tabular results reveal that Blacks are less likely than non-Blacks to report that they are 'okay' with sexual activity among unmarried couples: 57% of Blacks versus over two-thirds of non-Blacks say that they are okay with sex between unmarried partners. Blacks are also less likely to report wanting a child in the future: 70% of Blacks versus 80% of non-Blacks. With respect to fertility timing, Whites are most likely and Mexican immigrants are least likely to report that they would be (very) upset if they became pregnant 'now.' For example, 60% of Whites report that they would be upset or very upset if they became pregnant now, as compared to 43% of Blacks and 33% of Mexican immigrants. Blacks are least likely and Whites are most likely to say that it is 'okay' for unmarried adults to live together: 85% of Whites versus 62% of Blacks, 79% of US-born Mexican Americans, and 74% of Mexican immigrants.

Table 2: Racial, ethnic, and nativity differences in access to family planning services, religious affiliation, fertility intentions, and attitude towards sexual activity (column %)

	White 1,775	Black 1,456	US-born Mexican 387	Foreign-born Mexican 84
ACCESS TO FAMILY PLANNING				
Insurance				
None	10	15	21	48
Private	71	39	47	21
Public	19	45	31	30
Missing	1	0	2	0
Coverage interruption				
No interruption	75	70	62	39
Interruption	25	31	37	60
Missing	0	0	1	1
ATTITUDES, FERTILITY INTENTIONS, AND RELIGION				
Attitudes towards sex				
Okay w/ premarital sex	79	57	74	66
Okay w/ nonmarital cohabitation	85	62	79	74
Fertility intentions*				
who would be upset	60	43	50	33
who desire baby in the future	80	70	80	78
Religion				
Religion raised				
Catholic	30	7	68	89
Fundamentalist	5	7	3	2
Other	65	86	29	9
Religiosity				
Less than a month	38	17	27	14
Once a month	33	22	20	14
Once a week	15	28	29	45
More than once a week	14	33	24	26
Missing	0	0	0	0
Importance of religion				
No religion	31	15	14	7
Not important	9	1	12	1
Somewhat important	37	20	41	45
Very important	23	64	32	47

Sources: 2006–2010 and 2011–2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women who have had sex in last 12 months

Notes: Percentages are weighted. Sample sizes are not weighted.

* Standardized to the age and parity distribution of Whites.

We now turn our attention to group variations in religious affiliation. Women of Mexican origin, especially the foreign-born, are more likely than Whites and Blacks to

have been raised Catholic. Close to 90% of foreign-born Mexicans report being raised in a Catholic household, as compared to 30% of Whites and 7% of Blacks. Women of Mexican origin are less likely than women in other groups to have been raised in a Fundamentalist Protestant household. About 3% of women of Mexican origin grew up in a Fundamentalist Protestant household, as compared to 7% of Blacks and 5% of Whites. Blacks are more likely than non-Blacks to attend religious services regularly. A third of Blacks report attending religious services more than once a week, as compared to 14% of Whites, 24% of US-born Mexican Americans, and 26% of Mexican immigrants. Blacks are also more likely than non-Blacks to report that religion is very important. Sixty-four percent of Blacks report that religion is very important in their lives, whereas only 47% of Mexican immigrants, 32% of US-born Mexican Americans, and 22% of Whites do so.

4.3 Multivariate analysis: Contraceptive practice by race, ethnicity, and nativity status

Table 3 presents the results from our logistic regression models predicting the odds of using very effective methods of contraception. Model 1 compares the odds of using very effective methods of contraception for women according to their race, ethnicity, and nativity status, net of age and parity. The demarcating difference in contraceptive use is observed between Whites and non-Whites, with non-Whites being significantly less likely than Whites to use very effective methods of contraception. Net of age and parity, little difference exists in the odds of using very effective methods among minority groups.

Model 2 adds socioeconomic status and family background to Model 1. Consistent with prior work, higher levels of education are associated with higher odds of using very effective methods of contraception, as is being enrolled in higher education. (Wilson 2009). For example, college graduates are twice as likely as high school dropouts to use very effective methods of contraception. Differences in the odds of using very effective methods of contraception between Whites and non-Whites diminish once we take into account group differences in socioeconomic status. However, the impact of socioeconomic controls is particularly pronounced for White/Mexican-immigrant differences in the odds of using very effective methods of contraception. In fact, once we control for socioeconomic disparities, White/Mexican-immigrant differences in the odds of using very effective methods of contraception are only marginally significant.

Table 3: Logistic regression models estimating odds of using very effective methods

	Model 1: Baseline		Model 2: M1+SES		Model 3: M1+Access		Model 4: M1+Attitudes		Model 5: Full	
	e ^β		e ^β		e ^β		e ^β		e ^β	
R/E/N (White)										
Black	0.48	***	0.54	***	0.52	***	0.50	***	0.59	***
USB Mexican	0.50	***	0.57	**	0.57	**	0.48	***	0.61	**
FB Mexican	0.38	**	0.57	+	0.55	+	0.37	**	0.71	
Education (LT HS)										
HS graduate			1.23						1.21	
Some college			1.49	*					1.44	*
BA or more			2.01	**					1.89	**
Enroll (Not)										
Not enrolled			1.59	***					1.53	**
Employed (Not)										
Part-time			1.18						1.20	
Full-time			1.10						1.05	
Poverty (Below)										
100-199%			1.07						1.05	
200-299%			1.14						1.07	
300+%			1.62						1.45	*
Insurance (None)										
Private					2.06	***			1.74	**
Public					1.24				1.36	
Coverage (Did not)										
Interrupted					0.77	+			0.81	
Sex okay (Not)										
							1.12		1.10	
Cohab okay (Not)										
							1.01		1.03	
Upset (Not)										
							1.19		1.06	
Intercept	0.83	+	0.31	***	0.50	**	0.48	**	0.17	***

Sources: 2006–2010 and 2011–2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women who have had sex in last 12 months

Notes: All analyses are weighted. All models also control for age and parity. Model 2 also includes family structure at age 14 and mother's degree. Model 4 also includes want children in the future, religion raised, religiosity, and importance of religion. Model 5 is our full model with all covariates.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.1$

Model 3 adds controls for access to family planning services to Model 1. Women with private insurance are considerably more likely than other women to use very effective methods of contraception, net of all other controls in the model. Their odds of using very effective methods of contraception are twice the corresponding odds of women without insurance coverage. That controlling for differential access to family planning services reduces differences in contraceptive practices between Whites and racial minorities offers empirical support for the explanation that barriers to contraceptive access is a key reason behind minority women's lower contraceptive use. Limited access to family planning services has an especially pronounced effect on White/Mexican-immigrant differences in contraception. As with socioeconomic controls, White/Mexican-immigrant differences in the odds of using very effective methods are only marginally significant once we control for group differences in access to planning services. In fact, the impact of access to family planning services on group differences in contraceptive use is similar in magnitude to the impact of socioeconomic circumstances and family background on group differences in contraceptive use.

Model 4 adds attitudes towards family life, fertility intentions, and religious affiliation and attendance to Model 1. Net of age and parity, the association between all attitudinal measures and contraceptive practices are not statistically significant. It is, therefore, unsurprising that attitudes to family life, fertility intentions, and religious affiliation explain little of the group differences in the odds of using very effective methods of contraception.

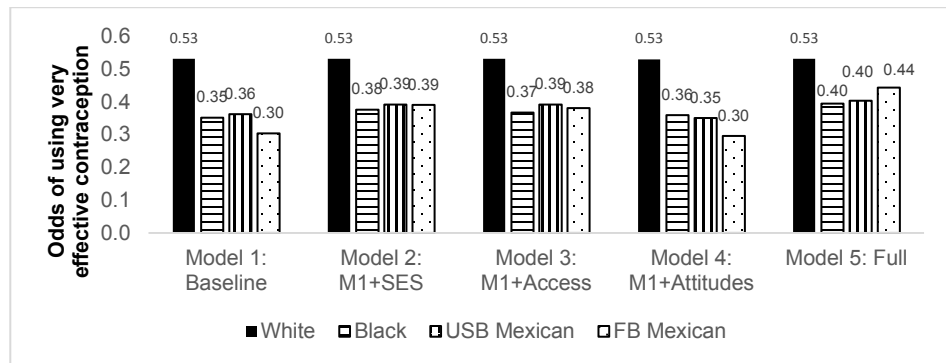
Model 5 shows that differences in contraceptive practices between Whites and US-born minorities are partly attributable to family background, socioeconomic circumstances, and access to family planning. Not surprisingly, they have a particularly pronounced impact on White/Mexican-immigrant differences in contraceptive use. In fact, the coefficient capturing differences in contraceptive practices between Whites and Mexican immigrants is not statistically significant net of these controls.

Predicted probabilities offer a useful way to compare the relative impact of socioeconomic status, access to family planning services, and attitudes towards family life in giving rise to group differences in the likelihood of using very effective methods of contraceptive practice.¹⁰ Figure 3 presents the probabilities of using very effective method of contraception derived from the coefficients reported in Table 3. These comparisons are standardized to the characteristics of never married White women who have had sex in the 12 months preceding the interview, to facilitate comparisons across racial, ethnic, and nativity status groups. In the absence of controls, US-born minority

¹⁰ Allison (1999) argued that coefficients should not be compared across logistic regression models because (1) different sets of covariates result in variation in the degree of group disparity in residual variation and (2) differences in the degree of residual variation across groups can produce apparent differences in coefficients capturing group differences. Allison (1999) recommends comparing the predicted probability computed across statistical models as a way to avoid these biases.

women are 33% less likely than White women to use very effective methods of contraception: $[100*(53-35)/53 \approx 33]$ and Mexican immigrants are 43% less likely than White women to use very effective methods of contraception: $[100*(53-30)/53 \approx 43]$.

Figure 3: Predicted probability of using very effective methods of contraception



Source: 2006-2010 and 2011-2013 National Survey of Family Growth

Sample: Never married, non-cohabiting women who have had sex in the last 12 months

Notes: All analyses are weighted. Predicted probability of using very effective methods of contraception are computed with the coefficients presented in Table 3 and characteristics are standardized to the population mean.

Socioeconomic controls reduce differences between Whites and non-Whites in contraceptive practices and have the most pronounced impact on differences between Whites and Mexican immigrants. For example, controlling for socioeconomic differences reduces White/Mexican-immigrant differences in contraceptive practices by 40% $[100*(1-(53-39)/(53-30)) \approx 40]$. The influence that barriers to accessing family planning services have on group differences is similar in magnitude to that of socioeconomic circumstances and family background. Attitudinal controls have limited impact on group differences in contraceptive practice. Net of controls for socioeconomic status, family background, and access to family planning services, White/Mexican-immigrant differences in contraceptive practice diminish by 60% $[1-(0.53-0.44)/(0.53-0.30) \approx 0.6]$, whereas differences in contraceptive practice between Whites and US-born minorities diminish by about 30% $[1-(0.53-0.40)/(0.53-0.35) = 0.3]$.

On balance, these findings suggest that the demarcating differences in contraceptive practice are between Whites and non-Whites. Socioeconomic disparities and differential access to family planning services each account for approximately 40 percent of differences in the likelihood of using very effective methods of contraception

between Whites and Mexican immigrants as well as just under 20 percent of the corresponding difference between Whites and minorities. Together, they account for about 60% of differences in contraceptive practices between Whites and Mexican immigrants as well as 30 percent of the corresponding difference between Whites and native minorities. Attitudinal differences explain little of the variation in contraceptive practice between Whites and US-born minorities and they mask White/Mexican-immigrant differences in contraceptive practice.

5. Supplementary analyses

The NSFG asks respondents to answer several questions about whether or not they have received different types of family planning services in medical facilities, such as whether they have been prescribed a birth control, received check-ups for birth controls, or have received emergency contraception in the 12 months preceding the interview date. These variables are not included as covariates in our multivariate analysis because they jointly measure access to family planning, intentions to use, and knowledge about contraception, and obfuscate the various mechanisms giving rise to group differences in contraceptive use. Descriptive tabulations, presented in Appendix Table 1, suggest that Whites are most likely and Mexican immigrants are least likely to receive contraceptive advice from a medical professional. The only exception to this pattern relates to emergency contraception, for which the opposite obtains. It is possible that the need for emergency contraception implies limited access to non-emergency contraception.

Never married women may abstain to avoid pregnancy, because they have not had the opportunity to have sex in recent months, or because cultural and religious norms deter pre-marital sex (Santinelli et al. 2006). Because we cannot ascertain if women are using abstinence as a contraceptive strategy, our main analysis excludes women who have never had sex. In supplementary analyses, we conducted several multinomial logistic regression models that also considered ‘not having sex’ as a contraceptive strategy. These analyses do not alter our overall conclusions about the relative importance of the various mechanisms in giving rise to group differences in contraceptive practice.

6. Discussion

Hispanic women in the United States have considerably higher nonmarital fertility than women in other ethno-racial groups. In recent years, these differences have arisen largely due to group variations in contraceptive practice (Kim and Raley 2015).

Although the pattern of race/ethnic variation in contraceptive practice has been widely documented, our understanding about what causes these differences remains somewhat limited because existing work does not assess the relative importance of mechanisms giving rise to group disparities in contraceptive use. Pooling data from the 2006–2010 and 2011–2013 NSFG, we fill this gap in the literature by focusing on the largest Hispanic national origin group, Mexican Americans, and assessing the extent to which socioeconomic inequality, access to family planning services, and differences in attitudes towards family life and fertility intentions contribute to racial, ethnic, and nativity status disparities in contraceptive use. Our study yields several noteworthy findings.

First, never married, non-cohabiting Blacks are most likely and never married, non-cohabiting Mexican immigrant are least likely to have ever had sex. This pattern is consistent with prior work that shows that Blacks initiate sex at earlier ages than non-Blacks (Hofferth 1987) and that Mexican immigrant women may limit their sexual activity outside of the context of marriage-like unions (East 1998; Raley et al. 2004; Landale and Oropesa 2007; Oropesa 1996). Family norms that discourage sexual activity outside of marriage (or marriage-like cohabitation) may simultaneously deter sexual activity and limit knowledge about contraception among never married, non-cohabiting Mexican immigrant women.

Second, when they have sex, Whites are more likely than non-Whites to use very effective methods of contraception, but there are few differences among minority groups once age and parity are accounted for. Racial, ethnic, and nativity differences in socioeconomic circumstances explain a significant portion of the differences in contraceptive practice between Whites and all non-Whites, with socioeconomic disparities having a particularly large impact on differences in contraceptive use between Whites and women of Mexican origin. This is consistent with claims that racial and ethnic variation in fertility reflects the relative opportunity costs of childbearing, as determined by individual socioeconomic status (McDaniels 1996). However, some of the socioeconomic difference is accounted for by the limited access to family planning services among women of lower socioeconomic status, particularly Mexican immigrant women. Policies aimed at improving contraceptive use and family planning should make efforts to reduce socioeconomic inequality and disadvantage.

Third, the impact of access to family planning services on White/Mexican-immigrant differences in the likelihood of using very effective methods of contraception is similar in magnitude to that of socioeconomic disadvantage and family background. This finding suggests that improving Mexican immigrant women's access to family planning services could increase rates of contraceptive use and reliance on very effective methods of contraception and may help prevent unwanted nonmarital births among Mexican immigrants. Improving access to family planning services for

racial minorities, especially Mexican immigrants, may be a way to reduce racial, ethnic, and nativity differences in contraceptive use as well as the occurrence of unplanned pregnancies.

Fourth, attitudinal differences – attitudes towards premarital sex and cohabitation, religious affiliations, and fertility intentions – explain little of the racial, ethnic, and nativity differences in contraceptive use among never married, sexually active women. Although a common narrative attributes high Hispanic fertility and lower rates of contraceptive use to their pronatalist orientation, and indeed we find that sexually active, never married Mexican immigrant women are the least likely to be upset if they become pregnant, we find limited support for this narrative in the regression analysis. However, it is possible that our results, though largely consistent with past studies (Hayford and Guzzo 2013; Rocca and Harper 2012), may emerge because we are limited in our ability to accurately capture the motivations guiding women's contraception use.

Our results suggest that the sexual behavior of never married, non-cohabiting US-born Mexican women are similar to that of their White counterparts, but the contraceptive behavior of US-born Mexican American women differs little from that of their foreign-born counterparts. Due to data limitations, we cannot ascertain whether this difference emerges because the contraceptive practices of women of Mexican origin do not converge with those of White and Black women across immigrant generations or because we cannot disaggregate US-born Mexican Americans according to their generational status (i.e., second vs. third generation). This empirical question warrants further examination with access to data on the reproductive behavior and contraceptive use patterns of second, third, and higher immigrant generation Mexican Americans.

Previous studies using the same data (i.e., NSFG) but distinct samples obtain different results regarding how contraceptive use among women of Mexican origin changes across immigrant generations. Specifically, White and Potter (2013) find that contraceptive non-use is lower among US-born Mexican women compared to Mexican immigrant women in the United States, whereas the opposite is true for Minnis (2010). In our study, nativity differences in contraceptive non-use are not significant. A key difference across the three studies is the marital composition of the sampled women: Minnis (2010) includes all women of reproductive age; White and Potter (2013) limit their sample to currently married or cohabiting women; and our study focuses on never married, non-cohabiting women. Relative to Mexican immigrant women, higher shares of US-born Mexican American women are never married¹¹ and never married women have higher rates of contraceptive non-use than cohabiting or married women (Jones,

¹¹ 19% of US-born Mexican Americans and 51% of foreign-born Mexicans are never married, non-cohabiting women.

Mosher, and Daniels 2012). Thus, combining women of various marital statuses will result in a higher rate of contraceptive non-use among US-born Mexican American women relative to Mexican immigrant women, even when never married and cohabiting/married Mexican immigrant women have higher rates of contraceptive non-use than their US-born Mexican American counterparts. Future studies of contraceptive behavior should be attuned to marital status when examining group differences in contraceptive use.

Like all studies, our empirical work has some limitations. First, sexual inactivity, or abstinence, could be a strategy employed by some never married women to avoid pregnancy (Santinelli et al. 2006). Our analysis of contraceptive practice excludes women who are sexually inactive because we cannot ascertain why never married women are abstaining. Second, our attitudinal measures are somewhat limited. Attitudinal differences may have limited effects on racial, ethnic, and nativity differences in contraceptive efficacy in our study because we need more nuanced variables capturing the desirability of distinct types of contraception or women's ability to negotiate contraceptive use with their partner. Third, despite the fact that we pool eight years of NSFG data, we do not have sufficiently large numbers of never married Mexican immigrants who are currently cohabiting women to analyze their contraceptive behavior. Finally, we have limited information about racial, ethnic, and nativity status differences in contraceptive knowledge, which may independently account for racial and ethnic differences in use.

Despite these limitations, this paper makes an important contribution to the literature on race/ethnic disparities in contraceptive use. It empirically assesses the relative importance of the various mechanisms identified in previous work as important determinants of race/ethnic disparities in contraceptive practice. When doing so, it capitalizes on data improvements in the 2006–2010 and 2011–2013 NSFG data to include a more comprehensive list of questions about access to family planning services. It also uses national data to increase the generalizability of the research findings. Finally, it limits our analytical sample to never married, non-cohabiting women, in recognition of the fact that the contraceptive behavior of women in co-residential unions differs appreciably from those of never married individuals, as do the mechanisms governing their contraceptive practices. Policies aimed at alleviating socioeconomic inequalities may be effective at reducing disparities in contraceptive use between Whites and all non-Whites, whereas policies aimed at alleviating differential access to family planning services may also be necessary to reduce White/Mexican-immigrant differences in contraceptive practice.

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Appendix

Table A-1: Racial, ethnic, and nativity differences in access to family planning services for never married women who are sexually active

Access to family planning	White	Black	US-born Mexican	Foreign-born Mexican
% who received birth control prescription	60	40	45	37
% who received check-up for birth control	43	28	29	31
% who received pelvic exam	59	59	37	39

Source: 2006-2010 and 2011-2013 National Survey of Family Growth

Notes: Percentages are weighted and standardized to the age and parity distribution of Whites.