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Abstract

As partnering between men and women with different racial/ethnic origins has increased, robust theory and empirical findings about fertility in these unions has been slower to emerge. We propose a new, gendered framework for analysis of fertility in racial/ethnically exogamous unions, and we evaluate current and new hypotheses within this framework using births data from cohabiting and married Black, Hispanic, and White men and women from the 2001-2017 American Community Survey. We examine separately first and higher-order births. Our analyses reveal strong support for 'male predominant' patterns of fertility in exogamous unions. We distinguish 'standard male predominance' in which an exogamously-paired couple's fertility level is equal to that for the man's race/ethnicity when he is paired with a same-race/ethnicity woman (male-endogamous fertility), and 'super male predominance', in which an exogamously-paired couple's fertility level is brought even further away from the woman's endogamous fertility level, in the direction of the male endogamous fertility level. We find only scattered support for existing hypotheses of 'stigma,' 'pronatal exogamy', and 'in-between' fertility, and we find no support for 'female predominance'. Among the broader implications of our findings are that the standard demographic focus on women's characteristics downwardly biases estimates of race/ethnic fertility differentials.

Keywords: fertility, racial/ethnic exogamy, interracial/interethnic unions, United States

Introduction

Partnership between men and women with different racial/ethnic origins has increased dramatically in the U.S. over the last four decades (Qian & Lichter 2011; Livingston & Brown 2017; Torce & Rich 2017), and substantial research devoted to this topic has broadened our knowledge about the social patterning of who partners whom in the U.S. (Schwartz 2013). Few studies, however, have explored fertility differentials between “exogamous”, interracial and interethnic unions, and “endogamous”, same-race/ethnicity unions. Exceptions are Fu (2008), Choi and Goldberg (2018, 2020), Qian and Lichter (2017) and Lichter and Qian (2018). However, findings from these studies are inconsistent, and limitations of the data, modeling approach, and statistical testing make some of their conclusions difficult to evaluate.

In the present study, we develop a new research approach to studying racial/ethnic exogamy and fertility that overcomes earlier studies’ limitations, in particular about the treatment of gender. Earlier research has largely taken a gender-neutral approach that ignores how exogamy may be experienced differently by men and women. We develop an alternative approach in which the gender-neutral hypotheses about exogamy can be evaluated against gender-differentiated hypotheses about exogamy, i.e., ‘male predominance’ versus ‘female predominance’. We achieve sufficient statistical power to implement this gender-specific approach to exogamy for the three largest racial/ethnic groups in the US – non-Hispanic Whites, non-Hispanic Blacks, and Hispanics – by using the rich microdata available from nearly two decades of fertility observed in the American Community Survey.

Literature Review

Fertility differences by race/ethnicity

A starting point for studying racial/ethnic exogamy and fertility is the existence of, and explanations for, racial/ethnic differences in fertility irrespective of exogamy. Overall fertility differences have been conceptualized implicitly as differences in endogamous fertility for which the characteristics of one partner are sufficient to describe the union. Because of this, fertility is conventionally studied as births occurring to women, for whom data collection is more straightforward. Of the three largest U.S. racial/ethnic groups, fertility is overall highest for Hispanic women, followed by Black, then White women. For example, in 2001, the first year of our data, the total fertility rates (TFRs) were respectively 2.75, 2.10, and 1.84 for Hispanic, Black, and White women (Hamilton et al. 2003); and in 2017, the last year of our data, the TFRs were respectively 2.01, 1.82, and 1.67 (Martin et al. 2018).

Explanations for racial/ethnic differences in fertility have traditionally set in opposition socioeconomic versus cultural mechanisms (Forste and Tienda 1996). More recent research has refined this duality to acknowledge that the relative importance of either mechanism may depend on women's age, parity, partnership status (Sweeney and Raley 2014), and use of effective contraceptive methods (Anyawie and Manning 2019; Kim and Raley 2015). The proximal determinants of fertility thus provide a bridge between the racial/ethnic patterning of socioeconomic and cultural conditions and the racial/ethnic patterning of fertility.

From the socioeconomic perspective, racial/ethnic differences in fertility depend on racial/ethnic differences in socioeconomic characteristics. In particular, White women's comparative advantages in socioeconomic attainment (e.g., education, occupation, and earnings) are thought to increase the opportunity costs of childbearing, thereby delaying fertility and increasing the likelihood of foregone fertility (Sweeney and Raley 2014; Quesnel-Vallée and Morgan 2003). Cultural forces proposed to contribute to higher minority fertility include Hispanic familism, (Frank and Heuveline 2005; Landale and Oropresa 2007) and normative decoupling of fertility and marriage for Blacks, and to a lesser extent for Hispanics (Sweeney and Raley 2014). Also noteworthy in the socioeconomic versus cultural explanations is an earlier extension of the socioeconomic explanation, the 'minority group' hypothesis. This argues that even after adjusting for socioeconomic differences, fertility will be lower for a minority group of otherwise equal economic status not because of cultural differences, but because of the greater precarity of the minority group's economic status (Goldscheider and Uhlenberg 1967; Johnson 1988; Boyd 1994).

Fertility differences by racial/ethnic exogamy

The literature on fertility differences by racial/ethnic exogamy is sparse. Studies fall into two general categories: (1) those describing the racial/ethnic *composition* of fathers and mothers of newborns, using birth certificate data (Shen 2018; Gordon and Reber 2018; Parker and Madans 2002; Atkinson et al. 2001); and (2) those analyzing differences in the *likelihood* of birth (i.e., "fertility"), using population-representative survey data (Fu 2008; Qian and Lichter 2017;

Lichter and Qian 2018; Choi and Goldberg 2018; 2020). The present study has the latter objective, and therefore our review is confined to these five studies.

Fu (2008) was the first we are aware of to articulate hypotheses about the fertility consequences of racial/ethnic exogamy. He linked theory conceptualizing racial/ethnic exogamy as social boundary crossing (Qian and Lichter 2007) with theory conceptualizing childbearing as a product and determinant of social capital (Astone et al. 1999). Then he identified how the social conditions that distinguish exogamous unions from endogamous unions might by fertility-reducing, fertility-enhancing, or have no effect. Fertility reduction is predicted on the basis of exogamous couples having a stigmatized status that diminishes their access to social capital (e.g., social, psychological, and material resources from family, friends and other social connections) supporting childbearing. Fertility increase is predicted on the basis of childbearing being thought of as a means to solidify unstable unions and exogamous couples being expected to have greater discord and instability (e.g., due to intra-couple cultural differences or social stigma (Hohmann-Marriott and Amato 2008; Bratter and King 2008)). Finally, Fu proposes that exogamy may be selective of non-normative men and women for whom the stigma of racial/ethnic boundary crossing is not important. He argues that this would result in exogamy having no impact on fertility. Fu makes a related argument for racial/ethnic exogamy having a smaller impact on cohabiting than married couples, due to expected differences in socioeconomic composition, cohabitation's less formal legal status, and the perception that cohabitation requires weaker commitment from the cohabiting partners and their social network (Brines and Joyner 1999; Smock 2000). The expectation that social sanctioning of exogamy will be stronger for marriages than cohabitations is similarly proposed in later work by Choi and Goldberg (2020).

As an alternative to the hypotheses of exogamy's stigma or pronatalism, studies by Qian and Lichter (2017) and Lichter and Qian (2018) introduce the hypothesis that exogamous unions should reflect a mixture of the preferences, constraints and other predictors of childbearing determined by each partner's race/ethnicity. From this perspective, exogamous childbearing levels should be 'in between' the levels of endogamous fertility of the two race/ethnic groups. They treat this hypothesis as gender neutral, with the fertility of exogamous pairings not depending on whether the male is from the 'high fertility' racial/ethnic group and the female is from the 'low fertility' racial/ethnic group or vice versa.

A critique of Fu's 'pronatal exogamy' and 'exogamy stigma' hypotheses and of Lichter and Qian's 'in between' hypothesis is that the two types of exogamous unions that cross a given racial/ethnic 'boundary' are treated the same irrespective of their gender-by-racial/ethnic pairing, i.e., they are gender neutral. The alternative possibility 'gender asymmetries' is summarized by Choi and Goldberg (2018). They state that exogamous versus endogamous differences will "depend on the couple's joint racial/ethnic composition" (p. 874). They do not, however, describe theory or expectations about the character of gender asymmetries.

The likelihood that exogamy's impact on fertility will be gendered is suggested by strong gender asymmetries in forming exogamous unions. For example, exogamous marriage and cohabitation with White partners are much more frequent among Black men than among Black women (Torche and Riche 2017). Explanations for this asymmetry include (see Gullickson 2006): traditional gender roles and power dynamics (e.g., where men initiate coupling); racialized gender norms and controls over sexuality (e.g., ‘protecting’ White women); and stricter sanctioning of formalized boundary crossing for White men than Black men (e.g., with White men facing larger labor market consequences). These gendered social processes in the formation of exogamous unions are all plausibly relevant also for determining fertility within exogamous unions.

A Gendered Framework for Analyzing Fertility in Racially/ethnically Exogamous Couples

We propose a gender-sensitive conceptual framework that allows researchers to evaluate both gender-neutral and gender-specific hypotheses about fertility in racial/ethnic exogamy unions. These include the existing gender-neutral hypotheses of stigmatized, pro-natal, and in-between exogamous fertility, and new hypotheses we detail below about male-predominant and female-predominant fertility patterns. In Figure 1, we illustrate our framework with a simple model in which there are only two possible racial/ethnic origins, Black and White, and thus four possible patterns of partnership: Black females with White males (B_fW_m); White females with Black males (W_fB_m); Black endogamous couples (B_fB_m); and White endogamous couples (W_fW_m).

[FIGURE 1 ABOUT HERE]

Figures 1a-1g depict seven hypotheses reflecting different ideal types of exogamous fertility in the context of each race/ethnic group’s endogamous fertility level. The first two figures correspond respectively to the ‘stigma’ and ‘pro-natal’ fertility of Fu (2008). In Figure 1a, exogamous fertility is lower than the endogamous fertility of both race/ethnic groups (‘exogamy stigma'). In Figure 1b, exogamous fertility is higher than the endogamous fertility of both race/ethnic groups ('pro-natal exogamy'). The third figure (1c) depicts exogamous fertility that is 'in between' the levels of each race/ethnic group's endogamous fertility (Qian and Lichter 2017; Lichter & Qian 2018). Note that because these hypotheses are presented by their proponents in a gender-neutral way, we present equal fertility levels between the two types of gender-race/ethnic pairings.

Figures 1d-1e depicts two gender-focused hypotheses about the influences of race/ethnicity we motivate from Fu's recognition that (gender-neutral) influences of racial/ethnic exogamy may not operate independent of (gender-specific) influences of race/ethnicity.. When fertility influences come only from the man's race/ethnicity, we define male predominance (Figure 1d), and when fertility influences come only from the woman's race/ethnicity, we define female predominance (Figure 1e). A point we return to in the Discussion section is that Figure 1e represents the implicit gender bias in demographic analysis of fertility, that it is sufficient to characterize fertility on the basis of women's characteristics alone (i.e., racial/ethnic differences using women's race/ethnicity alone). We show in our empirical analyses that this assumption is violated in all cases of exogamous unions. In contrast, Figure 1d represents the the corresponding alternative assumption that it is sufficient to observe the man's race/ethnicity alone.

Figures 1f-1g depict our new gender-assymetric "super" predominance hypotheses in which exogamous fertility reflects an accentuated expression of either male or female predominance. Specifically in Figure 1f, we show 'male super predominance' hypothesis that: when the union includes a man from the race/ethnic group with higher endogamous fertility, then exogamous fertility is expected to be higher than that for endogamous couples with either the woman's or the man's race/ethnicity; and when the man in the exogamous union is from the race/ethnic group with the lower endogamous fertility level, then exogamous fertility will be lower than either endogamous fertility level. Similarly, in Figure 1g, for the "super" female predominance hypothesis: when the woman's race/ethnic group has the higher endogamous fertility level, then exogamous fertility rises above that of both race/ethnic groups' endogamous fertility; and when the woman's race/ethnic group has the lower endogamous fertility level, exogamous fertility falls below that of both race/ethnic groups' endogamous fertility. To anticipate our empirical findings, we find that our gender-focused hypotheses of *'male predominance'* and *'male super predominance'*, depicted respectively in Figure 1d, and Figure 1f, are supported for more exogamous race/ethnicity-by-gender pairings of exogamous unions than any of the prior gender-neutral hypotheses of the current literature, represented in Figures 1a-1c.

Data and Methods

We use data on fertility in cohabiting and marital unions sampled in the American Community Survey (ACS), over the years 2001-2011 and 2013-2017. In 2012, data on fertility is suppressed in the ACS public use version for some geographic areas (i.e., 59 PUMAs within the states of Florida, Georgia, Kansas, Montana, North Carolina, Ohio and Texas) due to inconsistencies in data collection. We therefore omit data from this year to maintain national representativeness. We obtain ACS data through IPUMS (Ruggles et al. 2015). We identify births using the ACS's question asked of all 15 to 50 year-old women, "in the past 12 months, has this person given birth to any children". We accordingly include in our analysis only unions in which the woman is aged between 15 and 50. The ACS does not ask women's parity. We therefore follow Fu (2008) in categorizing unions as 'nulliparous' or 'parous' at the start of the 12-month fertility exposure interval based on parent-child relationships in the household, and we stratify our analyses on this dichotomous parity measure. Specifically, we use the IPUMS-constructed count of the woman's "own children" residing in the ACS household, and subtract 1 if she reported a birth in the last 12 months. Partner data are available for all married respondents and for cohabiting respondents when either the respondent or the partner of the respondent is the head of the household and the other partner identifies as the "unmarried partner of the head." We therefore exclude subfamily cohabiting unions from our analyses. We also exclude same-sex couples.

Our study is of fertility in unions in which both partners are any of three largest race/ethnic groups: non-Hispanic White ("White"), non-Hispanic Black ("Black"), or Hispanic. We first distinguish Hispanics----those reporting having "Mexican", "Mexican American", "Chicano", "Puerto Rican", "Cuban", or "another Hispanic, Latino or Spanish origin". Then we identify single-race Whites and single-race Blacks among those not reporting Hispanic ethnicity. This prioritizing of Hispanic ethnicity over race is a standard treatment in demography and follows Lichter and Qian's (2018) ethnoracial classification also using the ACS. Two more detailed classifications that we do not explore because of sample-size limitations are multi-racial individuals and Black-Hispanic versus White-Hispanic individuals. Hamilton et al (2009) report that biracial Black and White women are much more likely than single-race Black women to marry a White man, and interpret this from a "skin tone" theoretical perspective (see also Monk 2014). We might anticipate this would also influence couple fertility, but are not aware of any studies that have explored fertility differences between partnered lighter- versus darker-skinned women or men. Regarding exogamous unions of Black-Hispanics versus of White-Hispanics, we found that in 20% of unions of Hispanic women partnered with a Black man, and in 29% of unions of Hispanic men partnered with a Black woman, the Hispanic partner identified as Black-Hispanic (results not shown). In contrast, in almost no unions between non-Hispanic Whites and Hispanics did the Hispanic partner describe his or her race as Black, and instead largely identified as White-Hispanic (70% of Hispanic men and 66% of Hispanic women). "Other Race" (no racial identification) accounted for almost all those not identifying as White. A "skin tone" theoretical perspective is again commonly applied in understanding negative impacts of Black- versus White-Hispanic identification on socioeconomic stratification and on marriage (Hunter 2007), but again we are not aware of studies that have investigated impacts on fertility outcomes.

We classify each partner's nativity into U.S.-born if the individual was born in a U.S. state or the District of Columbia and foreign-born otherwise (including those born in Puerto Rico, Guam or any other U.S. territory). Educational attainment of each partner is classified into four categories of highest degree or level of schooling completed. Neither duration of the union or the number of prior marriages or cohabitations is included in our analyses because questions about the history of marriages were not collected prior to 2008 and have never been collected for cohabitations.

Statistical Analysis

Consistent with the definition of hypotheses and counterfactual alternatives in our conceptual framework, our empirical approach allows us to evaluate whether racial/ethnic exogamy operates independent of race/ethnicity, and whether influences of race/ethnicity or racial/ethnic exogamy, or both, are gender asymmetric. We evaluate these hypotheses using regression models to predict exogamous versus endogamous differences in fertility and difference-in-differences (DID) to test for gender asymmetry. This is a DID that is substantively new to this literature, but that is necessary here to formally assess whether it matters what is the gender combination involved in a given race/ethnically exogamous union type.

We first estimate a series of logistic regression models that predict an annual birth versus no birth outcome, stratifying the sample into nulliparous and parous couples. This follows speculation that fertility reduction in exogamous couples will be driven primarily by couples choosing not to have children (i.e., the likelihood of a first birth) due to the "fear of stigma for their children" (Lichter and Qian 2018, pg. 84). Based on previous theory and evidence (Fu 2008; Choi and Goldberg 2020) that exogamous versus endogamous differences in childbearing may be less strongly observed among cohabiting than married couples, we also considered further stratification by marital status. However, our empirical analyses showed that only the level, not the patterns, of fertility differed between cohabiting and married unions (see Appendix Figure A1a-A2b). Therefore, we controlled for, but did not stratify by, marital status.

Our first model (Model 1) is a single-sex, female-only model. Predictors are the woman's race/ethnicity, nativity, age (in a non-linear parameterization), and parity (for parous couples only), the couple's marital status, and the year. The second model (Model 2) adds men's race/ethnicity, nativity, and age. We use Model 2 to evaluate whether the racial/ethnic origins of men or women are more strongly associated with the fertility level. At their extreme, where race/ethnicity of only one partner contributes, these two scenarios are shown respectively in

Figures 1d (‘male predominance’) and 1e (‘female predominance’). If both partners contribute equally, we expect the scenario shown in Figure 1c (‘in between’). It is noteworthy that statistical identification of gender-specific racial/ethnic influences comes from unions in which the race/ethnicity of the man and woman in the same union differs (i.e., exogamous unions).

In the third model (Model 3), we evaluate whether the model fit is improved by adding interactions between the man’s and woman’s race/ethnicity. These interactions allow for hypotheses that involve interdependent influences of each partner’s race/ethnicity (i.e., Figure 1a, 1b, 1f or 1g) to be tested. Finally, in the fourth model (Model 4), we examine the extent to which evidence from Model 3 supporting respective hypotheses about fertility influence of sorting by race/ethnicity hold after additionally considering the influence of sorting by educational attainment and nativity. We do this by including main effects of each for women, for both partners, and then their interaction (see Appendix Table A1 and A2). There is reason to suspect that racial/ethnic exogamy may be at least partially explained by other forms of sorting, for example, in light of ongoing debate about the salience of race-for-education ‘status exchange’ in the U.S. (Torche and Rich 2017), and the European evidence for differences in fertility by educational heterogamy (Nitsche et al. 2018). In addition, adjusting for more sociodemographic variables allows us to better account for differential selection into the respective exogamous and endogamous couples. We complement these regression-model analyses of selection into unions on covariates by comparing descriptive statistics, including of educational attainment and nativity, for the different gender-by-race/ethnicity pairings of exogamous and endogamous couples.

To assemble evidence to assess support for the various hypotheses about exogamous fertility, represented in Figures 1a-1g, we transform the regression coefficient estimates from Model 3 and Model 4 into predicted annual birth probabilities. For each pairing of race/ethnicity (i.e., Black and Whites, Hispanic and White, Hispanic and Black), we estimate: a) predicted probabilities of childbearing (e.g., where B_fW_m is the annual birth probability if women's race/ethnic is Black and men's race/ethnicity is White); b) exogamous versus endogamous differences in these probabilities respectively holding either men's or women's race/ethnicity constant (e.g., where exogamous-endogamous differences for for White Men is B_fW_m-W_fW_m); and c) a *gender-asymmetry* DID (e.g., (W_fB_m-B_fB_m)-(B_fW_m-B_fB_m). The latter two statistics are required to best evaluate the strength of the statistical evidence, since whether or not the confidence intervals around a probability overlap is insufficient statistical evidence of a difference (Schenker and Gentleman 2001) or, by extension, a difference-in-difference. The use of the change-in-probabilities approach to evaluating hypotheses is increasingly advocated over odds or log-odds (e.g., see Ai and Norton 2003; Long and Mustillo 2018; Mize 2019). We estimate predicted probabilities for pairings of race/ethnicity holding all other covariates at 'representative values' (Long and Mustillo 2018). We use the same representative values for both the nulliparous and parous samples. They are partner's age at 30 years for women and 32 years for men, year at 2009, marital status at married and parity of parous couples at 1 child. In Model 4, representative values additionally used are "U.S.-born" and "high-school-graduate."

All models are fit using Stata/MP Version 15, employing the 'svy' commands to adjust for the complex sampling scheme of the ACS. We evaluate the improvement in model fit achieved through incorporating additional parameters (in Models 2 through 4) using Wald tests that adjust for the complex sampling scheme. Once the best fitting model is identified, we use the Stata 'margins' command to calculate exogamous-endogamous differences, with 95% confidence intervals obtained using the delta method in that command. Although the 'margins' command can also be used to calculate DID statistics, the gender-asymmetry DID was not one of these conventional products. Thus, the 'gender asymmetry' DID is calculated from the predicted probabilities and the 95% confidence interval is estimated using the Stata 'bsample' command, with adjustment for the complex sampling scheme, to obtain 1,000 bootstrapped estimates.

Results

Descriptive Analyses

Table 1 reports the distribution of exogamous and endogamous pairings of between White, Black, and Hispanic adults. Endogamous unions grouped together account for 92.6% of all unions (i.e., 70.3% White (W_fW_m); 14.8% Hispanic (H_fH_m); and 7.5% Black (B_fB_m)), while exogamous unions grouped together account for only 7.4% of all unions. The proportions in exogamous unions, however, are much greater for Black and Hispanic than White adults. When all unions including a Black adult are considered, 80.0% are endogamous and 20.0% exogamous. When all unions including a Hispanic adult are considered, 71.1% are endogamous and 28.9% exogamous.

[TABLE 1 ABOUT HERE]

There are differences in the likelihood of exogamy not only between racial/ethnic groups but also between men and women (calculations from Table 1 not shown). White adults in unions have the highest rates of endogamy and few gender differences in rates of exogamy. Hispanic adults also have few gender differences in rates of exogamy, but the highest rates of exogamy. These exogamous unions are largely with White partners. For Black adults, exogamy is also most likely to involve White partners, but the gender differences are large, i.e., rates for men are more than twice as large (11.2%) as for women (4.6%). Exogamous partnership with a Hispanic partner is also about twice as likely for Black men (4.1%) as for Black women (1.9%). Overall and across race/ethnicities, exogamy is more common among younger persons and more common also in cohabiting unions than in marital unions.

Table 1 next displays descriptive statistics and bivariate fertility rates. There are large differences in sociodemographic composition and other characteristics of endogamous and exogamous unions, and between exogamous unions with reciprocal pairings of gender-by-race/ethnicity. In addition, there are also some major differences in fertility by these same characteristics that substantiate the importance of evaluating our hypotheses about fertility influences of exogamy with and without adjustment for sociodemographic composition.

The characteristic that most strongly differentiates U.S. couples in Table 1 both respective to fertility and their distribution across exogamous and endogamous pairings of race/ethnicity is the couple's parity. Parity-related differences are much larger, for example, than differences by marital status—with married and cohabiting couples about equally likely to report a birth in the last 12 months (8.1% versus 8.3%, respectively) but nulliparous couples (10.5%) much more likely than parous couples (7.1%). Because couples with exogamous pairings of race/ethnicity are also more likely to be nulliparous than endogamous couples, these descriptive findings suggest that findings about the influence of exogamy on couples' fertility that do not adjust or stratify by parity will be biased upwards.

Table 1 also shows very large differences in the educational distribution of US couples by pairings of race/ethnicity and notable fertility differences by education. Across the four pairings of Black and White racial/ethnic origins, we find that the educational attainment of men and women in exogamous unions is more similar than the attainment of men and women in endogamous unions – in other words, unions that are racially exogamous are overall educationally homogamous. For example, in W_f:B_m exogamous unions, about one-quarter 26% of White women and 25% of Black men are college graduates. In B_f:W_m exogamous unions, 35% of Black women and 35% of White men are college graduates. In each case, overall educational homogamy in exogamous unions is achieved at a level of educational attainment close to that of men in endogamous unions. For example, respectively 25% of Black men in endogamous unions and 37% of White men in endogamous unions are college graduates.This phenomenon of exogamous partnering to the man's educational level is potentially important for understanding exogamous versus endogamous fertility, and we therefore explore this further in our multivariate analyses by alternately not controlling for, and then controlling for, the educational attainments of the woman and man.

For unions of Hispanics and Whites, there is also evidence of exogamous partnering involving educational sorting to the man's educational level in the corresponding endogamous union. For example, among exogamously partnering Hispanic women in H_fW_m unions, 34% are college graduates, similar to the 37% of White men in endogamous unions who are college graduates. This exogamous union educational attainment is much higher than the Hispanic endogamous educational attainment – which is the lowest of all the groups (i.e., 35.3% of women and 38.3% of men have less than high school graduate level education). Although exogamously-partnering Hispanic women do more or less partner "up" to the White men's endogamous educational levels, exogamously-partnering White women do not partner "down" to Hispanic men's educational levels. This contrasts with exogamously-partnering White women in unions with Black men in which the women do partner "down" to Blacks men's endogamous educational levels. Furthermore, the lower education of endogamous Hispanic unions, however, will be strongly related to their much higher proportions foreign-born: 69.5% of women and 72.7% of men in those unions. Table 1 shows, however, that for exogamous partnerships, the likelihood that the Hispanic partner is foreign-born is much higher in unions with a Hispanic male than Hispanic female (i.e.,H_f:W_m=8%and W_f:H_m=29%. Therefore, we consider also nativity in our multivariate analyses, alternately not controlling for, and then controlling for, the joint characteristics of nativity and educational attainment of the woman and the man in the couple.

Regression Models of Overall Female and Male Contributions to Couple Fertility

The first objective of the multivariate modeling is to statistically assess whether fertility is equally or unequally determined by the race/ethnicity of the female and male partners. Table 2 reports coefficients from parity-stratified logistic regression models used to evaluate this objective. We find that the inclusion in Model 2 of covariates for men's race/ethnicity significantly improves the model (second to last row Table 1, F-test p<.001). We observe in Model 2 that the annual likelihood of a birth is much more strongly associated with men's than women's racial/ethnic origins. Once men's race/ethnicity is included (Model 2), almost no female race/ethnicity association with fertility remains. For nulliparous couples in Model 2, the coefficients for women's race/ethnicity are either substantively and statistically eliminated (B_f), or reduced by two thirds (H_f), after adjusting for men's race/ethnicity. The coefficients B_m and H_m are large, highly significant, and of magnitudes similar to those of the Model 1 female coefficients, in which men's characteristics are omitted from the model. For parous couples in Model 2, the positive female coefficients for B_f and H_f seen in Model 1 are entirely eliminated, whereas the male coefficients for B_m and H_m are comparable to, or somewhat larger than, the magnitudes of the Model 1 female coefficients for B_f and H_f. In summary, using a simple model in which both female and male race/ethnicities in couples are included, male race/ethnicity dominates female race/ethnicity in predicting couple fertility.

[TABLE 2 ABOUT HERE]

Predicted Probabilities in the Evaluation of Hypotheses about Exogamous Fertility

In Figures 2a and 2b, we depict parity-stratified birth probabilities estimated from Model 3 of Table 2. Comparison of the patterns of birth for exogamous and endogamous pairings of race/ethnicity (i.e., respectively for Black and White, Hispanic and White, and Black and Hispanic pairings) from Model 3 provide initial evidence for which of the hypothesized patterns of fertility depicted in Figure 1 are supported in the data. In Table 3, we report these predicted probability values and confidence intervals, along with the respective differences in annual probabilities that indicate whether a required exogamous-endogamous difference for a given hypothesis is in fact observed.

Empirical support for the 'male predominance' hypothesis for a given exogamous gender-by-race/ethnicity pairing requires both of the following: (1) a statistically *non-significant* difference between the annual birth probability for that exogamous pairing versus the endogamous pairing with the *man's* race/ethnicity (see Table 3 row 'Difference by men's race/ethnicity'); and (2) a statistically *significant* difference between the annual birth probability for that same exogamous pairing versus the endogamous pairing with the *woman's* race/ethnic group (see 'Difference by women's race/ethnicity'). Because the frequentist statistical paradigm does not allow for testing that two numbers are equal, the combination of (1) and (2) serves also to account for lack of statistical power as a cause for failure to reject an equality hypothesis in (1). The tests for (1) and (2) are derived from the confidence intervals around differences in predicted birth probabilities (see 'Exogamous-endogamous difference' panels in Table 3).

When the annual birth probability of a given exogamous union differs statistically from both partners' endogamous union birth probabilities, one of the three hypotheses in the literature is supported. When the exogamous-union birth probability lies between the two race/ethnic groups' endogamous levels, the '*in-between*' hypothesis is supported. When the exogamous birth probability is above both the two race/ethnic groups' endogamous levels, the '*pronatal exogamy*' is supported. When the exogamous birth probability is below both the two race/ethnic groups' endogamous levels, the '*stigma*' hypothesis is supported. We may additionally infer support for one of the ‘super predominance’ hypotheses when the exogamous probability is either above both or below both of the two race/ethnic groups’ endogamous levels. When the exogamous birth probability is closer to that of the male partner’s endogamous birth probability, we infer ‘*super male predominance*.’ When the exogamous birth probability is closer to that of the female partner’s endogamous birth probability, we infer ‘*super female predominance*.’

[FIGURES 2a AND 2b ABOUT HERE]

For nulliparous couples, shown in Figure 2a, cases of exogamous fertility supporting the hypothesis of ‘*male predominance*’ are seen both for White females partnered with Black males (W_fB_m) and for Hispanic females partnered with White males (H_fW_m). The first-birth probability of the W_fB_m pairing (0.220; 95% CI: 0.207, 0.233) is equal to that of the B_fB_m pairing (0.220; 95% CI: 0.214, 0.227), and much above the W_fW_m pairing (0.174; 95% CI: 0.172, 0.176). Accordingly, the exogamous-endogamous difference for W_fB_m couples respective to the endogamous group with the man’s race/ethnicity difference is statistically indistinguishable from zero (W_fB_m-B_fB_m=-0.001; 95% CI: -0.015, 0.014). By comparison, the difference respective to the endogamous group with the woman’s race/ethnicity is much larger than zero (W_fB_m-W_fW_m=0.046; 95% CI: 0.033, 0.059). In fact, this difference is equal to the White versus Black fertility difference of endogamous couples. Similarly, the first-birth probability of the H_fW_m pairing (0.172; 95% CI: 0.166, 0.179) is almost equal to the 0.174 of the W_fW_m pairing (i.e., H_fW_m-W_fW_m = -0.002; 95% CI: -0.008, 0.005), but much below that of the H_fH_m pairing (0.251; 95% CI: 0.246, 0.256). The difference in fertility between White versus Hispanic endogamous couples is nearly equal to that between H_fW_m exogamous and Hispanic endogamous couples

(H_fW_m-H_fH_m= -0.078; 95% CI: -0.086, -0.070). Finally, the pattern of first-birth probabilities for the B_fH_m pairing also appears consistent with 'male predominance'. However, the confidence interval is too wide to adjudicate, due to the smaller sample size (see again Table 1). The first-birth probability of Black females partnered with White males (B_fW_m=0.154; 95% CI: 0.137, 0.170) is lower than first-birth probabilities of both Black-endogamous unions (B_fB_m=0.220; 95% CI: 0.214, 0.227) and White-endogamous unions (W_fW_m=0.174; 95% CI: 0.172, 0.177). This low B_fW_m first-birth probability is evidence supportive of both the '*stigma*' hypothesis and, because it is closer to the endogamous level of White males's first-birth probabilities, is also supportive of the '*super male predominance*' hypothesis.

[TABLE 3 ABOUT HERE]

A single exception to nulliparous couples showing either the 'male predominance' or 'super male predominance' pattern occurs when White females partner with Hispanic males. Figure 2a shows that their first-birth probability (W_fH_m=0.196) is above the White-endogamous first-birth probability (W_fW_m=0.174), such that the respective exogamous-endogamous difference is statistically significant and positive (W_fH_m-W_fW_m =0.022; 95% CI: 0.015, 0.029), and below the Hispanic-endogamous first-birth probability (H_fH_m=0.251). The exogamous-endogamous difference is statistically significant and negative (W_fH_m-H_fH_m =-0.055; 95% CI: -0.063, -0.046). Therefore, W_fH_m supports the '*in-between*' hypothesis.

For parous couples, shown in Figure 2b, four exogamous pairings are observed with sufficient statistical precision to distinguish exogamous versus endogamous differences. Three of these pairings follow the '*male predominance*' patternand the other follows the '*super male predominance*' pattern. The three gender-by-race/ethnicity combinations that follow standard male predominance are: White females partnered with Black males (W_fB_m=0.229), who have a higher-order birth probability that is statistically indistinguishable from endogamous Black couples (B_fB_m=0.223 and W_fB_m-B_fB_m=0.006; 95% CI: -0.005, 0.017); Hispanic females partnered with White males (H_fW_m=0.212), who are statistically indistinguishable from endogamous White couples (W_fW_m=0.211 and H_fW_m-W_fW_m=0.001; 95% CI: -0.005, 0.007); and White females partnered with Hispanic males (W_fH_m=0.226), who are statistically indistinguishable from endogamous Hispanic couples (H_fH_m=0.227 and W_fH_m-H_fH_m=-0.001; 95% CI: -0.008, 0.006). Mirroring the first-birth probabilities, the exception to standard male predominance is again Black females partnered with White males (B_fW_m =0.190). Their higher-order birth probability falls below that of both Black-endogamous birth probabilities (B_fB_m=0.223; 95% CI: 0.218, 0.228) and White-endogamous (W_fW_m=0.211; 95% CI: 0.210, 0.213) birth probabilities. This is a pattern that again supports both the '*stigma*' hypothesis and the '*super male predominance*' hypothesis. The Model 4 results, controlling for sorting into couples by education and nativity (see also their sequential inclusion in Appendix 3), are presented in tabular form only (see again Table 3), but with this being the 'final' model, we give more explicit attention to the gender-asymmetry results. The Model 4 results are very similar to the Model 3 results for Black-with-White pairings, but show both similarities and differences for Hispanic-with-White and Hispanic-with-Black pairings. We find again that, overall, the most supported hypothesis is 'male predominance', supplemented by 'super male predominance'.

Similar to Model 3, the 'male predominance' hypothesis receives the strongest support in pairings of Black men with White women (W_fB_m). It holds for both nulliparous and parous unions. For nulliparous couples, W_fB_m fertility (0.241; 95% CI: 0.227, 0.256) is statistically indistinguishable from Black endogamous fertility B_fB_m (0.239; 95% CI: 0.231, 0.247). This is seen formally in the exogamous-endogamous difference statistic, ($-1*(W_fB_m-W_fW_m)=0.002$; 95% CI: -0.013, 0.017). The exogamous-endogamous difference generated by holding women's race/ethnicity constant (at White) and varying men's race/ethnicity (as Black or White), however, is appreciable and statistically significant ($W_fB_m-W_fW_m=0.044$; 95% CI: 0.030, 0.057). That is, the first-birth probability of White women paired with Black men lines up with that of Black women paired with Black men, which is substantially higher than the first-birth probability of White women when paired with White men. A similar, 'male predominance' pattern is seen for W_fB_m fertility in parous unions. With a smaller difference in endogamous Black versus White fertility for parous than for nulliparous unions ($B_fB_m-W_fW_m$), however, the magnitude of increase in White women's parous fertility when paired with a Black man versus with a White man is also smaller ($W_fB_m-W_fW_m=0.020$; 95% CI: 0.012, 0.029).

When the genders are reversed in unions between Whites and Blacks (i.e., to the B_fW_m form of exogamy), the fertility pattern in both nulliparous and parous couples is, as for Model 3, consistent with both the '*stigma'* hypothesis and the '*super male predominance*'. The first-birth probability ($B_fW_m=0.173$; 95% CI: 0.155, 0.191) is lower than both Black endogamous fertility ($-1*(B_fB_m-B_fW_m)=-0.066$; 95% CI: -0.085, -0.047) and White endogamous fertility ($B_fW_m-W_fW_m=-0.025$; 95% CI: -0.043, -0.007). Similarly, as shown in the panel in Table 3 for exogamous-endogamous differences, the higher-order birth probability ($B_fW_m=0.148$; 95% CI:

0.133, 0.163) is again lower than both that for Black endogamous unions (-1*(B_fB_m-B_fW_m)=-0.031; 95% CI: -0.046, -0.015) and White endogamous unions (B_fW_m-W_fW_m)=-0.017; 95% CI: -0.032, -0.002). While the low B_fW_m higher-order birth probability is consistent with the 'stigma' hypothesis, it is again closer to that of the endogamous male partner's race/ethnicity than to the female partner's, and therefore '*super male predominance*' is inferred. The different effects of exogamy on fertility according to which is the gender combination (B_fW_m versus W_fB_m) is thus seen for both nulliparous and parous unions between Blacks and Whites.

The *'Gender-asymmetry DID'* formally evaluates the magnitude and statistical significance of the difference in exogamous-endogamous differences across the two gender combinations of Black-White unions. This DID is substantively large and statistically significant for both nulliparous (0.068; 95% CI: 0.046, 0.089) and parous (0.038; 95% CI: 0.020, 0.056) unions. The gender asymmetry follows from a pattern in which both gender combinations of Blacks with Whites are consistent with male predominance (considering both the 'standard' and 'super' forms). In contrast, no such consistency is found when evaluating these two gender combinations of Black-White union against existing exogamy hypotheses. The 'stigma' hypothesis applies to the B_fW_m higher-order birth probability, but it definitely does not apply to the W_fB_m higher-order birth probability.

In Model 4, as in Model 3, unions between Hispanics and Whites yield the sole case of support for the '*in-between*' hypothesis. This support is again restricted to nulliparous unions of White women with Hispanic men. The W_fH_m first-birth probability of 0.219 (95% CI: 0.210, 0.227) is lower than Hispanic endogamous fertility (H_fH_m=0.240; 95% CI: 0.233, 0.247), but higher than

White endogamous fertility (W_fW_m=0.198; 95% CI: 0.194, 0.202). In contrast, in reversing the genders, the H_fW_m first-birth probability (0.195; 95% CI: 0.187, 0.203) is substantially and statistically-significantly lower than Hispanic-endogamous first-birth probability (H_fH_m=0.240; 95% CI: 0.233, 0.247), but is substantially very similar to (and statistically indistinguishable from) that of White endogamous first-birth probability (W_fW_m=0.198; 95% CI: 0.194, 0.202). This is, as in Model 3, a '*male predominance*' pattern.

The parous unions of White women with Hispanic men (W_fH_m) in Model 4 (unlike in Model 3) exhibit fertility consistent with '*pronatal exogamy.*' The higher-order annual birth probability of W_fH_m unions (0.176; 95% CI: 0.170, 0.182) is above that of both Hispanic-endogamous unions (H_fH_m=0.163; 95% CI: 0.159, 0.167) and White-endogamous unions (W_fW_m=0.165; 95% CI: 0.163, 0.168). This is not interpretable as '*super male predominance*', however, because there is essentially no difference between Hispanic and White endogamous fertility levels in parous unions.

Because of the high magnitude of the H_fW_m '*male predominance*' result for nulliparous unions (-1*(H_fW_m-W_fW_m)=-0.044, 95% CI: -0.054, -0.035), the corresponding *'gender-asymmetry DID'* estimate for nulliparous Hispanic and White unions (i.e., for the difference in the exogamous-endogamous differences between the two forms Hispanic and White exogamous partnership) is also statistically significant (0.023; 95% CI: 0.013, 0.033). Similarly, because of the 'pronatal exogamy' finding for W_fH_m parous unions, the *'gender-asymmetry DID'* estimate for parous unions between Hispanics and Whites is also statistically significant (0.011; 95% CI: 0.004, 0.019). These gender asymmetries are again inconsistent with existing, gender-neutral hypotheses about exogamous fertility (whether the ‘in-between’ or the ‘pronatal exogamy’ hypothesis).

There is one statistically-significant finding for unions between Blacks and Hispanics in Model 4, and it is also a finding of ‘*pronatal exogamy.*’ It is for nulliparous unions between Black women and Hispanic men. Their first-birth probability (B_fH_m=0.285; 95% CI: 0.246, 0.325) exceeds that of both Black-endogamous (B_fB_m=0.239 and (B_fH_m-B_fB_m)=0.046; 95% CI: 0.007, 0.086) and Hispanic-endogamous unions (H_fH_m=0.240 and (B_fH_m-H_fH_m)=0.046; 95% CI: 0.007, 0.085). As with the parous unions of White women with Hispanic men, neither ‘*super male predominance*’ nor ‘*super female predominance*’ is indicated in this case of pronatal exogamy. Analagous to the parous unions of White women with Hispanic men, this is due to the equivalence of Black-endogamous and Hispanic-endogamous first-birth probability magnitudes.

In summary, across the fully adjusted exogamous-endogamous differences for nulliparous and parous unions reported for Model 4 in Table 3, four exogamous unions support ‘*male predominance*’ (nulliparous and parous W_fB_m and H_fW_m unions) and three exogamous unions support ‘*super male predominance*’ (nulliparous and parous B_fW_m unions, and parous W_fH_m unions). No exogamous unions support ‘*female predominance*’ or ‘*super female predominance*’. There is scattered support for the ‘*in-between*’ hypothesis (for nulliparous W_fH_m unions only), for the ‘*stigma*’ hypothesis (for nulliparous B_fW_m unions only), and for the ‘*pronatal-exogamy*’ hypothesis (for parous W_fH_m unions and for nulliparous B_fH_m unions only). *Gender asymmetry* is found for both nulliparous and parous White-Black unions and for both nulliparous and parous White-Hispanic unions.

Discussion

In this study we extended the sparse literature on the childbearing dimensions of racial and ethnic exogamy with estimates of differences in annual probabilities of birth among nulliparous and parous unions involving White, Black, and Hispanic women and men between 2001 and 2017. Fu (2008) hypothesized that exogamous fertility will either be lower or higher than endogamous-union fertility, respectively defining the *'stigma'* hypothesis for a fertility-depressing effect of exogamy and the '*pro-natal exogamy*' hypothesis for a fertility-enhancing effect of exogamy. Lichter and Qian (2018) proposed an *'in-between'* hypothesis. We find that none of these hypotheses receives empirical support that is consistent across gender-by-race/ethnicity combinations, supporting a hypothesis of *'gender asymmetry'* first proposed by Choi and Goldberg (2018). We provide a unifying framework for analyzing fertility of exogamous unions in which the gender neutral hypotheses of exogamy '*stigma'*, *pro-natal'* or '*in-between*' fertility can be evaluated. In addition, we develop a new set of specific hypotheses describing how gender operates consistently across the gender-by-race/ethnicity combinations of exogamy to either generate *'male predominance'* and '*male super predominance'* or *'female predominance'* and *'female super predominance'*.

According to our gender-focused framework, the fertility in exogamous unions is evaluated relative to the endogamous fertility levels of the man and the woman's race/ethnicity to determine which of the two genders predominates in influencing the fertility level of the exogamous union. We find strong support for '*male predominance'* and '*male super predominance'*, and no support for female predominance. The *'male predominance'* hypothesis was supported for both nulliparous and parous unions of Black men with White women and for nulliparous unions of Hispanic men with White women. In both cases exogamous fertility was statistically indistinguishable from endogamous couples of the man's race/ethnicity. The 'male super predominance' hypothesis was supported for nulliparous and parous unions of Black women with White men and Black women with Hispanic men. In both cases exogamous fertility is driven even further away from the fertility level of endogamous unions of the woman's race/ethnicity, so that it is not just equal to that for endogamous unions of the man's race/ethnicity but is outside this upper or lower bound (i.e., outside and below the endogamous fertility of either partner's race/ethnicity in the former case and outside and above in the latter).

The consequences of our finding that there is no support for the *'female predominance'* hypothesis is not trivial. It means that demographers' default representation of racial/ethnic differences in fertility using the racial/ethnic origins of the women alone will be increasingly wrong as exogamous unions increase in prevalence. Importantly, a one-sex approach that uses women's characteristics as a proxy for an endogamously partnered couple's experience leads to downwardly biased estimation of racial/ethnic differences in fertility. The underestimation occurs because the fertility of exogamous unions is, with one exception, closer to that of endogamous unions with race/ethnicity of the male partner than in endogamous unions with the race/ethnicity of the female partner. The exception is an equidistant ('in-between') fertility level for nulliparous Hispanic women paired with White men. This is, moreover, a gender-asymmetric exception (we noted above that for nulliparous White women paired with Hispanic men, male predominance holds). The implicit assumption in representing race/ethnic fertility differences by those of women of each race/ethnicity is that the race/ethnicity of the woman's partner (i.e., of the man) is unimportant. Our findings indicate that this assumption is seriously violated for White, Black, and Hispanic women across almost two decades of the 21st Century. The neglect of "bringing men's roles in fertility" is a long-standing critique in demography (Watkins 1993, p.568; See also Greene and Biddlecom 2000). Our findings reinforce this, and provide empirical evidence indicating the need for more development of theory and analyses of men's statuses and characteristics and of couple's joint decision-making processes and factors (e.g., Thomson 1997; Testa et al. 2014; Nitsche et al. 2018).

Finally, we found that the processes of assortative partnering on education that we identified for Black-White exogamous unions do not explain either the 'male predominance' finding of White women in unions with Black men nor the 'stigma' finding of Black women in unions with White men. In both cases, the finding was similar before and after controlling for educational attainment of the male and female partner and the female-by-male-education interaction. The processes of assortative partnering on education that we identified for Hispanic-White exogamous unions, moreover, are not clearly distinguished from those of partnering based on nativity, in which foreign-born Hispanic women are much more likely than are foreign-born Hispanic men to have a fellow foreign-born partner. Our findings for race/ethnically exogamous fertility, therefore, are not reducible to educational differences in who is more or less likely to form exogamous unions.

As next steps, we posit that gender-focused fertility theory is required. A good starting place may be in the theory of exogamous partnering itself. Gender-asymmetry is already a well-established dimension of interracial and inter-ethnic partnering (e.g., Choi and Tienda 2017). For example, studies on dating and marriage show particularly strong social exclusion of Black women (Robnett and Feliciano 2011; Torche and Rich 2017). Theory on gendered power dynamics has been used to explain male and female partners' discordant fertility intentions, including in exogamous unions (Thompson 1997). Eeckhaut (2019) explored gender asymmetries in who gets sterilized in exogamous unions from the perspective of gendered roles in "fertility work". Theory of partnership dynamics of unions in which the man has a lower economic position relative to the woman, leading to compensatory gender asymmetries in division of household labor (Brines 1994), is another potential source for theorizing fertility in exogamous unions. For example, the man's assuming greater power over family-size choice in an exogamous union may be perceived within the couple as compensatory for the lower social status of the man's race/ethnic group relative to the woman's race/ethnic group. We propose that more general exploration of gender theory about social position, bargaining, and symbolic and material exchange in exogamous unions may be a fruitful means of advancing gendered fertility theory.

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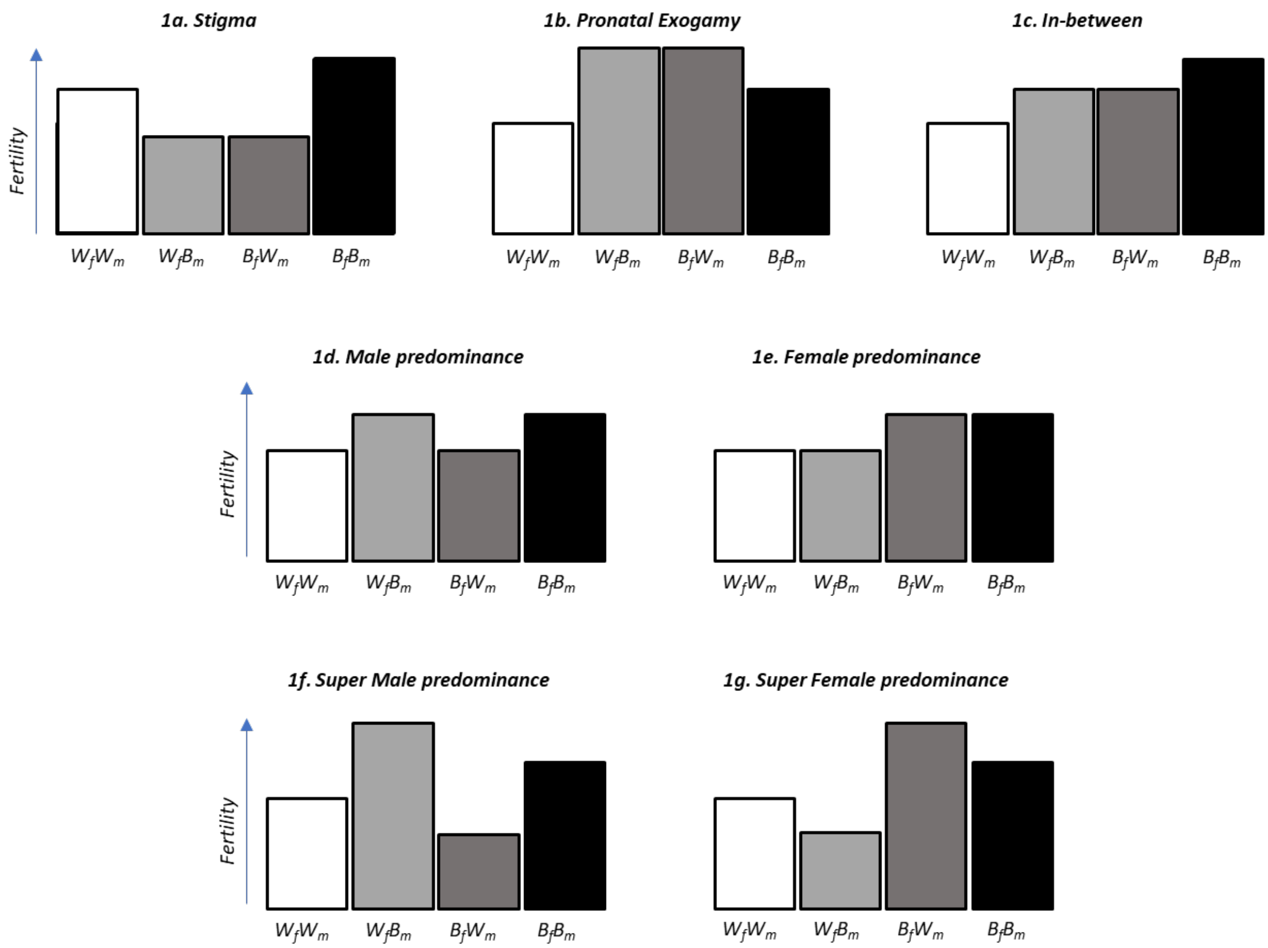
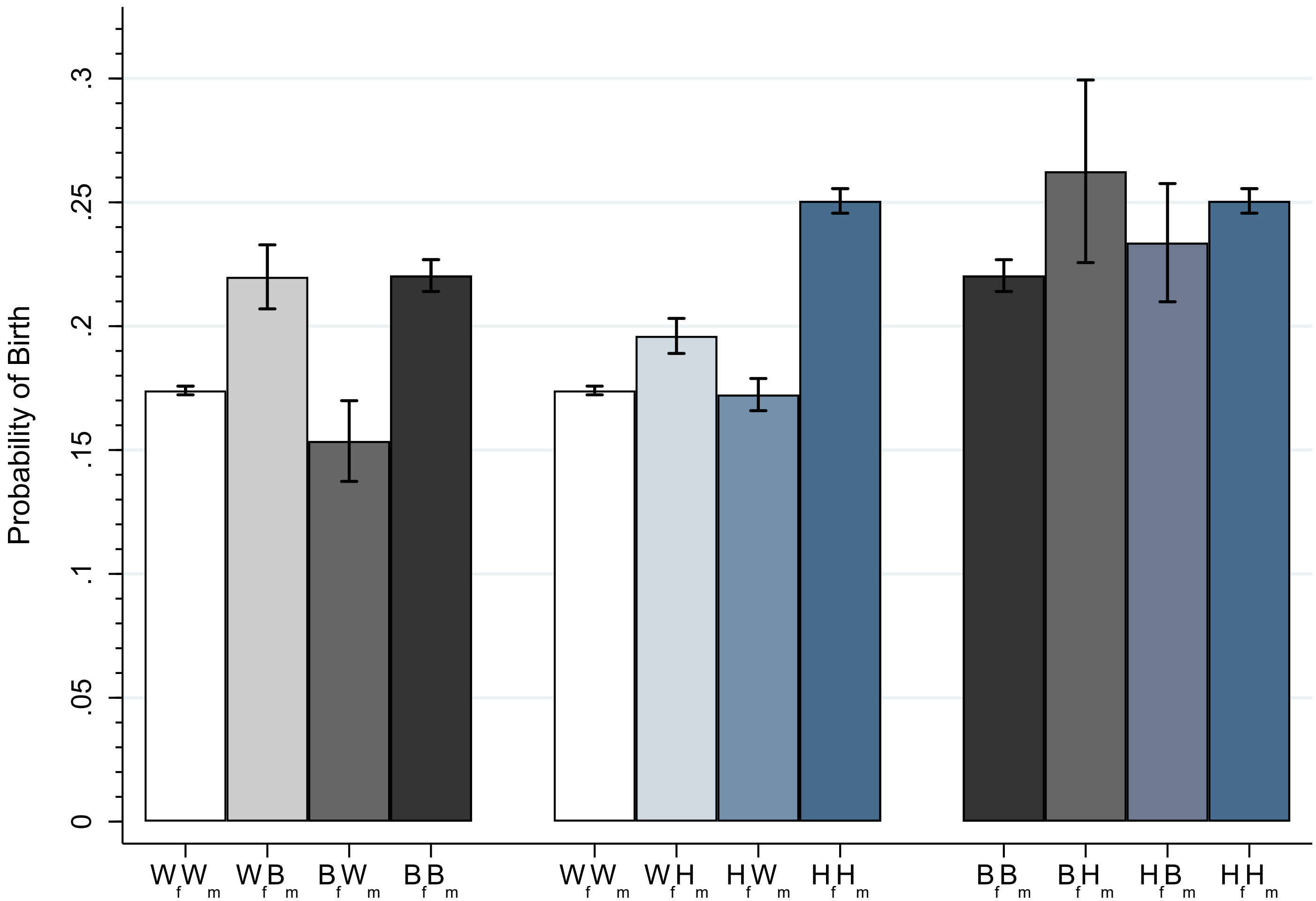
Figure 1. Gender focused conceptual framework with alternative hypotheses about exogamous and endogamous fertility



Note: Framework depicts a simple model in which there are only two possible racial/ethnic origins, White and Black, and in which Black endogamous fertility exceeds White endogamous fertility.

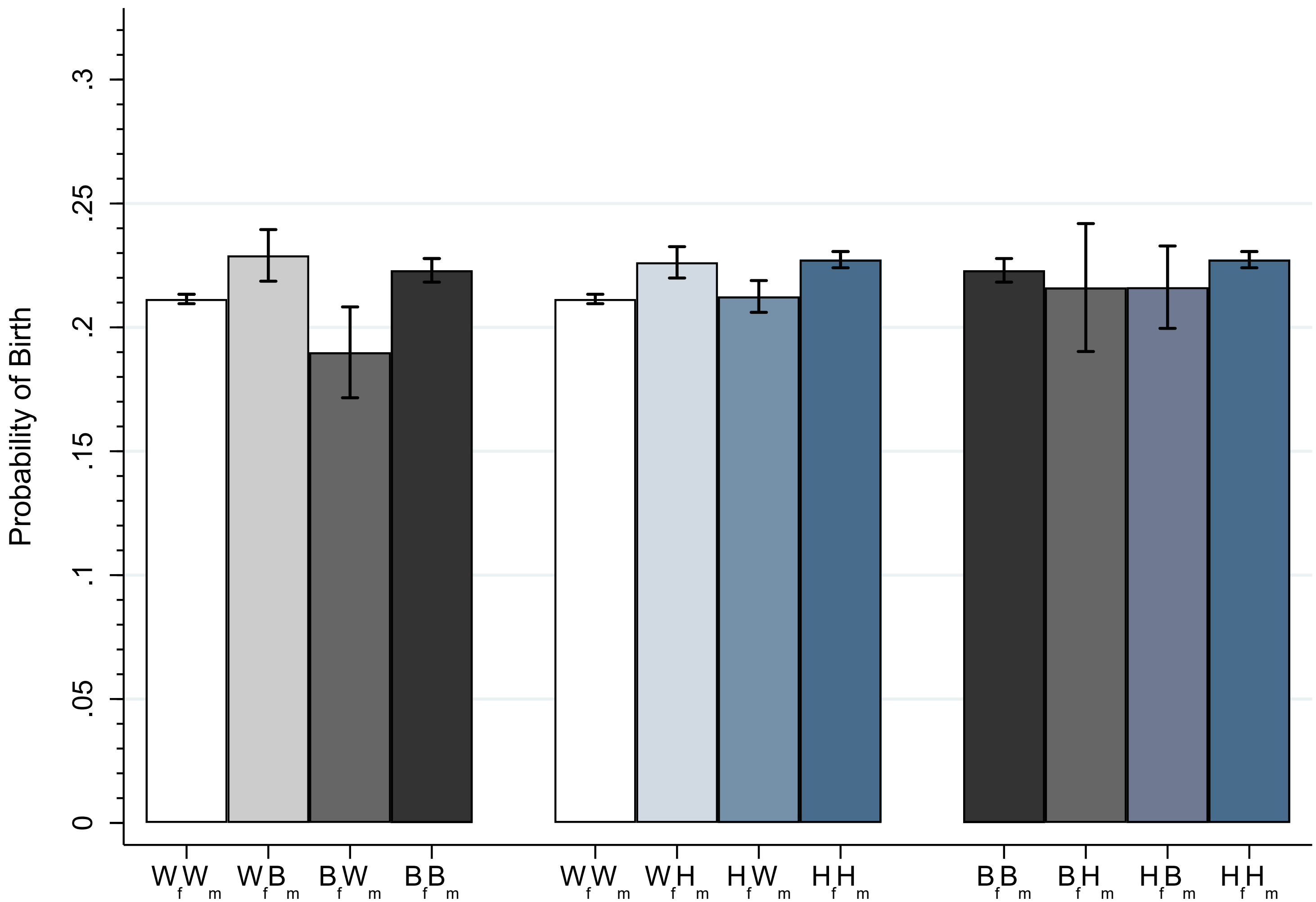
Abbreviations: W_fW_m White endogamous union; W_fB_m exogamous union with White female and Black male; B_fW_m exogamous union with Black female and White male; B_fB_m Black endogamous union.

Figure 2a. Predicted annual probability of birth for exogamous and endogamous pairings of race/ethnicity, nulliparous unions[a]



[a]Predicted probability of birth is estimated from Model 3 holding constant all variables except the man's and woman's race/ethnicity for the indicated exogamous or endogamous pairing (i.e., woman's age is 30, man's age is 32, year is 2009, and marital status is married).

Figure 2b. Predicted annual probability of birth for exogamous and endogamous pairings of race/ethnicity, parous unions[a]



[a]Predicted probability of birth is estimated from Model 3 holding constant all variables except the man's and woman's race/ethnicity for the indicated exogamous or endogamous pairing (i.e., woman's age is 30, man's age is 32, year is 2009, marital status is married, and parity is 1.

Table 1. Married and Cohabiting Couples by Pairings of White, Black, and Hispanic Racial/ethnic Origins, 2000-2017: Fertility Rates and Descriptive Characteristics[a]

	Descriptive Statistics for All Couples	Descriptive Statistics by Pairings of Racial/Ethnic Origins									Fertility Rate: Proportion of Couples with Birth in last 12 months
		White$_f$: White$_m$	White$_f$: Black$_m$	Black$_f$: White$_m$	Black$_f$: Black$_m$	White$_f$: Hispanic$_m$	Hispanic$_f$: White$_m$	Hispanic$_f$: Hispanic$_m$	Black$_f$: Hispanic$_m$	Hispanic$_f$: Black$_m$	
Unweighted count of total couples	4,264,647	3,190,024	39,297	13,768	246,154	112,486	120,144	524,042	5,257	13,475	4,264,647
Weighted proportion of total couples	1.000	0.703	0.010	0.004	0.075	0.026	0.028	0.148	0.002	0.004	
Weighted proportion of couples in which at least one partner is:											
White	1.000	0.911	0.013	0.005		0.034	0.037				
Black	1.000		0.106	0.039	0.800				0.016	0.039	
Hispanic	1.000					0.127	0.137	0.711	0.007	0.018	
Weighted means and proportions											
Birth (in last 12 months)											
Yes	0.081	0.076	0.100	0.075	0.078	0.101	0.084	0.102	0.116	0.106	0.081 (0.081, 0.082)
Marital status											
Married	0.865	0.881	0.659	0.778	0.814	0.796	0.838	0.857	0.741	0.706	0.081 (0.080, 0.810)
Cohabitation	0.135	0.119	0.341	0.222	0.186	0.204	0.162	0.143	0.259	0.294	0.083 (0.082, 0.084)
Parity (exluding births in last 12 months)											
Nulliparous	0.292	0.313	0.331	0.421	0.269	0.329	0.344	0.178	0.324	0.286	0.105 (0.104, 0.106)
Parous	0.708	0.687	0.669	0.579	0.731	0.671	0.656	0.822	0.676	0.714	0.071 (0.071, 0.720)
Average parity	1.431	1.351	1.328	1.096	1.497	1.335	1.266	1.841	1.344	1.459	
Woman's nativity											
Foreign-born	0.168	0.058	0.064	0.178	0.162	0.061	0.299	0.695	0.126	0.266	0.094 (0.093, 0.095)
U.S.-born	0.832	0.942	0.936	0.822	0.838	0.939	0.701	0.305	0.874	0.734	0.079 (0.078, 0.790)
Man's nativity											
Foreign-born	0.173	0.058	0.099	0.099	0.170	0.293	0.075	0.727	0.319	0.118	0.097 (0.096, 0.098)
U.S.-born	0.827	0.942	0.901	0.901	0.830	0.707	0.925	0.273	0.681	0.882	0.078 (0.077, 0.780)
Woman's education											
< high school	0.092	0.043	0.073	0.045	0.070	0.059	0.053	0.353	0.054	0.079	0.096 (0.094, 0.970)
High school	0.330	0.319	0.375	0.296	0.366	0.330	0.307	0.367	0.328	0.368	0.073 (0.073, 0.074)
Some college	0.256	0.264	0.293	0.313	0.311	0.287	0.302	0.170	0.350	0.329	0.077 (0.076, 0.077)
Bachelors	0.217	0.252	0.170	0.218	0.166	0.218	0.228	0.080	0.172	0.151	0.087 (0.087, 0.088)
> Bachelors	0.104	0.122	0.089	0.128	0.086	0.106	0.111	0.030	0.095	0.072	0.092 (0.091, 0.093)

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Table 1. Continued

	Descriptive Statistics for All Couples	Descriptive Statistics by Pairings of Racial/Ethnic Origins									Fertility Rate: Proportion of Couples with Birth in last 12 months
		$White_f$: $White_m$	$White_f$: $Black_m$	$Black_f$: $White_m$	$Black_f$: $Black_m$	$White_f$: $Hispanic_m$	$Hispanic_f$: $White_m$	$Hispanic_f$: $Hispanic_m$	$Black_f$: $Hispanic_m$	$Hispanic_f$: $Black_m$	
Man's education											
< high school	0.110	0.058	0.079	0.056	0.088	0.109	0.043	0.383	0.111	0.058	0.093 (0.091, 0.940)
High school	0.368	0.360	0.421	0.354	0.444	0.368	0.324	0.374	0.442	0.401	0.076 (0.075, 0.076)
Some college	0.228	0.235	0.292	0.254	0.266	0.268	0.277	0.147	0.274	0.325	0.079 (0.078, 0.079)
Bachelors	0.194	0.227	0.144	0.211	0.136	0.169	0.232	0.067	0.125	0.153	0.086 (0.085, 0.087)
> Bachelors	0.101	0.119	0.064	0.125	0.066	0.086	0.124	0.029	0.048	0.063	0.085 (0.084, 0.086)
Woman's age	36.6	37.0	34.4	35.5	37.2	34.6	35.9	35.1	33.9	33.8	
Man's age	39.3	39.6	37.9	39.0	40.3	37.1	38.6	37.7	36.2	36.9	
Year	2008.5	2008.3	2009.2	2009.3	2008.4	2009.1	2009.2	2009.1	2009.4	2009.8	

[a] Figures employ sample weights unless otherwise indicated; 95% confidence intervals (indicated by parentheses) adjust for the complex sampling scheme.

Source: ACS 2000-2011, 2013-2017

Table 2. Logistic regression of annual birth for White, Black, and Hispanic nulliparous and parous couples, 2001-2017, coefficients with standard errors in parentheses [a]

	Nulliparous Couples				Parous Couples			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Woman's race/ethnicity								
Non-Hispanic Black (B_f)	0.245***	0.001	-0.149*	-0.164*	0.042**	-0.034	-0.134*	-0.130*
	(0.018)	(0.031)	(0.064)	(0.064)	(0.013)	(0.024)	(0.061)	(0.061)
Hispanic (H_f)	0.340***	0.125***	-0.012	-0.016	0.074***	-0.003	0.006	-0.004
	(0.012)	(0.016)	(0.023)	(0.024)	(0.008)	(0.013)	(0.019)	(0.020)
Non-Hispanic White (W_f)	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-
Man's race/ethnicity								
Non-Hispanic Black (B_m)		0.283***	0.291***	0.255***		0.086***	0.102***	0.141***
		(0.029)	(0.038)	(0.039)		(0.023)	(0.030)	(0.030)
Hispanic (H_m)		0.303***	0.146***	0.126***		0.094***	0.087***	0.077***
		(0.016)	(0.023)	(0.023)		(0.013)	(0.018)	(0.019)
Non-Hispanic White (W_m)		-ref-	-ref-	-ref-		-ref-	-ref-	-ref-
Interaction of race/ethnicity								
B_f*B_m			0.152*	0.152*			0.100	0.083
			(0.077)	(0.077)			(0.069)	(0.069)
B_f*H_m			0.527***	0.521***			0.075	0.079
			(0.118)	(0.118)			(0.100)	(0.101)
H_f*B_m			0.090	0.103			-0.080	-0.092
			(0.081)	(0.081)			(0.061)	(0.061)
H_f*H_m			0.327***	0.136***			-0.000	-0.092**
			(0.035)	(0.036)			(0.028)	(0.029)
Woman's nativity								
Foreign-born (F_f)				0.010				0.133***
				(0.021)				(0.017)
U.S.-born				-ref-				-ref-
Man's nativity								
Foreign-born (F_m)				0.018				0.186***
				(0.020)				(0.015)
U.S.-born				-ref-				-ref-
Interaction of nativity								
F_f*F_m				0.119***				-0.086***
				(0.032)				(0.024)

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Table 2. Continued

	Nulliparous Couples				Parous Couples			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Woman's education								
Less than high school ($E_{f,0}$)				0.322***				0.199***
				(0.032)				(0.020)
High school ($E_{f,1}$)				-ref-				-ref-
Some college ($E_{f,2}$)				-0.168***				-0.006
				(0.018)				(0.013)
BA ($E_{f,3}$)				-0.246***				0.221***
				(0.022)				(0.019)
Greater than BA ($E_{f,4}$)				-0.075*				0.371***
				(0.035)				(0.028)
Man's education								
Less than high school ($E_{m,0}$)				0.220***				0.103***
				(0.028)				(0.018)
High school ($E_{m,1}$)				-ref-				-ref-
Some college ($E_{m,2}$)				-0.102***				0.076***
				(0.022)				(0.015)
BA ($E_{m,3}$)				-0.180***				0.258***
				(0.033)				(0.023)
Greater than BA ($E_{m,4}$)				-0.072				0.400***
				(0.063)				(0.040)
Interaction of Education								
E_m*E_f				See notes[b]				See notes[b]
Woman's age (A_f)	0.261***	0.264***	0.259***	0.308***	0.406***	0.407***	0.397***	0.383***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.006)
Woman's age^2	-0.006***	-0.006***	-0.006***	-0.006***	-0.008***	-0.008***	-0.008***	-0.008***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Man's age (A_m)			0.018***	-0.020***			0.031***	-0.033***
			(0.001)	(0.001)			(0.001)	(0.001)
Marital status								
Cohabiting	-0.888***	-0.892***	-0.889***	-0.898***	-0.313***	-0.316***	-0.321***	-0.230***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Married	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-	-ref-
Year	-0.001	-0.001	-0.001	0.001	0.012***	0.012***	0.012***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Parity					-0.396***	-0.397***	-0.392***	-0.370***
					(0.005)	(0.005)	(0.005)	(0.005)

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Table 2. Continued

	Nulliparous Couples				Parous Couples			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Constant	-4.281***	-4.353***	-4.220***	-4.511***	-5.764***	-5.786***	-5.509***	-4.900***
	(0.085)	(0.085)	(0.086)	(0.086)	(0.088)	(0.088)	(0.089)	(0.088)
F-test *p*- value for improvement in model fit compared to previous model		<.001	<.001	<.001		<.001	<.001	<.001
F-test *p*- value for improvement in model fit due to inclusion of female-by-male race/ethnicity interactions			<.001	<.001			0.278	<.001

[a] All models adjust for the complex sampling scheme with standard errors in parentheses and tests of statistical significance summarized by $^{***}p<.001$; $^{**}p<.01$; $^{*}p<.05$, $^{+}p<.1$

[b] Model 4 includes coefficents for the interaction of partners' education (E_m*E_f) that are detailed in Appendix 1.

Source: ACS 2001-2011 and 2013-2017

Table 3. Differences in annual birth probabilities between exogamous and endogamous racial/ethnic pairings, U.S. nulliparous and parous couples [a]

	Nulliparous				Parous			
	Model 3		Model 4		Model 3		Model 4	
White:Black Unions								
Probabilities								
White endogamous (W_fW_m)	0.174	(0.172, 0.176)	0.198	(0.194, 0.202)	0.211	(0.210, 0.213)	0.165	(0.163, 0.168)
White:Black exogamous (W_fB_m)	0.220	(0.207, 0.233)	0.241	(0.227, 0.256)	0.229	(0.219, 0.239)	0.186	(0.177, 0.195)
Black:White exogamous (B_fW_m)	0.154	(0.137, 0.170)	0.173	(0.155, 0.191)	0.190	(0.172, 0.208)	0.148	(0.133, 0.163)
Black endogamous (B_fB_m)	0.220	(0.214, 0.227)	0.239	(0.231, 0.247)	0.223	(0.218, 0.228)	0.179	(0.174, 0.184)
Exogamous-endogamous difference								
White women: (W_fB_m-W_fW_m)	0.046	(0.033, 0.059)	0.044	(0.030, 0.057)	0.018	(0.007, 0.028)	0.020	(0.012, 0.029)
Black women: -1*(B_fB_m-B_fW_m)	-0.067	(-0.084, -0.049)	-0.066	(-0.085, -0.047)	-0.033	(-0.052, -0.014)	-0.031	(-0.046, -0.015)
White men: (B_fW_m-W_fW_m)	-0.020	(-0.037, -0.004)	-0.025	(-0.043, -0.007)	-0.022	(-0.040, -0.003)	-0.017	(-0.032, -0.002)
Black men: -1*(B_fB_m-W_fB_m)	-0.001	(-0.015, 0.014)	0.002	(-0.013, 0.017)	0.006	(-0.005, 0.017)	0.007	(-0.003, 0.017)
Gender Asymmetry: (W_fB_m-W_fW_m)-(B_fW_m-W_fW_m) = (W_fB_m-B_fB_m) - (B_fW_m-B_fB_m)	0.066	(0.046 0.086)	0.068	(0.046 0.089)	0.039	(0.017 0.062)	0.038	(0.020, 0.056)
White:Hispanic Unions								
Probabilities								
White endogamous (W_fW_m)	0.174	(0.172, 0.176)	0.198	(0.194, 0.202)	0.211	(0.210, 0.213)	0.165	(0.163, 0.168)
White:Hispanic exogamous (W_fH_m)	0.196	(0.189, 0.203)	0.219	(0.210, 0.227)	0.226	(0.220, 0.233)	0.176	(0.170, 0.182)
Hispanic:White exogamous (H_fW_m)	0.172	(0.166, 0.179)	0.195	(0.187, 0.203)	0.212	(0.206, 0.219)	0.165	(0.159, 0.171)
Hispanic endogamous (H_fH_m)	0.251	(0.246, 0.256)	0.240	(0.233, 0.247)	0.227	(0.224, 0.231)	0.163	(0.159, 0.167)
Exogamous-endogamous difference								
White women: (W_fH_m-W_fW_m)	0.022	(0.015, 0.029)	0.021	(0.013, 0.029)	0.015	(0.009, 0.021)	0.011	(0.006, 0.016)
Hispanic women: -1*(H_fH_m-H_fW_m)	-0.078	(-0.086, -0.070)	-0.044	(-0.054, -0.035)	-0.015	(-0.022, -0.008)	0.002	(-0.004, 0.008)
White men: (H_fW_m-W_fW_m)	-0.002	(-0.008, 0.005)	-0.002	(-0.010, 0.005)	0.001	(-0.005, 0.007)	-0.001	(-0.006, 0.005)
Hispanic men: -1*(H_fH_m-W_fH_m)	-0.055	(-0.063, -0.046)	-0.021	(-0.031, -0.012)	-0.001	(-0.008, 0.006)	0.014	(0.008, 0.019)
Gender Asymmetry: (W_fH_m-W_fW_m)-(H_fW_m-W_fW_m) = (W_fH_m-H_fH_m) - (H_fW_m-H_fH_m)	0.024	(0.015 0.033)	0.023	(0.013 0.033)	0.014	(0.004 0.022)	0.011	(0.004 0.019)

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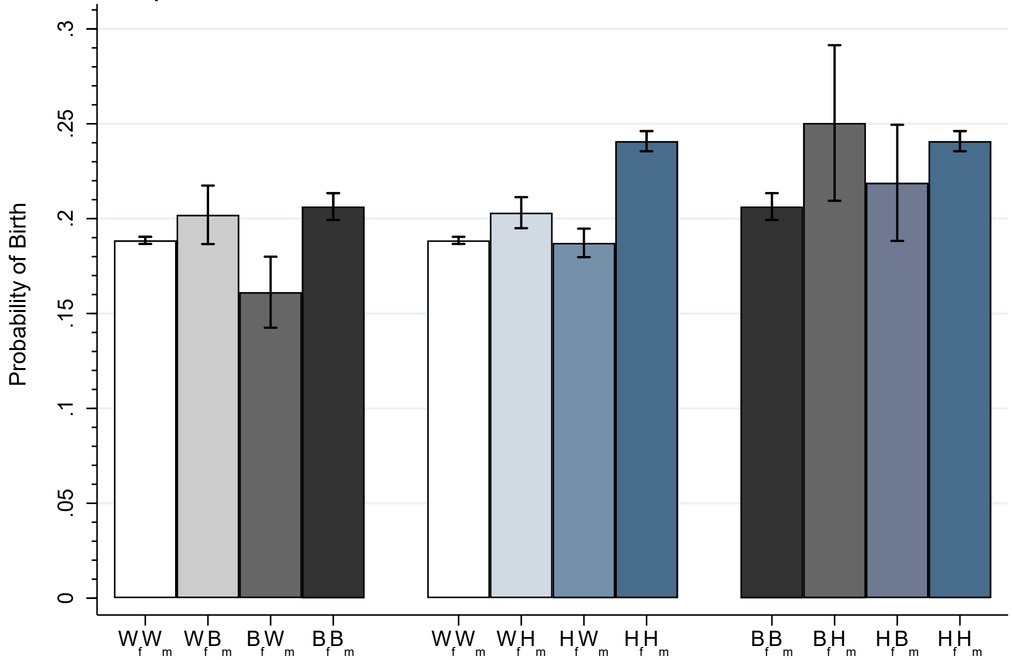
Table 3. Continued

	Nulliparous				Parous			
	Model 3		Model 4		Model 3		Model 4	
Black:Hispanic Unions								
Probabilities								
Black endogamous (B_fB_m)	0.220	(0.214, 0.227)	0.239	(0.231, 0.247)	0.223	(0.218, 0.228)	0.179	(0.174, 0.184)
Black:Hispanic exogamous (B_fH_m)	0.263	(0.226, 0.299)	0.285	(0.246, 0.325)	0.216	(0.190, 0.242)	0.169	(0.147, 0.191)
Hispanic:Black exogamous (H_fB_m)	0.234	(0.210, 0.258)	0.258	(0.232, 0.284)	0.216	(0.200, 0.233)	0.172	(0.157, 0.186)
Hispanic endogamous (H_fH_m)	0.251	(0.246, 0.256)	0.240	(0.233, 0.247)	0.227	(0.224, 0.231)	0.163	(0.159, 0.167)
Exogamous-endogamous difference								
Black women: (B_fH_m-B_fB_m)	0.042	(0.005, 0.079)	0.046	(0.007, 0.086)	-0.007	(-0.033, 0.019)	-0.010	(-0.032, 0.012)
Hispanic women: -1*(H_fH_m-H_fB_m)	-0.017	(-0.041, 0.007)	0.018	(-0.008, 0.044)	-0.011	(-0.028,0.006)	0.009	(-0.005, 0.023)
Black man: (H_fB_m-B_fB_m)	0.013	(-0.011, 0.038)	0.019	(-0.008, 0.045)	-0.007	(-0.024, 0.010)	-0.007	(-0.022, 0.007)
Hispanic man: -1*(H_fH_m-B_fH_m)	0.012	(-0.025, 0.049)	0.046	(0.007, 0.085)	-0.011	(-0.037,0.015)	0.006	(-0.015, 0.028)
Gender Asymmetry: (W_fB_m-W_fW_m)-(B_fW_m-W_fW_m) = (W_fB_m-B_fB_m) - (B_fW_m-B_fB_m)	0.029	(-0.014 0.072)	0.028	(-0.02 0.069)	0.000	(-0.028 0.031)	-0.003	(-0.028 0.023)

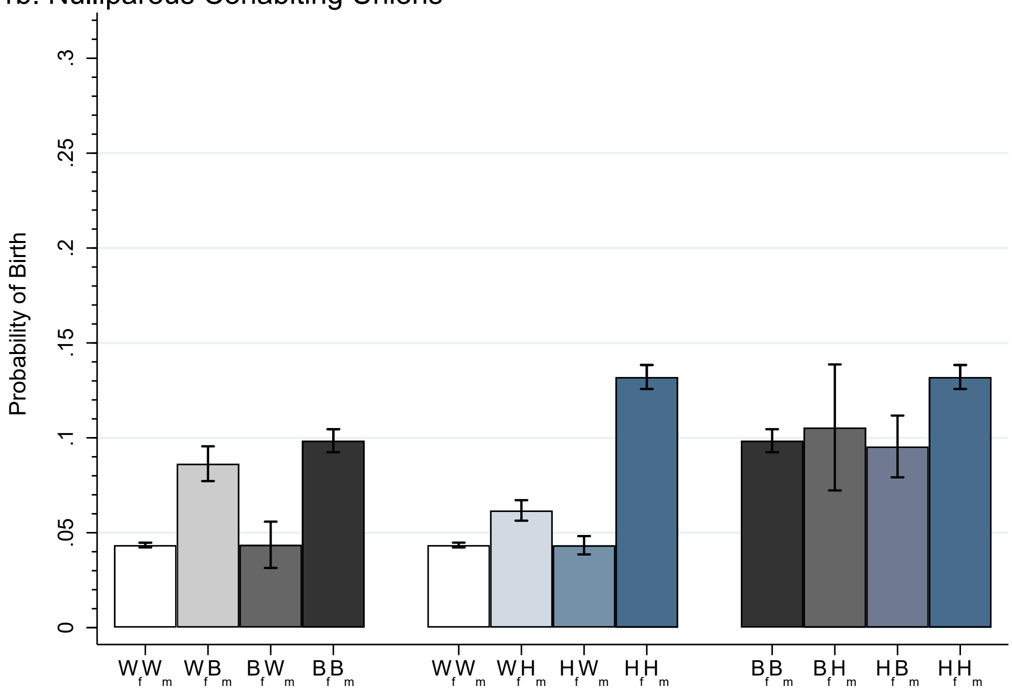
[a]Probabilities are estimated from regression models that hold constant all variables except race/ethnicity of the man and the woman (i.e., man's and woman's nativity is U.S. born, man's and woman's educational attainment is high school, woman's age is 30, man’s age is 32, year is 2009, marital status is married, and for parous couples, parity is 1), and 95% confidence intervals adjust for complex sampling scheme of the ACS 2001-2011, 2013-2015.

Appendix Figure A1. Predicted annual probability of birth for exogamous and endogamous pairings of race/ethnicity, nulliparous unions by marital status[a]

A1a. Nulliparous Married Unions



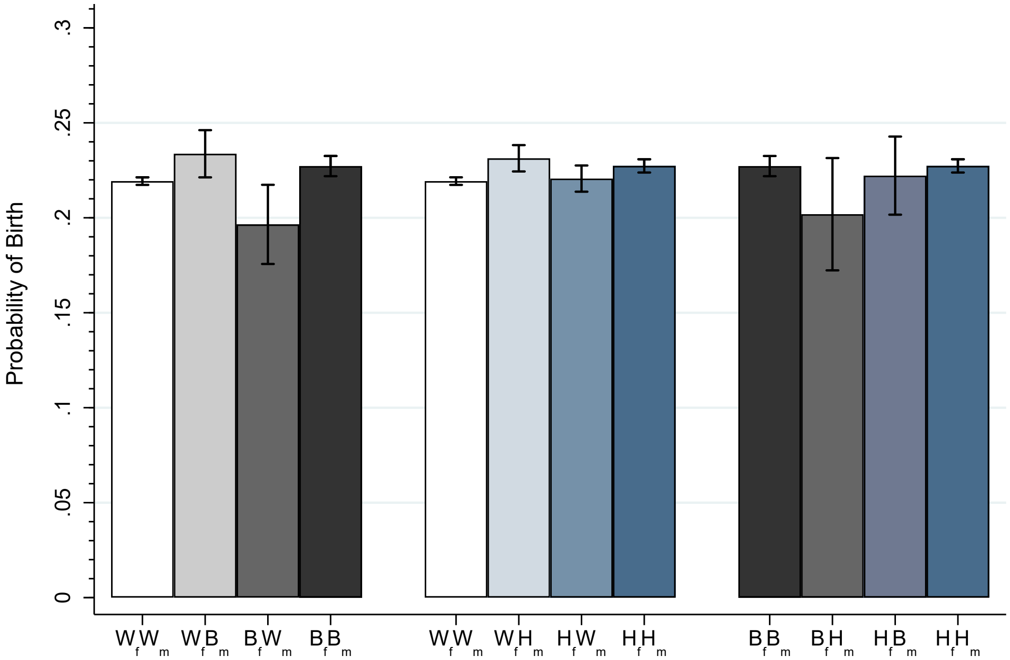
A1b. Nulliparous Cohabiting Unions



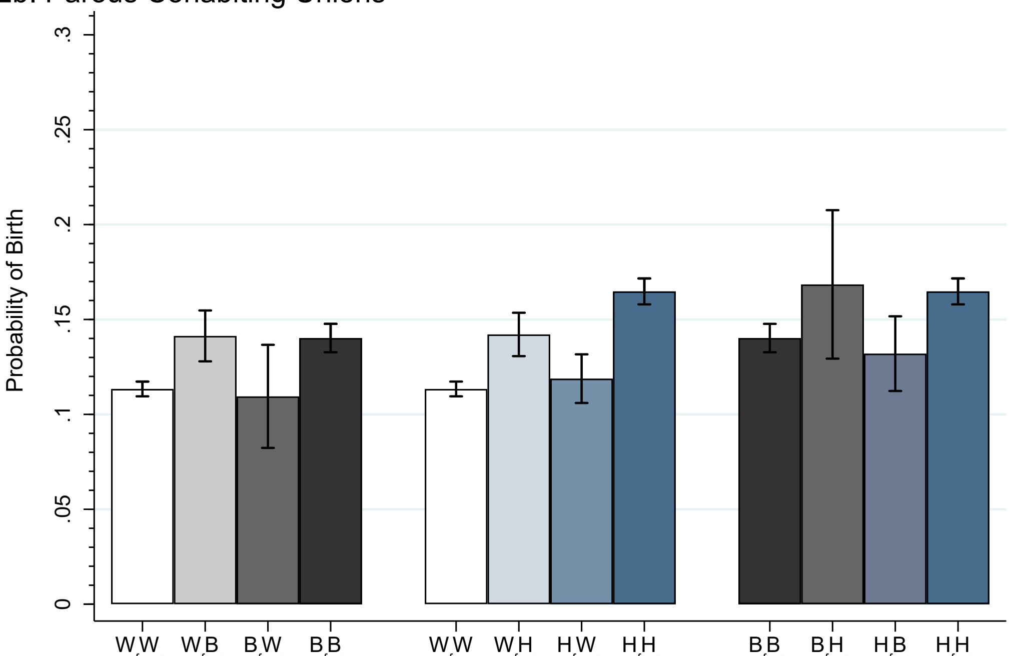
[a]Predicted probability of birth is calculated using a re-estimation of Model 3 that is stratified by marital status as well as parity. Predicted probabilities hold constant all variables except the man's and woman's race/ethnicity for the indicated exogamous or endogamous pairing (i.e., woman's age is 30, man's age is 32, year is 2009, parity is 0).

Appendix Figure A2. Predicted annual probability of birth for exogamous and endogamous pairings of race/ethnicity, parous unions by marital status[a]

A2a. Parous Married Unions



A2b. Parous Cohabiting Unions



[a]Predicted probability of birth is calculated using a re-estimation of Model 3 that is stratified by marital status as well as parity. Predicted probabilities hold constant all variables except the man's and woman's race/ethnicity for the indicated exogamous or endogamous pairing (i.e., woman's age is 30, man's age is 32, year is 2009, parity is 1).

Appendix Table A1. Logistic regression of annual birth for White, Black, and Hispanic nulliparous couples, 2001-2017, coefficients with standard errors in parentheses

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
Woman's race/ethnicity								
Non-Hispanic Black (B_f)	-0.149*	-0.168**	-0.167**	-0.153*	-0.163*	-0.166**	-0.164*	-0.169**
	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)
Hispanic (H_f)	-0.012	-0.040+	-0.032	-0.014	-0.019	-0.016	-0.016	-0.017
	(0.023)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Non-Hispanic White (W_f)	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Man's race/ethnicity								
Non-Hispanic Black (B_m)	0.291***	0.288***	0.280***	0.290***	0.259***	0.258***	0.255***	0.246***
	(0.038)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Hispanic (H_m)	0.146***	0.144***	0.122***	0.139***	0.130***	0.127***	0.126***	0.123***
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
White (W_m)	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Interaction of race/ethnicity								
B_f*B_m	0.152*	0.158*	0.157*	0.132+	0.150+	0.152*	0.152*	0.163*
	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)
B_f*H_m	0.527***	0.535***	0.536***	0.526***	0.525***	0.523***	0.521***	0.523***
	(0.118)	(0.118)	(0.118)	(0.118)	(0.118)	(0.118)	(0.118)	(0.119)
H_f*B_m	0.090	0.093	0.093	0.083	0.098	0.101	0.103	0.113
	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.082)
H_f*H_m	0.327***	0.285***	0.264***	0.226***	0.156***	0.136***	0.136***	0.138***
	(0.035)	(0.035)	(0.035)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Woman's nativity								
Foreign-born (F_f)		0.133***	0.086***	0.004	0.006	0.009	0.010	0.005
		(0.014)	(0.016)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
U.S.-born		-ref	-ref	-ref	-ref	-ref	-ref	-ref

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Appendix Table A1. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
Man's nativity								
Foreign-born (F_m)			0.101***	0.028	0.031	0.020	0.018	0.004
			(0.016)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
U.S.-born			-ref	-ref	-ref	-ref	-ref	-ref
Interaction of nativity								
F_f*F_m				0.185***	0.122***	0.109***	0.119***	0.123***
				(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Woman's education								
Less than high school ($E_{f,0}$)					0.237***	0.181***	0.322***	0.305***
					(0.021)	(0.023)	(0.032)	(0.032)
High school ($E_{f,1}$)					-ref	-ref	-ref	-ref
Some college ($E_{f,2}$)					-0.182***	-0.151***	-0.168***	-0.166***
					(0.012)	(0.012)	(0.018)	(0.018)
BA ($E_{f,3}$)					-0.264***	-0.220***	-0.246***	-0.246***
					(0.012)	(0.013)	(0.022)	(0.022)
Greater than BA ($E_{f,4}$)					-0.007	0.005	-0.075*	-0.078*
					(0.013)	(0.015)	(0.035)	(0.035)
Man's education								
Less than high school ($E_{m,0}$)						0.134***	0.220***	0.217***
						(0.020)	(0.028)	(0.028)
High school ($E_{m,1}$)						-ref	-ref	-ref
Some college ($E_{m,2}$)						-0.086***	-0.102***	-0.107***
						(0.012)	(0.022)	(0.022)

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Appendix Table A1. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
BA ($E_{m,3}$)						-0.111***	-0.180***	-0.194***
						(0.012)	(0.033)	(0.033)
Greater than BA ($E_{m,4}$)						0.075***	-0.072	-0.083
						(0.016)	(0.063)	(0.063)
Interaction of Education								
$E_{f,0}$*$E_{m,0}$							-0.328***	-0.314***
							(0.049)	(0.049)
$E_{f,0}$*$E_{m,2}$							-0.132+	-0.129+
							(0.070)	(0.070)
$E_{f,0}$*$E_{m,3}$							-0.020	-0.020
							(0.120)	(0.120)
$E_{f,0}$*$E_{m,4}$							-0.381+	-0.398*
							(0.000)	(0.000)
$E_{f,2}$*$E_{m,0}$							-0.010	-0.009
							(0.051)	(0.051)
$E_{f,2}$*$E_{m,2}$							0.040	0.047
							(0.029)	(0.029)
$E_{f,2}$*$E_{m,3}$							0.106*	0.110**
							(0.041)	(0.041)
$E_{f,2}$*$E_{m,4}$							0.107	0.106
							(0.076)	(0.076)
$E_{f,3}$*$E_{m,0}$							-0.040	-0.045
							(0.078)	(0.078)
$E_{f,3}$*$E_{m,2}$							0.050	0.057+
							(0.033)	(0.033)

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Appendix Table A1. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
$E_{f,3}*E_{m,3}$							0.080*	0.096*
							(0.040)	(0.040)
$E_{f,3}*E_{m,4}$							0.231***	0.238***
							(0.068)	(0.069)
$E_{f,4}*E_{m,0}$							-0.059	-0.061
							(0.139)	(0.139)
$E_{f,4}*E_{m,2}$							0.084+	0.090+
							(0.048)	(0.048)
$E_{f,4}*E_{m,3}$							0.194***	0.207***
							(0.050)	(0.050)
$E_{f,4}*E_{m,4}$							0.209**	0.220**
							(0.073)	(0.074)
Woman's age (A_f)	0.259***	0.275***	0.274***	0.274***	0.304***	0.307***	0.308***	0.251***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)
Woman's age-squared	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***	-0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Man's age (A_m)	-0.018***	-0.018***	-0.019***	-0.018***	-0.020***	-0.020***	-0.020***	0.055***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)
Marital status								
Cohabiting	-0.889***	-0.883***	-0.881***	-0.882***	-0.893***	-0.896***	-0.898***	-0.901***
	(0.011)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
Married	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Year	-0.001	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Parity								
Constant	-4.220***	-4.181***	-4.177***	-4.174***	-4.471***	-4.485***	-4.511***	-4.886***
	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.086)	(0.090)

Appendix Table A2. Logistic regression of annual birth for White, Black, and Hispanic parous couples, 2001-2017, coefficients with standard errors in parentheses

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
Woman's race/ethnicity								
Non-Hispanic Black (B_f)	-0.134*	-0.158**	-0.152*	-0.159**	-0.137*	-0.132*	-0.130*	-0.136*
	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
Hispanic (H_f)	0.006	-0.045*	-0.024	-0.036+	-0.005	-0.006	-0.004	-0.005
	(0.019)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Non-Hispanic White (W_f)	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Man's race/ethnicity								
Non-Hispanic Black (B_m)	0.102***	0.101***	0.093**	0.090**	0.121***	0.140***	0.141***	0.137***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Hispanic (H_m)	0.087***	0.085***	0.038*	0.027	0.055**	0.075***	0.077***	0.076***
	(0.018)	(0.018)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
White (W_m)	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Interaction of race/ethnicity								
B_f*B_m	0.100	0.100	0.091	0.101	0.080	0.085	0.083	0.094
	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)	(0.069)
B_f*H_m	0.075	0.081	0.083	0.088	0.069	0.083	0.079	0.087
	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)	(0.101)	(0.101)	(0.100)
H_f*B_m	-0.080	-0.072	-0.077	-0.072	-0.088	-0.091	-0.092	-0.088
	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
H_f*H_m	-0.000	-0.094***	-0.130***	-0.109***	-0.107***	-0.088**	-0.092**	-0.089**
	(0.028)	(0.028)	(0.028)	(0.028)	(0.029)	(0.029)	(0.029)	(0.029)
Woman's nativity								
Foreign-born (F_f)		0.231***	0.130***	0.182***	0.156***	0.131***	0.133***	0.132***
		(0.011)	(0.013)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
U.S.-born		-ref	-ref	-ref	-ref	-ref	-ref	-ref

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Appendix Table A2. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
Man's nativity								
Foreign-born (F_m)			0.189***	0.229***	0.203***	0.182***	0.186***	0.180***
			(0.013)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
U.S.-born			-ref	-ref	-ref	-ref	-ref	-ref
Interaction of nativity								
F_f*F_m				-0.101***	-0.086***	-0.078**	-0.086***	-0.086***
				(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Woman's education								
Less than high school ($E_{f,0}$)					0.257***	0.232***	0.199***	0.192***
					(0.013)	(0.013)	(0.020)	(0.020)
High school ($E_{f,1}$)						-ref	-ref	-ref
Some college ($E_{f,2}$)					0.065***	0.022*	-0.006	-0.007
					(0.009)	(0.009)	(0.013)	(0.013)
BA ($E_{f,3}$)					0.413***	0.249***	0.221***	0.216***
					(0.009)	(0.010)	(0.019)	(0.019)
Greater than BA ($E_{f,4}$)					0.601***	0.370***	0.371***	0.367***
					(0.011)	(0.012)	(0.028)	(0.028)
Man's education								
Less than high school ($E_{m,0}$)						0.125***	0.103***	0.102***
						(0.012)	(0.018)	(0.018)
High school ($E_{m,1}$)							-ref	-ref
Some college ($E_{m,2}$)						0.093***	0.076***	0.071***
						(0.009)	(0.015)	(0.015)
BA ($E_{m,3}$)						0.333***	0.258***	0.250***
						(0.010)	(0.023)	(0.023)

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Appendix Table A2. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
Greater than BA ($E_{m,4}$)						0.487***	0.400***	0.395***
						(0.012)	(0.040)	(0.041)
Interaction of Education								
$E_{f,0}$*$E_{m,0}$							0.077**	0.083**
							(0.029)	(0.029)
$E_{f,0}$*$E_{m,2}$							-0.095*	-0.095*
							(0.045)	(0.045)
$E_{f,0}$*$E_{m,3}$							-0.057	-0.061
							(0.075)	(0.075)
$E_{f,0}$*$E_{m,4}$							-0.292*	-0.304*
							(0.000)	(0.000)
$E_{f,2}$*$E_{m,0}$							-0.042	-0.044
							(0.034)	(0.034)
$E_{f,2}$*$E_{m,2}$							0.038+	0.043*
							(0.022)	(0.022)
$E_{f,2}$*$E_{m,3}$							0.122***	0.126***
							(0.030)	(0.030)
$E_{f,2}$*$E_{m,4}$							0.150**	0.152**
							(0.049)	(0.050)
$E_{f,3}$*$E_{m,0}$							-0.174**	-0.172**
							(0.060)	(0.060)
$E_{f,3}$*$E_{m,2}$							0.042	0.048+
							(0.027)	(0.027)
$E_{f,3}$*$E_{m,3}$							0.085**	0.092**
							(0.030)	(0.030)

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Appendix Table A2. Continued

	Model 3	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4	Model 5
$E_{f,3}$*$E_{m,4}$							0.136**	0.141**
							(0.046)	(0.046)
$E_{f,4}$*$E_{m,0}$							-0.154	-0.154
							(0.099)	(0.099)
$E_{f,4}$*$E_{m,2}$							0.012	0.015
							(0.038)	(0.038)
$E_{f,4}$*$E_{m,3}$							0.088*	0.093*
							(0.038)	(0.038)
$E_{f,4}$*$E_{m,4}$							0.048	0.051
							(0.050)	(0.050)
Woman's age (A_f)	0.361***	0.424***	0.424***	0.424***	0.386***	0.383***	0.383***	0.329***
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Woman's age-squared	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Man's age (A_m)	-0.03***	-0.032***	-0.033***	-0.033***	-0.032***	-0.033***	-0.033***	0.050***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)
Marital status								
Cohabiting	-0.267***	-0.313***	-0.309***	-0.308***	-0.253***	-0.232***	-0.230***	-0.235***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Married	-ref-	-ref	-ref	-ref	-ref	-ref	-ref	-ref
Year	0.009***	0.012***	0.012***	0.012***	0.009***	0.009***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Parity								
Constant	-5.047***	-5.417***	-5.414***	-5.421***	-4.947***	-4.909***	-4.900***	-5.446***
	(0.088)	(0.089)	(0.089)	(0.089)	(0.088)	(0.088)	(0.088)	(0.093)