

# Does the Impact of Motherhood on Women's Employment and Wages Differ for Women Who Plan Their Transition Into Motherhood?

Jonathan Marc Bearak, Anna Popinchalk, Kristen Lagasse Burke, and Selena Anjur-Dietrich

**ABSTRACT** Women's ability to control their fertility through contraception and abortion has been shown to contribute to improvements in education and employment. At the same time, their employment and wages decline substantially when they transition to motherhood. About one-third of births are unintended, and it is unknown whether the impact of motherhood on employment, hours, and wages is smaller for women who planned their transition into motherhood compared with those who did not. To explore this, we examine fixed-effects models that estimate labor market outcomes using panel data from the National Longitudinal Survey of Youth, 1979–2014. We estimate models for Black and White women and find that the relationship between motherhood and employment is significantly more negative among White women who plan their transition into motherhood than among those who have an unplanned first birth. Among those who remain employed, we find that those with a planned first birth work fewer hours and have lower wages relative to those with unplanned births. We do not find significant evidence that the association between motherhood and labor market outcomes differs by fertility planning among Black women. Prior research shows how women's choices are structurally constrained by sociocultural norms and expectations and by a labor market that may not readily accommodate motherhood. In this context, our findings may reflect differences in women's motherhood and employment preferences and their ability to act on those preferences. Our analysis also makes a novel contribution to the large body of research that associates unplanned births with negative outcomes.

**KEYWORDS** Motherhood • Gender • Labor markets • Planned and unplanned births

## Introduction

For many women, having children poses challenges that appear to adversely affect their employment and wage trajectories. This highlights the importance of research into the structural and individual factors contributing to the impact of motherhood on women's employment and wages. Research has shown that increased access to contraception in the United States has contributed to improvements in women's edu-

cation and employment (Bailey 2013; Bailey et al. 2012; Goldin and Katz 2000, 2002). Contraception may help women avoid becoming pregnant before they want to, allowing them to invest in their education or career or to stop childbearing once they have all the children they want. It also enables women not to have children if they so desire. For the overwhelming majority of women who expect to and do have children, this logic suggests that women's ability to plan when to have their first birth helps explain associations between contraception and improvements in education and employment. However, although research has consistently shown that women are less likely to be employed and earn lower wages after they become mothers than would be expected had they not given birth (e.g., Amuedo-Dorantes and Kimmel 2005; Budig and England 2001; DeNavas-Walt and Proctor 2015; England et al. 2016; England et al. 2012; Florian 2018; Glauber 2007; Hill 1979; Neumark and Korenman 1992; Taniguchi 1999; Waldfogel 1997; Wilde et al. 2010), we are unaware of any prior research that has analyzed whether planning status of first birth plays a role in employment and wage differences. To address this gap in the literature, we examine two competing hypotheses about the impact that the transition to motherhood has on women's employment and wages according to whether their first birth was planned or unplanned.

Women do a disproportionate amount of the work of raising children, and employers and policy-makers historically have not provided substantial social supports to ameliorate work–family conflict (England 2005). Some women may plan their first birth to minimize the likely disruption to their career or employment. If planning a first birth helps a woman address challenges she may face at work, then a woman who does so may experience fewer adverse impacts on her employment and wages than a woman who does not. We refer to this as Hypothesis 1 (H1).

Structural factors, such as discrimination, contribute to the relationship between motherhood and employment and earnings, and women may experience tensions between their roles as employees and as mothers (Correll et al. 2007; Gerson 1986; Stone 2007). Although women may plan childbearing in response, it may do little to mitigate this conflict. Consequently, we posit that women may plan their first birth as they become more willing or more able to reduce their employment commitment in order to care for children, motivated by the understanding that the labor market may not readily accommodate motherhood. Thus, we argue that planned first births will plausibly be more negatively associated with labor market outcomes than unplanned first births. We refer to this as Hypothesis 2 (H2).

Planned fertility has been associated with socioeconomic advantage (Mosher et al. 2012; Musick et al. 2009), so if H1 is correct—that planning reduces motherhood penalties—then unplanned fertility could compound economic inequality. In contrast, H2 hinges on women's knowledge that employers, the state, and male partners are unlikely to substantially mitigate their work–family conflict (Arendell 2000; Hays 1996; Stone 2007; Waite and Stolzenberg 1976). Evidence in support of H2 would thus emphasize the importance of improving social policies that address challenges of raising children, which fall disproportionately on women.

Relatedly, the associations between motherhood and labor market outcomes are stronger for some groups of women than others. The negative associations between motherhood and employment and between motherhood and wages are larger among White women than Black women (Budig and England 2001; England et al. 2016;

Florian 2018; Waldfogel 1997; Wilde et al. 2010). Evidence also suggests that the wage penalty is associated with skill (Wilde et al. 2010), although this association holds for White women but not Black women (England et al. 2016). Thus, to address possible confounding, we should test our hypotheses separately by race and skill.

A conceptual challenge is that demography and public health typically identify “planned” births as those following “intended” pregnancies, based on a survey measure that asks women whether a given pregnancy was wanted at the time, whether it came before it was wanted, or whether they had not wanted to have any (more) children. However, this measure of intention does not actually measure intentionality. A woman may become pregnant regardless of whether she had intended to but may feel (and report) that the pregnancy came when it was wanted.

To address these issues, we analyze panel data from the National Longitudinal Survey of Youth (NLSY79). With these data, we can identify planned births using additional information on whether a woman was actually trying to conceive. We observe women’s employment and wages both before and after they became mothers, and we estimate fixed-effects models to compare the association between motherhood and three labor market outcomes—employment, hours, and wages—for women who planned their first birth compared with women who did not.

## Literature

Planned childbearing can be achieved through several mechanisms: manipulating sexual activity (e.g., having sex only when trying to conceive), using contraception, and abortion. Of these three, contraception as a method of family planning has been the most widely studied in regard to its potential impact on employment and earnings. Prior studies have exploited spatiotemporal variation in access to contraception using difference-in-difference techniques to estimate plausibly causal effects on education, employment, and earnings. Goldin and Katz (2000, 2002) analyzed variation across states in the availability of oral contraceptives due to changes in state laws in the 1960s and the 1970s, finding that access to contraception was a major factor in the growing numbers of women obtaining a college education and pursuing advanced professional degrees. In addition, Bailey et al. (2012) provided persuasive evidence that changes in contraceptive access during this period significantly contributed to young women’s joining the paid labor force and pursuing professional occupations, and other analyses likewise suggested that the legalization of abortion was associated with increased education and employment (Angrist and Evans 2000; Klein 1997). These changes, in turn, contributed to women’s increased earning power and to a reduction in the long-standing gender gap in pay (Bailey 2013; Bailey et al. 2012; Goldin and Katz 2000, 2002).

The embedded assumption of these dynamics is that women were better able to plan their births and to do so in a way that best met their educational and employment aspirations. Undoubtedly, the use of highly effective birth control allowed women to delay fertility and family formation or to avoid childbearing altogether, making it easier to complete college and enter the labor market. However, these studies were unable to address the mechanisms through which individual women’s contraceptive use directly contributed to their increased education and employment.

Researchers have discussed a number of structural factors that could contribute to these relationships. These mechanisms include gender discrimination by employers; valorization of continuous work experience, which affects future employability and wages; fixed working hours with limited flexibility; low levels of societal support for balancing work and childcare; and a gendered concept of an “ideal worker” devoted to and available for their job above all else (Acker 1990; Correll et al. 2007; Gerson 1986; Stone 2007).

We hypothesize that planning one’s transition to motherhood would not substantially address or counteract these structural and cultural factors. For example, it is not apparent that employers would discriminate less if a woman planned her birth. Indeed, even as gender earnings inequality has declined over time because of faster increases in women’s earnings compared with men’s, an analysis of the Current Population Surveys suggests that the impact of motherhood on women’s employment and wages accounts for a larger proportion of the gender pay gap than it did in earlier periods (Juhn and McCue 2017).

We suspect that birth planning cannot completely or substantially counter structural factors, but we also posit that planning may be a response to the external and internal tensions between motherhood and employment caused or exacerbated by these larger constraints. We identify two potential rationales for why women who plan childbearing may be more likely to disinvest in the labor market upon motherhood.

First, women may plan their births to occur when they are most willing or most able to exit or spend less time in the labor market. When a woman decides to try to become pregnant, she may also be signaling that she is willing and/or wants to focus on domestic responsibilities, even if that means a reduction in time spent in the labor market.

Second, women who plan childbearing may be more responsive to the tension between motherhood and employment. Consistent with this view, data from the National Survey of Fertility Barriers suggest that planned childbearing is most salient to women who describe themselves as career-conscious (Simoni et al. 2017). However, women who originally anticipated continued employment after their first birth may find it more challenging than anticipated to maintain their expected level of labor market commitment (Stone 2007; Waite and Stolzenberg 1976).

Either of these behaviors could conceivably be contingent on household resources. However, research has shown that husbands’ earnings have a limited association with wives’ employment and that motherhood substantially relates to women’s labor force participation across socioeconomic strata (Killewald and Gough 2013; Killewald and Zhuo 2019). Work conducted around the time that women in the NLSY79 were having children has explored how sociocultural norms can influence women’s decisions to disinvest or withdraw from the labor market even when it is not in their economic interest to do so (or may even be counter to it). Gerson (1986:204), in her qualitative study of White women in geographically and socially diverse neighborhoods in the San Francisco Bay area, further discussed such influences as “sufficient behavioral similarity among women to provide mutually reinforcing support for female domesticity.”

The tension between family and work has been referred to as a set of *competing devotions* that may stem from cultural narratives around motherhood and domesticity (Blair-Loy and Dehart 2003). For middle-class White women, motherhood ideologies such as *intensive mothering*—a mothering paradigm in which a good mother is self-sacrificing and engages in an all-consuming form of childcare, which necessarily conflicts with employment—have long been in development and continue to

influence behavior (Arendell 2000; Hays 1996; Romagnoli and Wall 2012). In this context, in which their choices are socially constrained (Gerson 1986), many women may thus form preferences that differ from those predicted by a rational actor model.

However, ideologies and their impacts are not universal. Black women have experienced a different set of cultural narratives about self-sufficiency and economic pressures, working outside the home at historically higher rates than White women (Barnes 2015; Collins 2000; Florian 2018; Marsh et al. 2013; Roberts 1993). The intensive mothering paradigm, for example, is rooted in historical cultural norms of a permanent marriage in which the husband provides household income (Arendell 2000; Gerson 1986; Romagnoli and Wall 2012). However, economic circumstances among Black families, shaped by structural racism, have often required that all adult family members contribute to the family income, making the intensive mothering paradigm less feasible.

Similarly, several scholars have argued that although Black and White women alike may experience a double bind of being pulled toward both work and domesticity, a Black motherhood ideology exists that distinctly places importance on economic self-sufficiency (Barnes 2015; Collins 2000; Florian 2018; Marsh et al. 2013; Roberts 1993). Because of the economic impacts of structural racism, Black women tend to live in poorer households and contribute to a greater share of household income, and they therefore have more of an economic burden compared with White women (Dow 2016; Yoon and Waite 1994). In addition, some qualitative studies have found that Black mothers experience less social disapproval for continuing employment upon motherhood than do White women (Barnes 2015; Landry 2002). In sum, economic necessity and differences in the importance of economic self-sufficiency could contribute to a smaller relationship between motherhood and employment among Black mothers relative to White mothers.

Relatedly, the negative associations between motherhood and employment and between motherhood and wages are larger among White women than Black women (Budig and England 2001; England et al. 2016; Florian 2018). This may be for the reasons discussed earlier, as well as because of the double discrimination (by race and gender) that Black women experience irrespective of motherhood.

In addition to sociocultural pressures, individual differences in opportunity costs may contribute to heterogeneity in how motherhood relates to labor market outcomes. Wilde and colleagues (2010) argued that high-skill women experience the largest wage penalty because they have steeper average wage trajectories before motherhood. In subsequent analyses that disaggregated skill and race, England and colleagues (2016) found skill heterogeneity in the wage penalty among White women but not Black women; specifically, highly skilled White women in high-wage jobs experienced the largest wage penalty due to differences in the return to cumulative work experience.<sup>1</sup> This finding may be important because wage trajectory differences between women may affect their employment behaviors as they navigate the tension between work and motherhood. More broadly, a salient point is that both race and measures of cognitive skill predict differences in job characteristics and other factors, including exposure to different sociocultural norms and assortative mating—all of

<sup>1</sup> Budig and Hodges (2010) posited an alternate view. They argued that among White women but not Black women, the wage penalty was larger for low-wage than high-wage women. However, they misinterpreted conditional quantile regression coefficients with respect to the marginal wage distribution. For a detailed discussion of this issue, see Killewald and Bearak (2014); for a reassessment, see England et al. (2016).

which may lead to heterogeneity in the relationship between motherhood and women's labor market outcomes (as other studies have addressed) and in how birth planning moderates this relationship. For these reasons, we test our hypotheses separately by race and, secondarily, by a proxy for skill.

## Methods

### Data and Variables

We use nationally representative data from the NLSY79. This panel represents the cohort of U.S. women who were born between 1958 and 1965. The respondents were first interviewed in 1979 at ages 14–21. Data were collected annually through 1994 and every two years thereafter until 2014, when the cohort was aged 49–58 and had largely completed childbearing.

We examine three dependent variables: whether a woman was employed at the time of the interview, her reported number of work hours per week, and her hourly rate of pay. This information comes from the NLSY79 work history file.<sup>2</sup> We take the natural logs of wages and hours to estimate proportionate changes using least squares, and we employ binomial logistic regression for employment. We convert wages to constant 1996 dollars using the consumer price index; we bottom code and top code wages at \$0.50 and \$250 for consistency with other recent studies (Budig and Hodges 2010; England et al. 2016). We top-code hours at the 99th percentile, at 65 per week. To address unobserved heterogeneity and selection, we employ person-fixed-effects models, which require at least two observations for each respondent. Of the 5,171 women first interviewed in 1979, 4,685 women reported wages and hours at least twice. Like England et al. (2016), we exclude person-years during which women were enrolled in school (secondary school or higher education) because employment and wages in those years may be misleading.<sup>3</sup> After we exclude observations with missing data on the covariates of analyses of hours and wages, our analytic sample includes 34,757 person-years of data from 3,036 non-Hispanic White women and 17,087 person-years from 1,329 non-Hispanic Black women. For the fixed-effect logistic probability models for the dichotomous measure of employment, we have 33,249 person-years of data from 2,166 White women and 19,410 person-years of data from 1,054 Black women.

Our independent variables of interest are years since the first birth and planning status of the pregnancy. *Years since the first birth* is a categorical variable comparing mothers with nonmothers and, among mothers, the time they have been mothers. This variable indicates whether a woman had a birth and, if so, the number of years since the birth. Killewald and Zhou's (2019) sequence analysis suggests that typical patterns of post-motherhood employment for women in this data set include a single employment status or a period of around either 6 or 11 years of non-employment. Thus, to compare between short- and long-term impacts of motherhood, we distinguish between “not yet had a birth,” “years 1–6 after the first birth,” “years 7–11 after the first birth,” and “later years.”<sup>4</sup>

<sup>2</sup> The work history file is available at <https://www.nlsinfo.org/content/cohorts/nlsy79/topical-guide/employment/work-history-data>.

<sup>3</sup> For a discussion of this issue, see England et al. (2016: endnote 10).

<sup>4</sup> We later discuss alternative specifications when we address sensitivity analyses.

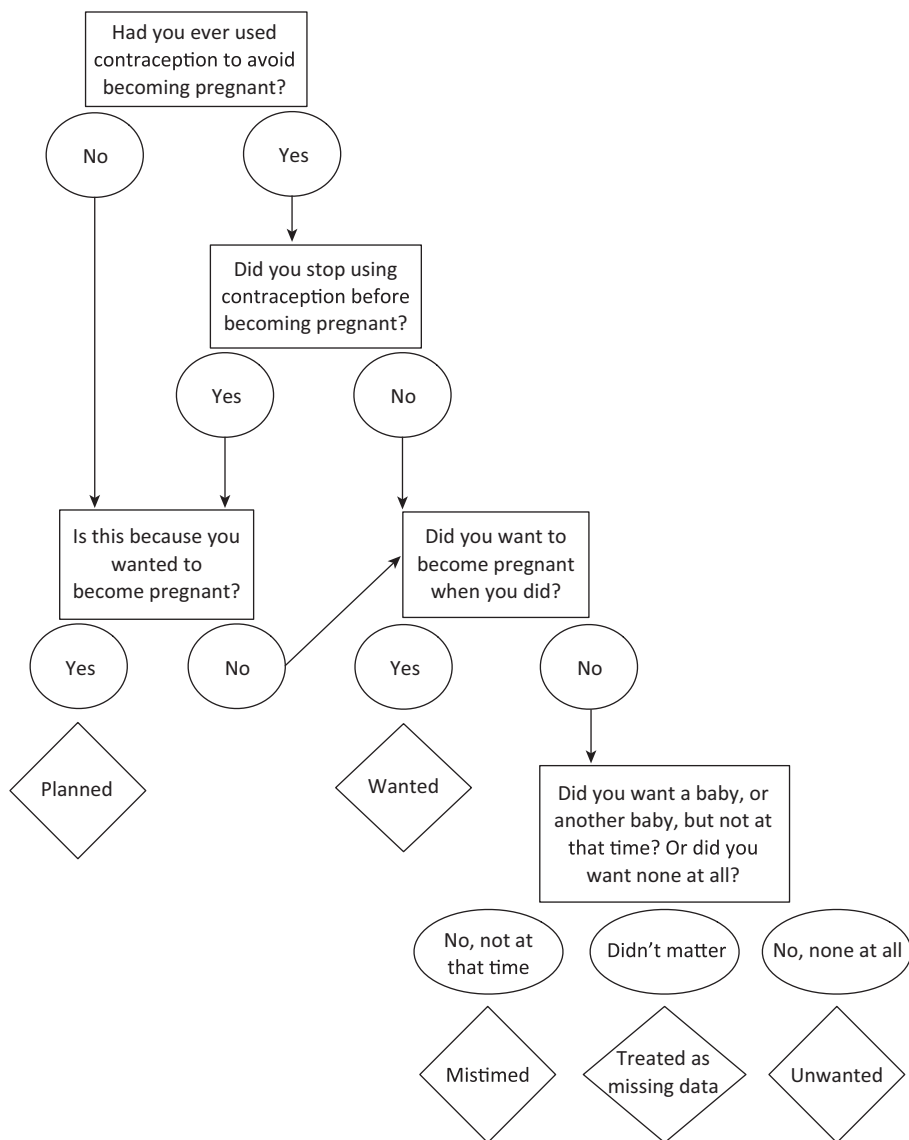


Fig. 1 Diagram of how pregnancies are classified into intention categories

We construct a four-category measure of birth planning status based on a series of questions asked about each reported pregnancy (Figure 1). Respondents were first asked whether they had ever used contraception prior to the pregnancy. Among women who had never used contraception, a follow-up item asked whether the reason for non-use at the time of conception was that they had wanted to become pregnant. Women who responded “yes” indicated that they were not using contraception because they were trying to become pregnant; they are considered to have a planned birth. Women who indicated that they had ever used contraception were asked whether they had stopped using contraception to become pregnant. Respondents who indicated “yes”

were also considered to have planned births. Among the “unplanned” first births, we consider three categories: *wanted*, *mistimed*, and *unwanted*. On the follow-up item for unplanned births, women who indicated they had not stopped using contraception but wanted to become pregnant were considered to have an *unplanned but wanted* first birth. First births to women who had indicated that they wanted to have a baby at some point, but not yet, are considered *mistimed*.<sup>5</sup> Finally, first births to women who indicated they had not wanted to have any children at the time they became pregnant were considered *unwanted*.

This variable contrasts with the conventional measure of pregnancy intentions. The conventional measure focuses on timing—that is, whether a pregnancy was retrospectively considered wanted by the time it was conceived—and does not incorporate contraceptive use or whether a woman was trying to become pregnant. Our measure, in contrast, additionally considers intentionality and thus is better suited to our analyses.

The reference categories in our analyses are *never/not yet given birth* for the four-category variable for years since first birth and *planned* for the four-category variable for birth planning. These are the most appropriate comparison groups because our hypotheses relate to differences between women experiencing a planned first birth and those experiencing an unplanned first birth. When *never/not yet given birth* equals 1, all other categories of both the years since first birth and planning status variables equal 0.

## Analytic Strategy

We test our hypotheses separately by race so that differences by race are not confounded with differences by planning status. Our unit of analysis is the person-year, standard errors are adjusted to account for the nonindependence of observations within persons, and sampling characteristics are accounted for in the regressions.

We generate a series of models to test whether the impact of motherhood differs by planning status. Model 1 includes several time-varying controls measured at each wave. We include indicators for the survey year to adjust for secular trends. We include quadratic terms for age at interview, and categorical variables for educational attainment at interview (less than high school, high school, some college, and college), region (Northeast, North Central, South, and West), metropolitan statistical area classification, and whether the respondent lived in an urban area at interview.

Some research has argued that the impact of motherhood may vary according to the number of children a respondent has had (e.g., Budig and England 2001; England et al. 2016), and women with unintended fertility typically have more children (Musick et al. 2009). To account for this potential bias, following Wilde et al. (2010), Model 2 controls for the number of additional children the respondent has had.

Marriage is associated with both motherhood and employment. Additionally, spousal earnings may allow some women to reduce their time spent in employment; how-

<sup>5</sup> We adopt the term “mistimed” as a useful abbreviation to refer to births occurring sooner than desired from the pregnancy intentions literature. It is a subcategorization of births that followed from pregnancies that, when they were conceived, were not wanted (at the time), in order to distinguish these from excess fertility.



ever, research has suggested that women may be more responsive to spouses' hours (Cha and Weeden 2014). For these reasons, Model 3 includes a dichotomous control for marital status as well as quadratic terms for the spouse's hours and annual earnings.

We additionally examine our hypotheses separately among skill groups. Like Wilde et al. (2010) and England et al. (2016), we measure cognitive skill using age-adjusted scores from a standardized test—the Armed Forces Qualifying Test (AFQT)—administered during the second wave. This variable predicts women holding professional jobs with higher earnings potential (England et al. 2016; Wilde et al. 2010) and has been found to affect the motherhood wage penalty for White women because time spent out of the labor force has a more substantial impact on their wages. Other research showed that AFQT is moderately and positively correlated with earnings (England et al. 2000; Farkas et al. 1997; Neal and Johnson 1996). Although skill is not the only possible predictor of professional jobs with higher earning potential, we follow Wilde et al. (2010) in the view that skill is a more plausibly exogenous predictor than other potential measures, such as educational attainment. We group women into race-specific terciles, such that equal proportions of White women and Black women are apportioned into each group, and we compare women in the top tercile with women in the lowest and middle terciles.

We present results from models estimated separately by race or separately by race and skill,<sup>6</sup> which is equivalent to fully interacting all variables with race or with race and skill, respectively. Our most saturated model for binomial logistic regressions that estimate employment (with equivalent least squares equations used for log hours and log wages) may be described as follows:

$$\begin{aligned} \text{logit } \textit{employed}_{it} = & \sum_{j=0}^1 \sum_{k=0}^1 ( \textit{mother}_{it} \times \textit{LENGTH}_{it} \beta_{1,jk} + \textit{mother}_{it} \times \\ & \textit{INTENTION}_{it} \beta_{2,jk} + \textit{additional children}_{it} \beta_{3,jk} + \textit{age}_{it} \beta_{4,jk} + \textit{age}_{it}^2 \beta_{5,jk} + \\ & \textit{EDUCATION}_{it} \beta_{6,jk} + \textit{marriage}_{it} \beta_{7,jk} + \textit{spouse's earnings}_{it} \beta_{8,jk} + \\ & \textit{spouse's earnings}_{it}^2 \beta_{9,jk} + \textit{spouse's hours}_{it} \beta_{10,jk} + \textit{spouse's hours}_{it}^2 \beta_{11,jk} + \\ & \textit{REGION}_{it} \beta_{12,jk} + \textit{MSA}_{it} \beta_{13,jk} + \textit{urban}_{it} \beta_{14,jk} + \textit{YEAR}_{it} \beta_{15,jk} ) + \alpha_i + u_{it}. \end{aligned}$$

The subscript  $t$  indexes the waves so that  $it$  uniquely identifies person-years. The person fixed effects are indicated by  $\alpha_i$ , capturing time-invariant unobserved heterogeneity between respondents, and  $u_{it}$  is an error term. The subscript  $j$  indexes skill and  $k$  indexes race, and thus the coefficients  $\beta_1$  through  $\beta_{17}$  are indexed  $jk$  because the estimated associations vary by race and skill. This specification is equivalent to estimating models for each combination of the race and skill categories.

For describing sample characteristics, we also utilize the work and family aspirations question previously explored by Waite and Stolzenberg (1976; Stolzenberg and Waite 1977). In the years 1979–1986, women were asked, “What would you like to be doing when you are 35 years old?” Women could indicate either “Working” or “Married, raising a family.” Those who provided the latter response were then asked whether they would also like to be working. We retain the latest response given before the first birth and examine whether women's answers differed according to whether they went on to have a planned or an unplanned first birth.

<sup>6</sup> For sample means by race and planning status, see Table A1 in the online appendix.

**Table 1** Proportion of first births planned and unplanned, by race

	White Women	Black Women
Planned	.67	.34***
Unplanned		
Wanted	.06	.08*
Mistimed	.24	.44***
Unwanted	.04	.14***

\* $p < .05$ ; \*\*\* $p < .001$

### Sensitivity Analyses

We conducted several supplemental analyses to test the sensitivity of our results to different assumptions (Tables A3–A6 in the online appendix).

Several of our sensitivity tests were related to the independent variable in our models measuring motherhood duration, the length of time since the woman had her first birth. In our preferred specification, we delineate motherhood length with indicator variables delineating the first six years, the next years up through the eleventh, and later years following the first birth. This specification is informed, as mentioned earlier, by Killewald and Zhou's (2019) sequence analysis of employment spells following motherhood in the NLSY79. In sensitivity checks, we reestimated our models (1) measuring time since the most recent birth (i.e., years since the birth of the youngest child; Model 3B); and (2) using the same categories as in Wilde et al. (2010), comparing the first four years, the fifth through ninth, and later years of motherhood (Model 3C).

We also examined models that interacted planning status with both motherhood and motherhood length (Model 3D). We present results from the simpler specification because results are similar in either specification, and the former substantially eases the exposition.

As described earlier, our models address compositional differences by marital status, including spouses' earnings and hours. We also considered the possibility that married women, who could be more likely to plan their first birth, experience a different relationship between motherhood and employment. To confirm that this would not affect our results, we also examined models that simultaneously interacted motherhood with marital status and marital status at the time of the birth, again with similar results (Model 3E).

Finally, as a robustness check for our analyses comparing skill groups, we reestimated our models separately for women grouped by their completed education (i.e., as measured in the latest wave), comparing women who graduated from college by 2014 with those who did not.

### Descriptive Findings

Examining the distribution of first birth planning status in our data, we see that among White women, two-thirds of first births were planned (67%), 24% were mistimed (not wanted at the time they occurred), and 4% unwanted (the respondent reported that she never wanted to have children; Table 1). Among Black women, planned

**Table 2** Means for the 2014 survey wave, by race and planning status of the first birth

	White Mothers		Black Mothers	
	Planned	Mistimed or Unwanted	Planned	Mistimed or Unwanted
Employed	0.75	0.73	0.69	0.64
Hours per Week	37.36	38.08	39.42	38.49
Wages	22.82	19.98*	20.78	18.65

\* $p < .05$ 

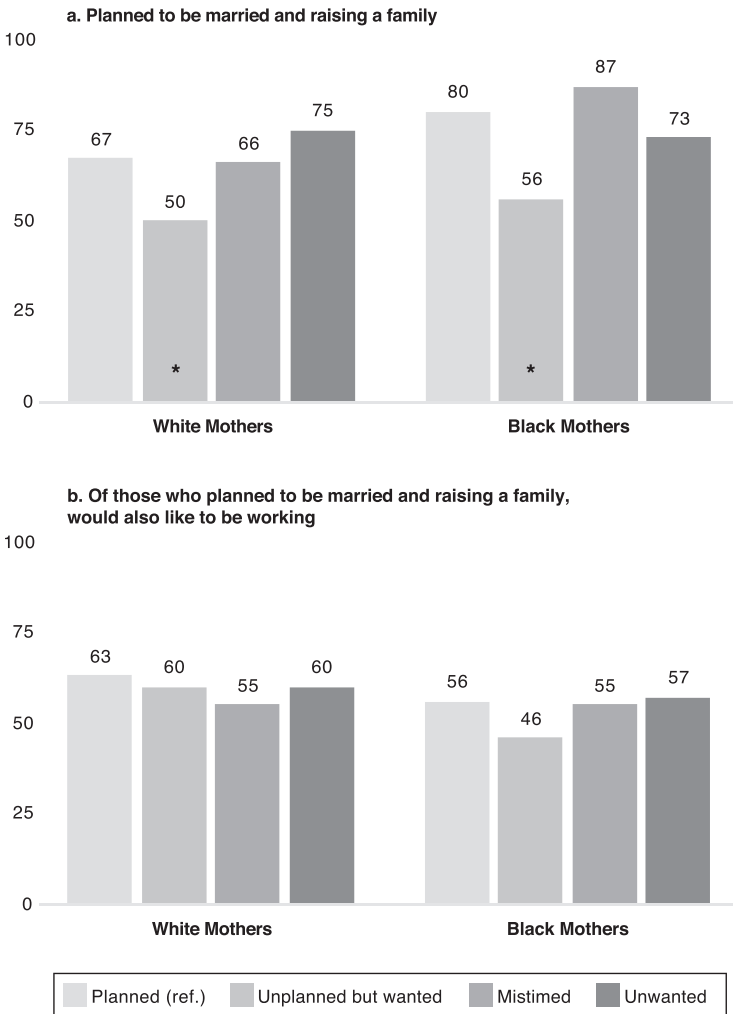
births were less common than unplanned births: 58% of first births were either mistimed (44%) or unwanted (14%), and 34% were planned. The percentage of wanted unplanned first births is relatively small for both groups: 4% among White women and 8% among Black women. Examining these patterns separately by skill (Table A2, online appendix) shows that planned births are more common among both Black and White women in the highest skill tercile than in the lower terciles.

Examining the bivariate relationship between planned childbearing and 2014 employment, we see that nearly three-quarters of women in the sample were employed regardless of race or planning status, and those who were employed generally worked approximately 37–39 hours per week (Table 2). This finding suggests that although socioeconomic advantage is associated with planned fertility (Musick et al. 2009; Mosher et al. 2012), women with planned and unplanned births exhibit similar levels of employment in the long run.

In contrast to employment, the average wages of women in 2014 do appear to have differed by planning status of the first birth. White women who planned childbearing earned nearly \$3 more per hour than those who did not, and the corresponding figure for Black women was approximately \$2; however, this difference reached statistical significance only among White women.

We also examine women's responses to a question they answered in 1979–1986, when they were 16–29 years old, asking, "What would you like to be doing when you are 35 years old?" About two-thirds of White women who later had planned (67%) and mistimed (66%) first births responded with "Working" (Figure 2, panel a). This response was more common among Black women, for whom the corresponding figures were 80% and 87%, respectively. Among women who reported that their first birth was unplanned but wanted, however, significantly fewer—50% of White women and 56% of Black women—responded "Working." Women who responded "Married, raising a family" were then asked, "Would you also like to be working in addition to this?" More than one-half, regardless of whether they went on to have a planned or unplanned first birth, answered in the affirmative (Figure 2, panel b). These results suggest that at baseline, most women expected to be employed at age 35. Women's attitudes about whether they wanted to participate in the labor market were similar across first-birth planning status except for the small proportion who went on to have an unplanned but wanted first birth.

When examining their employment trajectories before their first birth according to planning status, we find that a larger proportion of both Black and White women who planned their first birth were employed than were women who went



**Fig. 2** Percentage who responded “Working” rather than “Married, raising a family” when asked “What would you like to be doing when you are 35 years old?” by the planning status of their first birth (panel a); and of those who responded “Married, raising a family,” percentage who responded “Yes” when asked, “Would you also like to be working?” (panel b). \* $p < .05$  (two-tailed test)

on to have a mistimed or unwanted first birth (Figure 3). After they gave birth (denoted in Figure 3 with the break between line segments), however, these differences became smaller. The smallest proportion of women were employed in the year just after they became mothers, during which time women who planned their first birth remained substantially more likely to be employed than women who did not. A few years after the first birth, however, differences in employment levels by planning status were no longer evident among White women and were seen only among Black women.

We next test whether differences by planning status in employment, hours, and wages are evident after adjusting for differences in women’s characteristics.

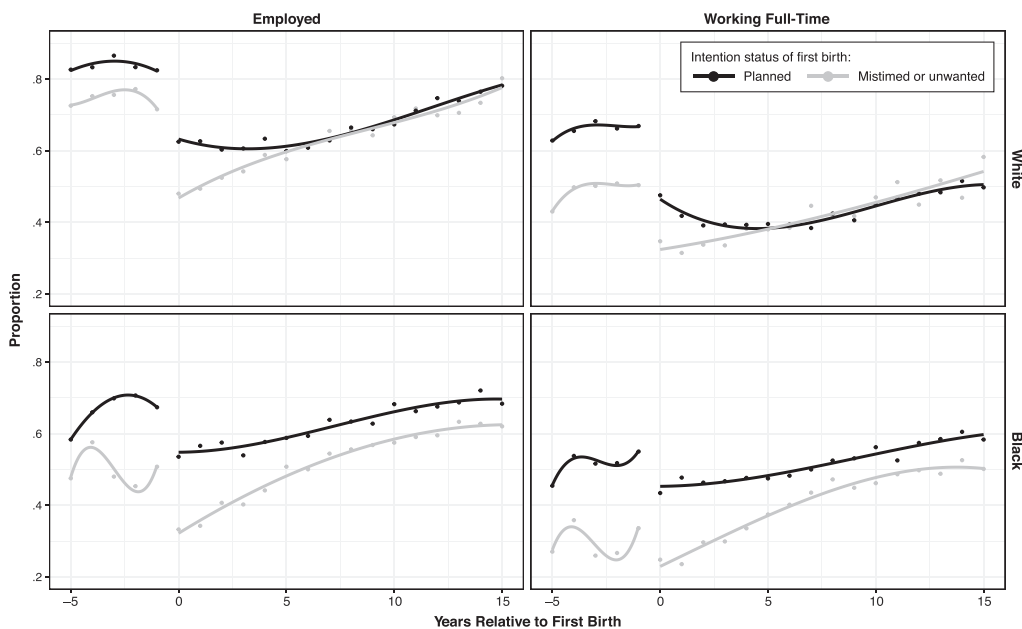


Fig. 3 Proportion of women employed and proportion of women employed full-time, by race and whether the first birth was planned

## Regression Estimates

### Employment

Planning status of first births is associated with subsequent employment only for White women (Table 3). In particular, relative to women who had a planned first birth, those who indicated that the birth was mistimed were significantly more likely to work after becoming mothers. Estimates across all specifications support H2, with odds ratios between 1.61–1.79 and the coefficient for mistimed declining significantly ( $p < .001$ ,  $\chi^2$  test) after we control for husbands' characteristics. The small subset of White women who indicated that the birth was unwanted were also more likely to be employed than those with a planned birth, although this association is only marginally significant and weakens to the point of nonsignificance when spouses' characteristics are taken into account.

Among Black women, the impact of motherhood on employment does not appear to differ by birth planning. In addition to being nonsignificant, the odds ratios for mistimed are close to unity (0.98–0.99) in all models.

The significant differences by planning status observed among White mothers are relative to a substantial negative baseline effect of motherhood on employment. Specifically, the odds ratios for employment are 0.14–0.19 within the first six years after the first birth, 0.19–0.29 within the subsequent five years, and 0.46–0.70 for later years, depending on the model. Smaller but still meaningful associations are seen among Black women, for whom the likelihood of employment also decreased

**Table 3** Odds ratios for differences in the association between motherhood and employment, by planning status and years since first birth, from fixed-effects logistic probability models

	Model 1	Model 2	Model 3
<b>A. White Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	1.26	1.26	1.17
Mistimed	1.79***	1.79***	1.61***
Unwanted	1.84 <sup>†</sup>	1.72	1.47
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	0.14***	0.15***	0.19***
Years 7–11 after first birth	0.19***	0.23***	0.29***
Later years	0.46***	0.58***	0.70*
<b>B. Black Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	1.40	1.38	1.39
Mistimed	0.99	0.99	0.98
Unwanted	1.31	1.32	1.29
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	0.39***	0.39***	0.39***
Years 7–11 after first birth	0.50***	0.51***	0.52***
Later years	0.62*	0.64*	0.66 <sup>†</sup>

*Notes:* All models adjust for age, educational attainment, marital status, region, urban-rural residence, metropolitan statistical area classification, year, and person fixed effects. Model 2 further adjusts for additional children. Model 3 includes all the variables from Model 2, in addition to marital status and the spouse's hours and earnings.

<sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\*\* $p < .001$

after first birth; specifically, the odds ratios for Black women's employment are 0.39 within approximately the first six years since the first birth regardless of the model and 0.62–0.66 for later years, depending on the model. However, differences in the later years are only marginally significant after we control for the spouses' characteristics. These patterns suggest that the likelihood of being employed increases substantially with the passage of time following motherhood, even after age is controlled for.

In sum, the proportion of women who were employed declined substantially after they became mothers. However, this decline was significantly larger among White women who planned their first birth than among those who did not.

## Hours

As with employment, planning status of first births for White women is also associated with the subsequent number of hours a woman spends on market labor (Table 4). Relative to women who had a planned first birth, those who indicated that the birth was mistimed worked an average of 6% to 7% more hours upon motherhood.

**Table 4** Log differences in hours, by planning status and years since first birth, from fixed-effects regression models

	Model 1	Model 2	Model 3
<b>A. White Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	0.08 <sup>†</sup>	0.08 <sup>†</sup>	0.06
Mistimed	0.07*	0.07**	0.06*
Unwanted	0.10	0.07	0.06
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	–0.25***	–0.24***	–0.21***
Years 7–11 after first birth	–0.28***	–0.22***	–0.19***
Later years	–0.20***	–0.12***	–0.10***
<b>B. Black Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	–0.12**	–0.12**	–0.12**
Mistimed	0.01	0.01	0.01
Unwanted	0.03	0.03	0.02
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	–0.05*	–0.05*	–0.04*
Years 7–11 after first birth	–0.05*	–0.05*	–0.04 <sup>†</sup>
Later years	–0.05*	–0.05 <sup>†</sup>	–0.04

*Notes:* All models adjust for age, educational attainment, marital status, region, urban-rural residence, metropolitan statistical area classification, year, and person fixed effects. Model 2 further adjusts for additional children. Model 3 includes all the variables from Model 2, in addition to marital status and the spouse's hours and earnings.

<sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

The corresponding coefficients are similar in size for the small subset of White women who indicated that the birth was unwanted and for those who indicated that their births were wanted but unplanned—at .06 log points in Model 3. However, these coefficients are not statistically significant in any model.

The estimates presented in Table 4, as with those previously discussed, are consistent with H2, which predicts that the association between motherhood and women's labor market outcomes is more negative for women with a planned first birth. Among Black women, we find no support for H2: the coefficients for mistimed and unwanted births are small and nonsignificant regardless of the specification. An exception to this general pattern is that for the small subset of Black women with an unplanned but wanted first birth, the coefficients are negative.

Differences in hours by birth planning status are somewhat small in absolute terms among women still employed. However, they are substantial when measured relative to the baseline effect of motherhood. In Model 3, in which the estimated differences between mothers and nonmothers are smallest, this difference ranges from about 19% fewer hours ( $e^{-.21} - 1$ ) in the first six years of motherhood to 10% in later years. These patterns are less pronounced for Black women: baseline coefficients range from –0.04 to –0.05 log points (depending on the specification) and do not differ with the length of motherhood in any model, and the associations are only marginally significant in some instances.

In sum, in models estimating hours among employed White women, we find evidence consistent with H2: mistimed births are associated with an approximately 6% smaller reduction in work hours compared with planned births. Among Black women, in contrast, the coefficient for mistimed is nonsignificant and is at most 0.01 log points in any model.

## Wages

Among White women, we see little difference in the motherhood wage penalty by birth planning status, with one exception (Table 5). Mothers with an unwanted first birth earned 23% to 26% higher wages ( $e^{.21}$  to  $e^{.23}$ ) than mothers with a planned first birth. These differences are substantial relative to the baseline wage penalty, which ranges from  $-7\%$  to  $-8\%$  in the first six years after the first birth,  $-11\%$  to  $-15\%$  over the next five years ( $e^{-.12}$  to  $e^{-.16}$ ), and  $-12\%$  to  $-16\%$  in later years ( $e^{-.13}$  to  $e^{-.18}$ ), depending on the specification. Differences in the wages of those with planned and mistimed first births are nonsignificant and approach 0.

Among White women, we see clear evidence of the motherhood wage penalty. Regardless of the number of years since the first birth, those with a child earned less than women without. In contrast, the number of years since the first birth is not strongly associated with Black women's wages in any model. Moreover, wages do not differ significantly between Black women with planned births and those with mistimed or unwanted births. However, as with hours, we find evidence that Black mothers with an unplanned but wanted first birth earned lower wages than those with a planned first birth.

## Employment, Hours, and Wages by Skill

For brevity, we report estimates from our most saturated model when reviewing results by skill (Table 6). Differences by planning status in the impact of motherhood on White women's employment are evident regardless of skill level: relative to White women with a planned first birth, those who indicated that the birth was mistimed were more likely to work in both the low- to mid-skill group (odds ratio = 1.54) and the high-skill group (odds ratio = 1.98).

We also find evidence that employed White women with an unplanned first birth worked more hours than those with a planned first birth. This result is significant only among those who did not score in the highest skill tercile, for whom we estimate a 7% difference in hours.

In models estimating White women's wages, as with the models which averaged across skill groups, we find differences by planning in the association between motherhood and wages only when comparing women who had a planned first birth with those who had an unplanned and unwanted first birth. In models estimated separately by skill, however, the coefficient among high-skill women (at .38 log points) is statistically significant, whereas the coefficient for low- to mid-skill women is not.

In models estimating employment, hours, or wages by skill among Black women, as with the results discussed earlier averaging across skill groups, we find no significant



**Table 5** Log differences in wages, by planning status and years since first birth, from fixed-effects regression models

	Model 1	Model 2	Model 3
<b>A. White Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	-0.04	-0.04	-0.04
Mistimed	0.01	0.01	0.02
Unwanted	0.23**	0.21*	0.21*
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	-0.08***	-0.07***	-0.07***
Years 7–11 after first birth	-0.16***	-0.12***	-0.13***
Later years	-0.18***	-0.13***	-0.14***
<b>B. Black Women</b>			
Planning status (ref. =planned, or no children yet)			
Unplanned but wanted	-0.15*	-0.16*	-0.16*
Mistimed	0.04	0.04	0.04
Unwanted	-0.06	-0.06	-0.05
Years since first birth (ref. =not yet had birth)			
Years 1–6 after first birth	-0.02	-0.02	-0.02
Years 7–11 after first birth	-0.02	-0.00	-0.01
Later years	-0.06	-0.03	-0.03

*Notes:* All models adjust for age, educational attainment, marital status, region, urban-rural residence, metropolitan statistical area classification, year, and person fixed effects. Model 2 further adjusts for additional children. Model 3 includes all the variables from Model 2, in addition to marital status and the spouse's hours and earnings.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

differences between women with planned first births and those with mistimed or unwanted first births.

An exception to the general pattern of results is seen among the small proportion of White women with an unplanned but wanted first birth in the top skill tercile, who were less likely to be employed than those with a planned first birth. We see a similar exception in the *unplanned but wanted* coefficient in models estimating employed Black women's hours, which is also evident in the models averaging across skill groups.

Consistent with prior research (England et al. 2016; Florian 2018), when examining the baseline associations between motherhood and employment, hours, or wages, we find more substantial evidence of negative associations among White women than among Black women. These associations are evident among White women regardless of skill group for all dependent variables—employment, log hours, and log wages—whereas none of the baseline associations are statistically significant among Black women except in the models estimating employment.

Thus, we find the most significant evidence for a negative association between motherhood and employment, hours, and wages among high-skill White women with a planned first birth. However, differences by skill group are not statistically significant.

**Table 6** Odds ratios or coefficients from models predicting employment (odds ratios) and log hours and log wages (coefficients), by skill, from Model 3

	Employment		Log Hours		Log Wages	
	High Skill	Low- to Mid-Skill	High Skill	Low- to Mid-Skill	High Skill	Low- to Mid-Skill
<b>A. White Women</b>						
Planning status (ref. =planned, or no children yet)						
Unplanned but wanted	0.22**	1.60 <sup>†</sup>	-0.11	0.11*	-0.15*	0.00
Mistimed	1.98*	1.54**	0.02	0.07*	0.00	0.02
Unwanted	1.68	1.35	0.04	0.06	0.38**	0.16
Years since first birth (ref. =not yet had birth)						
Years 1–6 after first birth	0.15***	0.20***	-0.26***	-0.18***	-0.06*	-0.07***
Years 7–11 after first birth	0.21***	0.31***	-0.23***	-0.17***	-0.15***	-0.12***
Later years	0.45**	0.76	-0.08*	-0.10***	-0.17***	-0.12***
<b>B. Black Women</b>						
Planning status (ref. =planned, or no children yet)						
Unplanned but wanted	1.34	1.37	-0.12 <sup>†</sup>	-0.13*	-0.28 <sup>†</sup>	-0.09
Mistimed	0.61	1.31	-0.01	0.02	0.00	0.07
Unwanted	0.71	2.04	-0.05	-0.09	0.01	-0.12
Years since first birth (ref. =not yet had birth)						
Years 1–6 after first birth	0.43**	0.38***	-0.04	-0.04	-0.01	-0.04
Years 7–11 after first birth	0.47*	0.54**	-0.02	-0.05 <sup>†</sup>	-0.00	-0.03
Later years	0.68	0.67	-0.02	-0.05	-0.04	-0.03

*Notes:* Results are shown from Eq. (3), which adjusts for age, educational attainment, marital status, region, urban-rural residence, metropolitan statistical area classification, year, and person fixed effects, as well as additional children, marital status, and the spouse's hours and annual earnings.

<sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## Summary

In summary, we find evidence that the impact of motherhood on White women's employment, hours, and wages differs by planning status of the first birth and is largest among those who plan the transition to motherhood. For Black women, in contrast, we do not find evidence that the impact of motherhood on the probability of employment and, among employed women, hours and wages is larger for women with a planned first birth.

## Limitations

The conventional measure used to assess pregnancy intentions in the large body of sexual and reproductive health research has been criticized for being imprecise and

one-dimensional and for not considering the affective component of pregnancy reactions (Aiken et al. 2016; Mumford et al. 2016; Potter et al. 2019; Santelli et al. 2003). Our measure of birth intentions addresses some of these concerns—for example, by taking into account contraceptive use and pregnancy planning—but it is not without shortcomings. Barrett and colleagues (Barrett et al. 2004; Barrett and Wellings 2002) showed that some women may not use the word “planned” to describe a birth unless they engaged in preparatory behaviors, such as having discussions with their partners in addition to trying to become pregnant. Our measure of planning likely includes women who did not explicitly engage in these planning behaviors. Also, we do not know how long a woman was trying to become pregnant and thus how well-timed a planned birth was. If a subset of women *were* able to mitigate the tension between work and family through extensive planning, then our estimates of how much larger motherhood effects are for women with planned births may be conservative.

It is conceivable that some women may prefer not to work for pay when they become mothers and that this preference is higher among women who plan their first birth. If any women had such a time-invariant preference, it is addressed with the fixed effects. Women's preferences may change over time, however. Addressing the potential that a woman's ability to exercise this preference is contingent on her marital situation, we note that the moderating effect of birth planning on employment remains substantial and significant in models that adjust for marital status and the earnings and hours of the spouse, and it is nearly identical in supplemental models that simultaneously interact motherhood with contemporaneous marital status and marital status at the time of the birth (Table 3 and Table A3, online appendix). Additionally, although we do not know how individual women's attitudes toward employment and child-rearing evolved over time, we are able to analyze baseline measures of women's expectations about work and family. The vast majority of women indicated that they would prefer to work at age 35. Moreover, we find no significant differences in these preferences between women who planned their first birth and women who had a mistimed or unwanted first birth. Thus, although we cannot be absolutely sure that our finding of greater negative effects on employment upon motherhood for women who planned their births is partly or entirely a reflection of the greater preference for being a stay-at-home mother among women who planned their first birth, we believe that this is unlikely given our various modeling choices.

Another limitation of our analysis is that our inferences about differences between mothers who have a planned first birth and those who have an unplanned first birth may not generalize to unplanned pregnancies that end in abortion. Some women may have terminated a pregnancy before a first birth specifically because they wanted to improve their employment outcomes, for example, if the pregnancy occurred before they finished school or at a time that was detrimental to their employment opportunities.

In addition, the fertility postponement literature generally argues that earlier births, if anything, may hinder socioeconomic attainment (Diaz and Fiel 2016). Thus, it is possible that our estimates are slightly conservative.

Finally, an exception to the general pattern of results is a more negative association between motherhood and employment among the small proportion of high-skill White women with an unplanned but wanted first birth. Among Black women, we

likewise find exceptions to the general pattern, with more negative associations if their first birth was unplanned but wanted, but in this case with respect to hours and wages rather than employment. Women with an unplanned but wanted first birth may be distinctly different. For example, they were less likely at baseline to report wanting to work and more likely to report wanting to be “Married, raising a family” than women who had a planned, mistimed, or unwanted first birth (Figure 2, panel a). Although these women may not have planned the pregnancy, per se, they may have been motivated to reduce their labor market engagement because of a long-standing commitment to prioritizing family obligations over work. These exceptions to the generalizations from our analysis remind us that women are diverse by race and other factors, and our conclusions may not apply to all groups.

## Discussion

A substantial literature within sociology, economics, and demography has found that having children negatively affects women’s odds of employment and their earnings. To explain these findings, researchers have discussed a number of structural factors, such as gender discrimination and a labor market that does not readily accommodate motherhood (Acker 1990; Amuedo-Dorantes and Kimmel 2005; Arendell 2000; Blair-Loy and Dehart 2003; Budig and England 2001; Correll et al. 2007; DeNavas-Walt and Proctor 2015; England et al. 2016; England et al. 2012; Florian 2018; Gerson 1986; Glauber 2007; Hays 1996; Hill 1979; Neumark and Korenman 1992; Romagnoli and Wall 2012; Stone 2007; Taniguchi 1999; Waite and Stolzenberg 1976; Waldfogel 1997; Wilde et al. 2010). A smaller body of literature has discussed the association between access to family planning and historical increases in women’s earnings; such an association suggests that at the individual level, women using contraception may be able to plan their transition into motherhood to moderate its impact on their employment and earnings (Bailey 2013; Bailey et al. 2012; Goldin and Katz 2000, 2002). Planned fertility is positively associated with socioeconomic status (Mosher et al. 2012; Musick et al. 2009). If planning helps some women reduce the impact of motherhood on their labor market outcomes, then this could compound economic inequality, and such findings could buttress the promotion of planned child-rearing as a preferential behavioral norm. However, we find the opposite—that women who plan their births in higher numbers experience the effects of motherhood, particularly on employment. Because more-privileged women are the ones who most often plan their first pregnancy, these motherhood penalties are not exacerbating inequality within women. The motherhood penalties that we find instead emphasize the importance of improving public and employer policies to reduce work–parent-hood conflict and changing sociocultural norms and expectations that contribute to a continuing gendered division of labor.

Scholars have discussed how long-standing, prevailing ideologies surrounding work and motherhood affect behavior (Arendell 2000; Blair-Loy and Dehart 2003; Gerson 1986; Hays 1996; Romagnoli and Wall 2012; Stone 2007; Waite and Stolzenberg 1976). Such ideologies include a valorization of motherhood that is apparent across classes, from socioeconomically marginalized groups to higher-earning professional women (Edin and Kefalas 2005; Stone 2007). In light of this extant literature, we

hypothesized that women who plan childbearing could be more likely—rather than less likely—to disinvest in the labor market upon motherhood. Women may plan their births to occur when they are most willing or most able to exit or spend less time in the labor market; alternatively, those who plan their births may be more responsive to the tension between motherhood and employment (Simoni et al. 2017; Stone 2007; Waite and Stolzenberg 1976).

Consistent with this valorization of female domesticity, our analyses indicate that the negative relationship between motherhood and women's labor market outcomes is largest among White women who planned their first birth. This finding is evident in models with a robust set of controls (Tables 3–5), regardless of skill group (Table 6), and across an extensive series of sensitivity analyses (Tables A3–A6, online appendix).

We also find larger associations between motherhood and women's labor market outcomes among White women than among Black women, which echoes the findings of earlier studies (Budig and England 2001; England et al. 2016; Florian 2018; Waldfogel 1997; Wilde et al. 2010). This association between motherhood and labor market outcomes is consistently evident for White women across all outcomes in the early and later years of motherhood. Among Black women, in contrast, women with a child were less likely to be employed and worked fewer hours than those with no children, but we do not observe a significant difference in hourly wages between women with and without a birth.

As noted earlier, prior work has discussed how women's choices are structurally constrained not only by a labor market that may not readily accommodate motherhood but also by sociocultural norms and expectations (Arendell 2000; Blair-Loy and Dehart 2003; Gerson 1986; Hays 1996; Romagnoli and Wall 2012; Stone 2007; Waite and Stolzenberg 1976). Although women, regardless of race, would be expected to experience work–family tension, qualitative studies have consistently found evidence of dissimilar sociocultural experiences and expectations—for example, the valorization of economic self-sufficiency among Black women in contrast to domesticity among White women (Barnes 2015; Collins 2000; Florian 2018; Marsh et al. 2013; Roberts 1993). Consistent with these race differences in the valorization of domesticity relative to economic self-sufficiency, we find substantial differences by planning status among White women but not Black women.

In light of work focusing on historical improvements in access to contraception and abortion, our findings present some irony. Contraception can help women control their fertility, and prior research on the association between socioeconomic disadvantage and unintended pregnancy suggests that women who have more socioeconomic resources are more likely to plan their pregnancies. However, we find that mistimed first births are less negatively associated with White women's employment outcomes than are planned ones.

These findings should not be interpreted to indicate that fertility postponement does not contribute to increases in women's economic attainment. Access to family planning has contributed to historic increases in women's acquisition of human capital, consistent with our descriptive results, and fertility postponement is associated with smaller wage penalties in some occupations (Bailey 2013; Bailey et al. 2012; Goldin and Katz 2000, 2002; Landivar 2020).

However, although one can use family planning to postpone fertility in order to accumulate human capital, we argue that it does not necessarily follow that one can

use family planning to start a family at the time of one's choosing and to eliminate mothers' work–family tension.

As Potter and colleagues (2019:1) noted, unintended pregnancy has been used in the fields of public health and demography to motivate investments in family planning in a way that “contributes to stigmatization among already-marginalized groups.” Unplanned pregnancies, as shown here, can also be wanted. More central to our point, we find no evidence that unplanned births contribute to worse labor market outcomes than planned births. This is a novel contribution to the pregnancy intentions literature, which thus far has generally associated unintended pregnancies with negative outcomes. Additionally, our findings raise questions about the extent to which differences in pregnancy planning reflect differences in reproductive autonomy. Along with literature exploring the conceptualization of unintended pregnancy, we hope our findings motivate asking comprehensive questions about the reasons why women plan or postpone fertility.

As prior research has suggested, women adapt their priorities and preferences in response to external influences (Gerson 1986). We suspect that reducing the impact of child-rearing on women's employment will require that access to family planning is complemented with a shift in caretaking norms and supported by policies, such as subsidized childcare, that enable both parents to continue working if they so desire (Budig et al. 2012). Care work, including parenting, can be viewed as a social good, and women disproportionately take on this burden (England 2005). This evidence can inform policy-makers as they attempt to ensure that women have the tools to fulfill both their fertility and professional goals. ■

**Acknowledgments** We thank Rachel Jones, Paula England, and Kathryn Kost for their invaluable input and support. This article was made possible by an anonymous donor. The donor had no role in study design, data analysis, decision to publish, or preparation of the manuscript, and the findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the donor.

## References

- Acker, J. (1990). Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & Society, 4*, 139–158.
- Aiken, A. R. A., Borrero, S., Callegari, L. S., & Dehlendorf, C. (2016). Rethinking the pregnancy planning paradigm: Unintended conceptions or unrepresentative concepts? *Perspectives on Sexual and Reproductive Health, 48*, 147–151. <https://doi.org/10.1363/48e10316>
- Aiken, A. R. A., Dillaway, C., & Mevs-Korff, N. (2015). A blessing I can't afford: Factors underlying the paradox of happiness about unintended pregnancy. *Social Science & Medicine, 132*, 149–155.
- Amuedo-Dorantes, C., & Kimmel, J. (2005). The motherhood wage gap for women in the United States: The importance of college and fertility delay. *Review of Economics of the Household, 3*, 17–48.
- Angrist, J. D., & Evans, W. N. (2000). Schooling and labor market consequences of the 1970 state abortion reforms. In *Research in Labor Economics*, (Vol. 18, pp.75–113). Bingley, UK: Emerald Group Publishing. [https://doi.org/10.1016/S0147-9121\(99\)18020-8](https://doi.org/10.1016/S0147-9121(99)18020-8)
- Arendell, T. (2000). Conceiving and investigating motherhood: The decade's scholarship. *Journal of Marriage and the Family, 62*, 1192–1207.
- Bailey, M. J. (2013). Fifty years of family planning: New evidence on the long-run effects of increasing access to contraception. *Brookings Papers on Economic Activity, 2013*(1), 341–409.

- Bailey, M. J., Hershbein, B., & Miller, A. R. (2012). The opt-in revolution? Contraception and the gender gap in wages. *American Economic Journal: Applied Economics*, 4(3), 225–254.
- Barnes, R. J. D. (2015). *Raising the race: Black career women redefine marriage, motherhood, and community*. New Brunswick, NJ: Rutgers University Press.
- Barrett, G., Smith, S. C., & Wellings, K. (2004). Conceptualisation, development, and evaluation of a measure of unplanned pregnancy. *Journal of Epidemiology and Community Health*, 58, 426–433.
- Barrett, G., & Wellings, K. (2002). What is a 'planned' pregnancy? Empirical data from a British study. *Social Science & Medicine*, 55, 545–557.
- Blair-Loy, M., & Dehart, G. (2003). Family and career trajectories among African American female attorneys. *Journal of Family Issues*, 24, 908–933.
- Budig, M. J., & England, P. (2001). The wage penalty for motherhood. *American Sociological Review*, 66, 204–225.
- Budig, M. J., & Hodges, M. J. (2010). Differences in disadvantage variation in the motherhood penalty across White women's earnings distribution. *American Sociological Review*, 75, 705–728.
- Budig, M. J., Misra, J., & Boeckmann, I. (2012). The motherhood penalty in cross-national perspective: The importance of work–family policies and cultural attitudes. *Social Politics: International Studies in Gender, State & Society*, 19, 163–193.
- Cha, Y., & Weeden, K. A. (2014). Overwork and the slow convergence in the gender gap in wages. *American Sociological Review*, 79, 457–484.
- Collins, P. H. (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*. New York, NY: Routledge.
- Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *American Journal of Sociology*, 112, 1297–1339.
- DeNavas-Walt, C., & Proctor, B. D. (2015). *Income and poverty in the United States: 2014* (Current Population Reports, No. P60–252). Washington, DC: U.S. Census Bureau. Retrieved from <https://www.census.gov/content/dam/Census/library/publications/2015/demo/p60-252.pdf>
- Diaz, C. J., & Fiel, J. E. (2016). The effect(s) of teen pregnancy: Reconciling theory, methods, and findings. *Demography*, 53, 85–116.
- Dow, D. M. (2016). Integrated motherhood: Beyond hegemonic ideologies of motherhood. *Journal of Marriage and Family*, 78, 180–196.
- Edin, K., & Kefalas, M. (2005). *Promises I can keep: Why poor women put motherhood before marriage*. Berkeley: University of California Press.
- England, P. (2005). Emerging theories of care work. *Annual Review of Sociology*, 31, 381–399.
- England, P., Bearak, J., Budig, M. J., & Hodges, M. J. (2016). Do highly paid, highly skilled women experience the largest motherhood penalty? *American Sociological Review*, 81, 1161–1189.
- England, P., Christopher, K., & Reid, L. (2000). Gender, race, ethnicity, and wages. In I. Browne (Ed.), *Latinas and African American women at work: Race, gender, and economic inequality* (pp. 139–182). New York, NY: Russell Sage Foundation.
- England, P., Gornick, J., & Shafer, E. F. (2012). Women's employment, education, and the gender gap in 17 countries. *Monthly Labor Review*, 2012(April), 3–12.
- Farkas, G., England, P., Vicknair, K., & Kilbourne, B. S. (1997). Cognitive skill, skill demands of jobs, and earnings among young European American, African American, and Mexican American workers. *Social Forces*, 75, 913–938.
- Florian, S. M. (2018). Motherhood and employment among Whites, Hispanics, and Blacks: A life course approach. *Journal of Marriage and Family*, 80, 134–149.
- Gerson, K. (1986). *Hard choices: How women decide about work, career and motherhood*. Berkeley: University of California Press.
- Glauber, R. (2007). Marriage and the motherhood wage penalty among African Americans, Hispanics, and Whites. *Journal of Marriage and Family*, 69, 951–961.
- Goldin, C., & Katz, L. F. (2000). Career and marriage in the age of the pill. *American Economic Review: Papers & Proceedings*, 90, 461–465.
- Goldin, C., & Katz, L. F. (2002). The power of the pill: Oral contraceptives and women's career and marriage decisions. *Journal of Political Economy*, 110, 730–770.
- Hays, S. (1996). *The cultural contradictions of motherhood*. New Haven, CT: Yale University Press.
- Hill, M. S. (1979). The wage effects of marital status and children. *Journal of Human Resources*, 14, 579–594.

- Juhn, C., & McCue, K. (2017). Specialization then and now: Marriage, children, and the gender earnings gap across cohorts. *Journal of Economic Perspectives*, 31(1), 183–204.
- Killewald, A., & Bearak, J. (2014). Is the motherhood penalty larger for low-wage women? A comment on quantile regression. *American Sociological Review*, 79, 350–357.
- Killewald, A., & Gough, M. (2013). Does specialization explain marriage penalties and premiums? *American Sociological Review*, 78, 477–502.
- Killewald, A., & Zhuo, X. (2019). U.S. mothers' long-term employment patterns. *Demography*, 56, 285–320.
- Klein, M. H. I. (1997). *The effects of abortion legislation on women's educational attainment in the United States* (Doctoral dissertation). Department of Economics, University of California, Berkeley, Berkeley, CA. Retrieved from <https://search.proquest.com/docview/304341311/abstract/A56B0921135B4515PQ/1>
- Landivar, L. C. (2020). First-birth timing and the motherhood wage gap in 140 occupations. *Socius*, 6. <https://doi.org/10.1177/2378023120939424>
- Landry, B. (2002). *Black working wives: Pioneers of the American family revolution*. Berkeley: University of California Press.
- Marsh, K., Landry, B., & Dean, P. (2013). Cultural contradiction or integration? Work-family schemas of Black middle class mothers. In M. H. Kohlman, D. B. Krieg, & B. J. Dickerson (Eds.), *Advances in Gender Research: Vol. 17. Notions of family: Intersectional perspectives* (pp. 137–158). Bingley, UK: Emerald Group Publishing. Retrieved from [https://doi.org/10.1108/S1529-2126\(2013\)0000017010](https://doi.org/10.1108/S1529-2126(2013)0000017010)
- Mosher, W. D., Jones, J., & Abma, J. C. (2012). *Intended and unintended births in the United States: 1982–2010* (National Health Statistics Reports, No. 55). Hyattsville, MD: National Center for Health Statistics.
- Mumford, S. L., Sapra, K. J., King, R. B., Louis, J. F., & Buck Louis, G. M. (2016). Pregnancy intentions—A complex construct and call for new measures. *Fertility and Sterility*, 106, 1453–1462.
- Musick, K., England, P., Edgington, S., & Kangas, N. (2009). Education differences in intended and unintended fertility. *Social Forces*, 88, 543–572.
- Neal, D. A., & Johnson, W. R. (1996). The role of premarket factors in Black-White wage differences. *Journal of Political Economy*, 104, 869–895.
- Neumark, D., & Korenman, S. (1992). *Sources of bias in women's wage equations: Results using sibling data* (NBER Working Paper No. 4019). Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w4019>
- Potter, J. E., Stevenson, A. J., Coleman-Minahan, K., Hopkins, K., White, K., Baum, S. E., & Grossman, D. (2019). Challenging unintended pregnancy as an indicator of reproductive autonomy. *Contraception*, 100, 1–4.
- Roberts, D. E. (1993). Racism and patriarchy in the meaning of motherhood. *Journal of Gender, Social Policy & the Law*, 1(1), 1–38.
- Romagnoli, A., & Wall, G. (2012). 'I know I'm a good mom': Young, low-income mothers' experiences with risk perception, intensive parenting ideology and parenting education programmes. *Health, Risk & Society*, 14, 273–289.
- Santelli, J., Rochat, R., Hatfield-Timajchy, K., Gilbert, B. C., Curtis, K., Cabral, R., . . . Schieve, L. (2003). The measurement and meaning of unintended pregnancy. *Perspectives on Sexual and Reproductive Health*, 35, 94–101.
- Simoni, M. K., Mu, L., & Collins, S. C. (2017). Women's career priority is associated with attitudes towards family planning and ethical acceptance of reproductive technologies. *Human Reproduction*, 32, 2069–2075.
- Stolzenberg, R. M., & Waite, L. J. (1977). Age, fertility expectations and plans for employment. *American Sociological Review*, 42, 769–783.
- Stone, P. (2007). *Opting out? Why women really quit careers and head home*. Berkeley: University of California Press.
- Taniguchi, H. (1999). The timing of childbearing and women's wages. *Journal of Marriage and the Family*, 61, 1008–1019.
- Waite, L. J., & Stolzenberg, R. M. (1976). Intended childbearing and labor force participation of young women: Insights from nonrecursive models. *American Sociological Review*, 41, 235–252.
- Waldfogel, J. (1997). The effect of children on women's wages. *American Sociological Review*, 62, 209–217.



- Wilde, E. T., Batchelder, L., & Ellwood, D. T. (2010). *The mommy track divides: The impact of childbearing on wages of women of differing skill levels* (NBER Working Paper No. 16582). Cambridge, MA: National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w16582>
- Yoon, Y.-H., & Waite, L. J. (1994). Converging employment patterns of Black, White, and Hispanic women: Return to work after first birth. *Journal of Marriage and the Family*, 56, 209–217.

---

Jonathan Marc Bearak (corresponding author)  
[jbearak@gutmacher.org](mailto:jbearak@gutmacher.org)

*Bearak* • Gutmacher Institute, New York, NY, USA

*Popinchalk* • Gutmacher Institute, New York, NY, USA

*Burke* • Population Research Center and Department of Sociology, University of Texas at Austin, Austin, TX, USA

*Anjur-Dietrich* • Department of Population, Family, and Reproductive Health, Johns Hopkins University, Baltimore, MD, USA