

# **Inequalities in Breastfeeding in the United States across the Twentieth Century**

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Breastfeeding is a culturally-grounded and historically changing practice in the United States with many different stake holders. Policy makers and physicians see breastfeeding as an important type of health investment for infants and mothers and have undertaken massive public health campaigns with strong moral tones of responsible behavior (Surgeon General 2011, Wall 2001). For women, breastfeeding is an embodied, time-intensive, and emotionally charged childrearing practice, and new mothers unambiguously find the recommended guidelines of breastfeeding exclusively for the first six months of an infant's life difficult to meet.

Breastfeeding is also strongly differentiated by socioeconomic status (SES), reflecting systematically differentiated patterns by education, race and ethnicity, age at first birth, and marital status (Ryan, Wenjun and Acosta 2002; Hendershot 1984, Li et al 2005). In recent decades in the United States, breastfeeding duration has become strongly linked with the discourse of intensive mother (Knaak 2009; Rippeyoung and Noonan2012)—social class differentiated cultural norms that reinforce the expectation that mothers dedicate themselves to nurturing every possible aspect children's growth and development.

In this study, we investigate how and when breastfeeding became a practice differentiated by socioeconomic status. Using 100 years of data (from 1910 to 2010) we answer the following research questions:

- (1) When did socioeconomic inequalities in breastfeeding emerge, and how do these differ by social category (education, race, marital status) across the century?
- (2) What role do the dramatic changes in family formation that emerged in the 1970s, including non-marital childbearing and the massive divergence of fertility timing across social groups (education, race-ethnicity) play in explaining persistent differences in breastfeeding initiation and duration by race and education?
- (3) Are the observed patterns consistent with cultural explanations that argue that breastfeeding is a predominantly class-based practice that is closely related to a

commitment to intensive parenting and the accompanying resources to realize this commitment child investment?

## **Background**

Breastfeeding practices have changed dramatically over time in the United States. At the turn of the twentieth century, most American mothers breastfed their infants (Hirschman and Butler 1981). In the ensuing years, the rising availability of infant formula, recommendations from medical practitioners that infant formula is healthier for infants, and changes in women's labor market and political participation led to a rapid and sustained decline of breastfeeding by American mothers. Breastfeeding rates hit their lowest levels by the early 1970s, with only 5% of mothers reporting that they were breastfeeding at all six months after birth (Ryan, Wenjun and Acosta 2002). Then, in the 1960s and 1970s, psychological and child development research (the now-famous Dr. Spock approach to parenting) began to advocate for a mother-centric approach to childrearing (Martucci 2015). Combined with emerging medical research suggesting that breastfeeding was healthier for both infants and their mothers, this spurred a resurgence of breastfeeding rates starting in the early 1970s. Since the then, breastfeeding rates have continued a slow rise to the present time (Hendershot 1984; Wright and Schanler 2001).

Although in recent decades breastfeeding is associated with higher socioeconomic status, these associations have changed considerably over time (Hirschman and Butler 1981, Ryan 1997). Breastfeeding rates differ by characteristics such as race (Hirschman and Sweet 1974; Ryan 1997), social class (Ryan 1997), and mother's education (Hirschman and Sweet 1974, Hirschman and Butler 1981, Ryan 1997). An older literature from the 1970s and 1980s documents differences in breastfeeding by SES for the first half of the twentieth century, but we know of no existing study that undertakes this analysis for the second half of the century. The current study fills this gap in the literature and shows how taking a long-term view of socioeconomic differences in breastfeeding provides an important context for understanding both how the practice of breastfeeding has changed by cohort and over time, and how its current cultural construction as a class-based practice adopted by mothers with more education and socioeconomic resources has not consistently been the case over the past 100 years. We also analyze how changes in nonmarital fertility and the divergence of age at first birth by education inform persistent inequalities in breastfeeding by race and education.

## **Data and Methods**

We combine cross-sectional individual-level data from two nationally-representative surveys: the 1965 National Fertility Survey (NSF) and the National Survey of Family Growth (NSFG) from 1973 to 2011. We use the harmonized NSFG data for 1973 to 2002, and augment this with the 2006 and 2011 waves of the NSFG, which we adapt to match the harmonized data. Using these data, we construct comparable trend data both by mother's birth cohort and by the year of the first child's birth. For mother's cohort, we limit our analyses between 1910 and 1980 so that mothers in the oldest cohort are no older than 55 in the 1965 survey wave and mothers in the most recent cohort are at least 35 years old in the 2011 survey (our most recent wave of data). For the year of first birth (period) analyses, we examine data from 1910 to 2010. We restrict all our analyses to breastfeeding status as first birth in order to hold parity constant.

We assemble data on mothers' birth cohorts by combining data across survey waves and using the available data on each cohort from a given survey wave as long as the survey wave includes at least 50 mothers from the birth cohort. When we analyze the data by education and race, we again impose the restriction of observing at least 50 mothers in that group in a given wave as a requirement for including those data in our analyses. When we compute averages by cohort and social group, we weight our estimates by the respective sample size from each wave.

Our analyses begin by describing bivariate trends across the twentieth century by education and race (we also show the overall trend). We then use multivariate regression models with individual level data to describe the period and cohort trends for these social groups while controlling for other relevant covariates and their interactions over time. Using the harmonized data, we can account for the following variables in our multivariate regressions at different time points: mother's birth cohort, educational attainment, race, ever worked for pay, currently employed, marital status, number of pregnancies, family income, husband's education, and age at first birth. We combine these regressions with regression decomposition analyses to answer our research questions.

## **Preliminary Results**

In this section we describe some preliminary patterns to demonstrate both the feasibility of the project and the novelty of the results. Figure 1 shows the overall trend in breastfeeding in the U.S. over the past 100 years. Consistent with the existing literature documenting the dramatic

decline and then the resurgence of breastfeeding in the early 1970s, the graph shows massive declines in the share of women breastfeeding their firstborn from the early 1900s to the early 1970s. Our results are the first to show the patterns for the past 40 years (from the early 1970s to 2010). The results show a very steep increase in the 1970s and early 1980s and then a flatter but still rising share of women breastfeeding across in the past 40 years.

Figure 1. Overall breastfeeding rates by birth cohort and year.

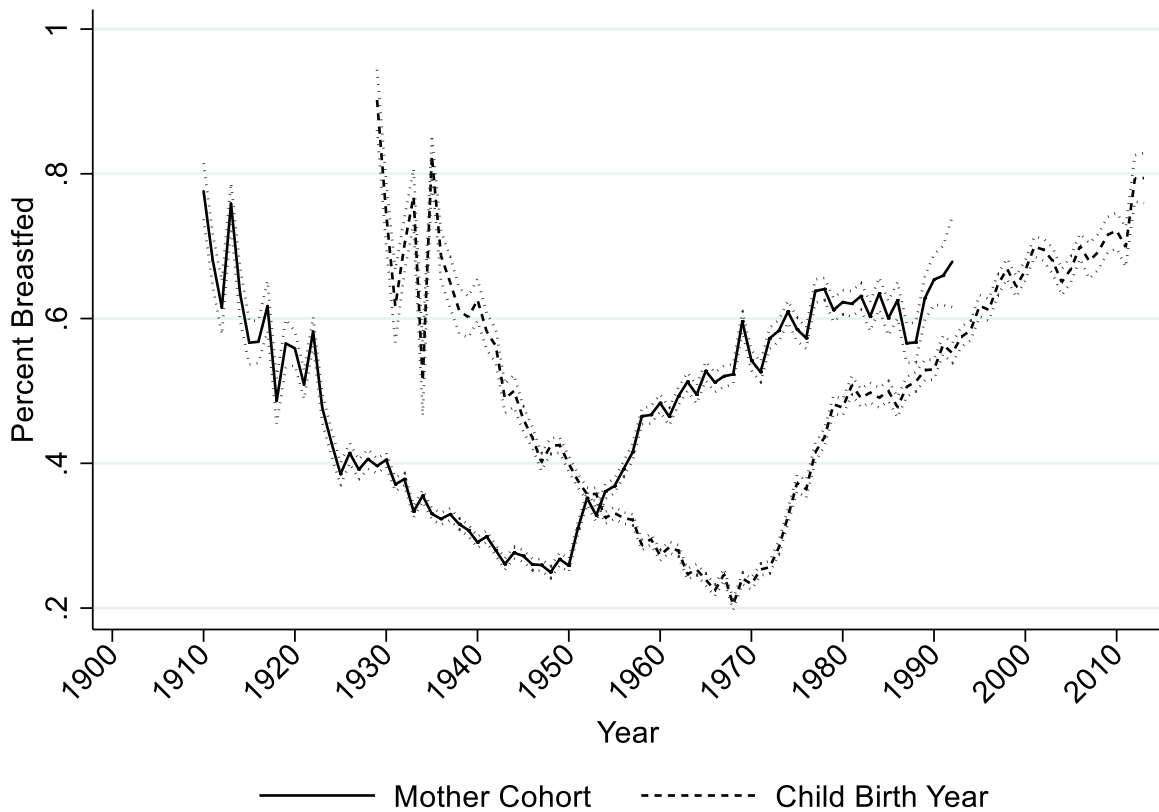


Figure 2 shows in differences in breastfeeding between white and black American mothers. The graph shows that black Americans used to breastfeed at higher rates up to about the 1940 cohort, after which the trends reversed. The figure also shows that the rates of change across the century differ considerably by group. The early decline is far steeper for black Americans compared with White Americans, the curves turn at different points for the two groups (1940s versus 1950s) and the resurgence of breastfeeding for the cohorts after 1950 is steeper for white than black mothers.

In our regression analyses, we will examine whether characteristics such as age at first birth, marital status, of differences in education or employment account for these differences by race across cohorts. Using regression decomposition methods, we will also examine how much differences in non-marital fertility by race and education explain differences in breastfeeding by race over time.

Figure 2. Breastfeeding rates by race and birth cohort.

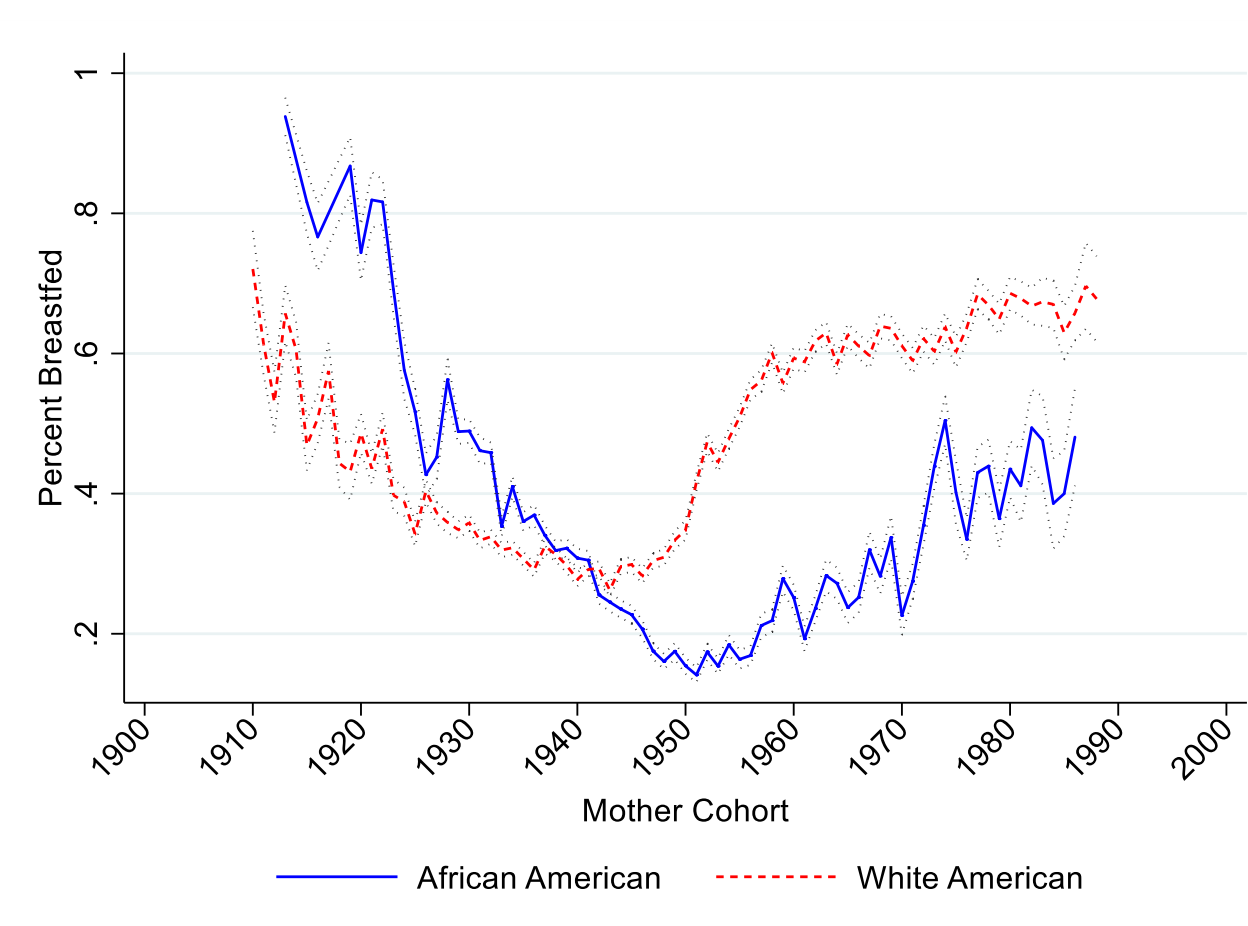
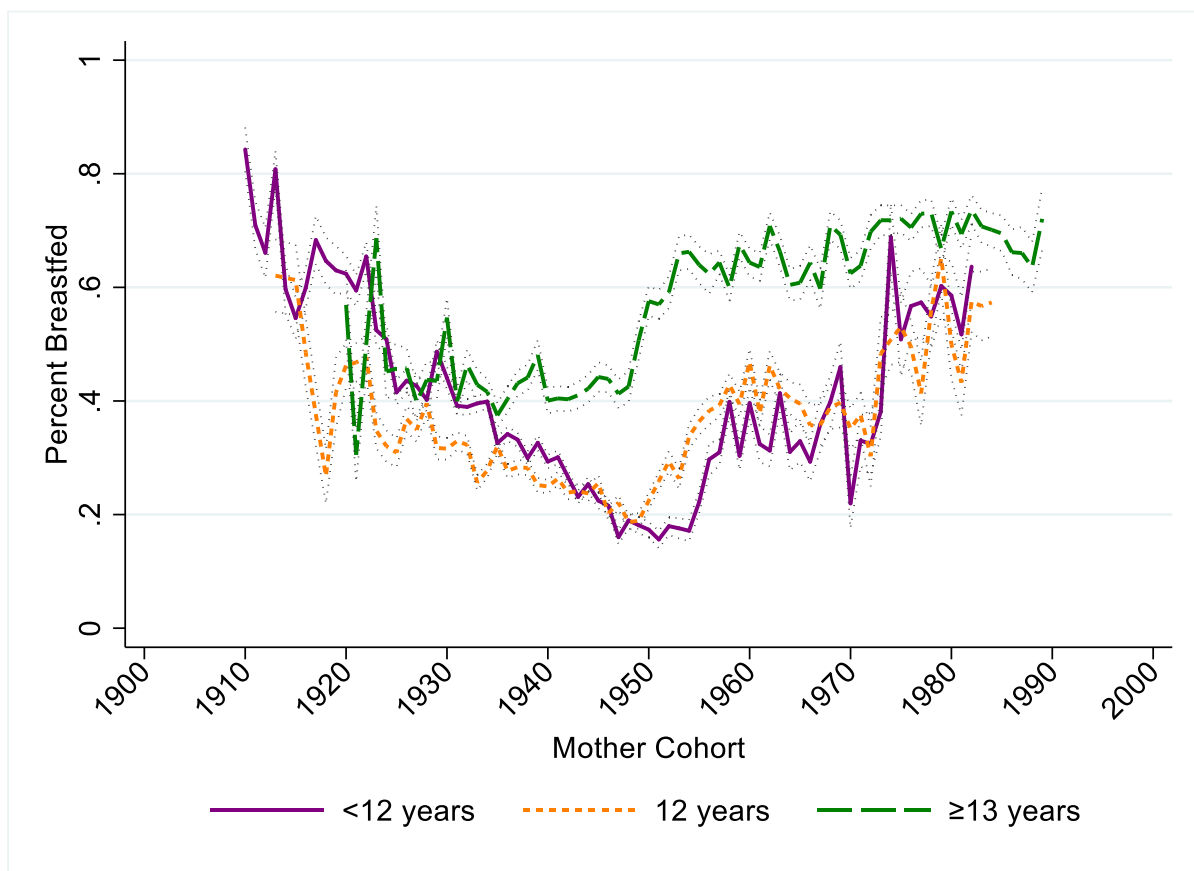


Figure 3 shows differences in breastfeeding by education and cohort. This figure shows that highly educated women did not experience the massive decline in breastfeeding seen for other groups, or in the overall patterns. Indeed, highly educated women seem to have maintained almost steady breastfeeding rates across the first half of the century, then an increase in the 1950s cohorts that is mirrored by the other education groups, then a leveling off for cohorts from the 1960s to 1990s. All three education groups show the rise in breastfeeding rates for the 1950s cohorts, which is not consistent with the idea that there was a mid-century change the cultural

vision of middle class parenting that embraced time-intensive childrearing practices such as breastfeeding. If such a class-based vision of breastfeeding took hold in the 1960s, it seems clear that it incorporated a practice that had been a part of college-educated women’s lives for decades before and that was embraced by the other education groups as well. Again, our multivariate analyses will examine whether these educational patterns reflect underlying correlations with income, marital status, or age at first birth, and whether the rates of change by education are in fact different for the cohorts.

Figure 3. Breastfeeding rates by educational attainment and birth cohort.



### Ongoing Analyses

We are currently analyzing the descriptive results shown above using multivariate models that control for differences in education, marital status, age at first birth, and race-ethnicity. We will then use regression decomposition to measure how much of the differences across groups over time depend on compositional differences between groups, and how these have changed across cohorts. For example, a key question our decompositions will answer is how much of the race

gaps observed in breastfeeding are explained by the rise of non-marital fertility and the widening differences in the ages at first birth by education.

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